

# PhenoCode Signature Immuno-Contexture Human Protein Panel

# Catalog # PCSPP001

PhenoCode™ Signature Immuno-Contexture Human Protein Panel is a multi-component kit. Safety Data Sheets are provided in this document for each component supplied in the kit.

Component Number	Component Description
200035	1X Antibody Diluent / Block
232108	N Blocker
232110	J Blocker
FP1490	10X Spectral DAPI
FP1609	1X Plus Automation Amplification Diluent
240170	Anti-Hu FOXP3(AKYP0102)-BX031
240228	Anti-Hu PD-L1(AKYP0103)-BX067
232176	Anti-Hu CD68(AKYP0050)-BX015
240229	Anti-Hu Pan-Cytokeratin(AKYP0053)-BX066
2321515	Anti-Hu CD8 (AKYP0028)-BX026
PCSA1001	PhenoCode Signature Diluent
OP-001000	Opal 480 Reagent
OP-001003	Opal 570 Reagent
OP-001004	Opal 620 Reagent
OP-001006	Opal 690 Reagent
OP-001007	Opal TSA-DIG Reagent
OP-001008	Opal 780 Reagent
200045	DMSO
232111	S Blocker
200039	PhenoCode Signature Blocker 1
200040	PhenoCode Signature Blocker 5
PCSD031	HRP-HX031 PhenoCode Signature Detector
PCSD067	HRP-HX067 PhenoCode Signature Detector
PCSD015	HRP-HX015 PhenoCode Signature Detector
PCSD066	HRP-HX066 PhenoCode Signature Detector
PCSD026	HRP-HX026 PhenoCode Signature Detector



# 1X Antibody Diluent/Block (Formerly Antibody Diluent/Block, 1X, 100 mL)

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# SAFETY DATA SHEET

#### **SECTION 1. IDENTIFICATION** Product identifier used on the label : 1X Antibody Diluent / Block (Formerly Antibody Diluent / Block, 1X, 100 mL) ARD1001EA, 200035 Other means of identification : Recommended use of the chemical and restrictions on use : Research and development only. No restrictions on use known. **Chemical family** : Mixture Name, address, and telephone number Name, address, and telephone number of of the supplier: the manufacturer: Akoya Biosciences, Inc. Refer to supplier 100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 Supplier's Telephone # : (855) 896 8401 24 Hr. Emergency Tel : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US) #

# SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

# Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.



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#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

# SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
No hazardous ingredients above concentration cut-offs	Not applicable.	No information available.	N/Ap

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	: Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	<ul> <li>Wash off with plenty of water. If irritation or symptoms develop, seek medical attention.</li> <li>Wash contaminated clothing before reuse.</li> </ul>
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympto	ms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any immed	diate medical attention and special treatment needed
	Provide general supportive measures and treat symptomatically.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

# Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

### Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); Hydrochloric acid ;Sodium oxides. ; Other irritating fumes and smoke.

### Special protective equipment and precautions for firefighters

:

Protective equipment for fire-fighters



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: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- **Environmental precautions** : Prevent product from entering drains, sewers, waterways, and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
  - US CERCLA Reportable quantity (RQ): None reportable.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

# SECTION 7. HANDLING AND STORAGE

Precautions for safe handlin	g	
	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.
Conditions for safe storage	:	Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated.
Incompatible materials	:	Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGIH TLV		OSHA PEL	
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap	N/Ap

#### Exposure controls



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# Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	
General hygiene considerat	ions
	· Avoid broathing dust fume or vapors Avoid contact with skin over and clothing

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Clear liquid.			
Odour	: Odorless.			
Odour threshold	: N/Av			
рН	: 7.45			
Melting Point/Freezing point	: 0°C			
Initial boiling point and boiling	ng range			
	: > 100°C (212°F) (based on ingredients)			
Flash point	: None. (> 90% water)			
Flashpoint (Method)	: N/Av			
Evaporation rate (BuAe = 1)	: N/Av			
Flammability (solid, gas)	: Not applicable.			
Lower flammable limit (% by	vol.)			
	: N/Av			
Upper flammable limit (% by	vol.)			
	: N/Av			
Oxidizing properties	: None.			
Explosive properties	: Not explosive			
Vapour pressure	: 23 hPa			
Vapour density	: (Air = 1) 0.633			
Relative density / Specific gravity				
	: 1			
Solubility in water	: Soluble			
Other solubility(ies)	: N/Av			
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution				
	: N/Av			
Auto-ignition temperature	: N/Av			
<b>Decomposition temperature</b>	: 2,000°C			
Viscosity	: same as water			



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Volatiles (% by weight)	: N/Av
Volatile organic Compound	ds (VOC's)
	: N/Av
Absolute pressure of cont	ainer
	: N/Ap
Flame projection length	: N/Ap
Other physical/chemical c	omments
	: No additional information.
SECTION 10. STABILITY	Y AND REACTIVITY
Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous re	eactions
	: Hazardous polymerization does not occur.
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
Hazardous decomposition	products
	: None known, refer to hazardous combustion products in Section 5.

# Information on likely routes of exposure:

Routes of entry inhalation	: YES
Routes of entry skin & eye	: YES
Routes of entry Ingestion	: YES

### Routes of exposure skin absorption

: NO

# **Potential Health Effects:**

# Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
Sign and symptoms ingestic	on a state of the
	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	<ul> <li>Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.</li> </ul>
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Eff	ects
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	: Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.



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# Reproductive effects & Teratogenicity

	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
	According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.
Medical conditions aggrava	ated by overexposure
	: Pre-existing skin, eye, and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD50	
<u>Chemical name</u>	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION								
Ecotoxicity	: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.							
Persistence and degradabil	ity : The product itself has not been tested.							
Bioaccumulation potential	: The product itself has not been tested.							
<u>Components</u>	Partition coefficient n-octanol/water (log Kow) Bioconcentration factor (BCF)							
Mobility in soil	: The product itself has not been tested.							
<b>Other Adverse Environment</b>	al effects							
: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.								

# SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state, and federal environmental agencies.



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# SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	<ul> <li>r : Appropriate advice on safety must accompany</li> </ul>			

Special precautions for user : Appropriate advice on safety must accompany the package. Environmental hazards : This product does not meet the criteria for an environmentally ha

: This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# SECTION 15 - REGULATORY INFORMATION

# **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

Ingredients		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
	CAS # Inv	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
No hazardous ingredients above concentration cut-offs	nformation availa	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.



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### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients above concentration cut-offs	formation avai	No	N/Ap	No	No	No	No	No	NS

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

# International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
No hazardous ingredients above concentration cut-offs		component	All components are listed or exempted.	All are listed or exempted.	All components are listea or exemptea.	All components are listed or exempted.	are listed or	All components are listed or exempted.

# **SECTION 16. OTHER INFORMATION**

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980</li> <li>CFR: Code of Federal Regulations</li> <li>CSA: Canadian Standards Association</li> <li>DOT: Department of Transportation</li> <li>EC50: Effective Concentration 50%</li> <li>ENCS: Existing and New Chemical Substances</li> <li>EPA: Environmental Protection Agency</li> <li>IARC: International Agency for Research on Cancer</li> <li>IECSC: Inventory of Existing Chemical Substances</li> <li>IMDG: International Maritime Dangerous Goods</li> <li>IOC: Inventory of Chemicals Inventory</li> <li>KECI: Korean Existing Chemicals List</li> <li>LC: Lethal Concentration</li> <li>LD: Lethal Dose</li> <li>N/Ap: Not Applicable</li> <li>N/AV: Not Available</li> <li>NIOSH: National Institute of Occupational Safety and Health</li> <li>NOEC: No observable effect concentration</li> <li>NTP: National Toxicology Program</li> <li>OECD: Organisation for Economic Co-operation and Development</li> </ul>
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References	<ul> <li>OSHA: Occupational Safety and Health Administration</li> <li>PEL: Permissible exposure limit</li> <li>PICCS: Philippine Inventory of Chemicals and Chemical Substances</li> <li>SARA: Superfund Amendments and Reauthorization Act</li> <li>STEL: Short Term Exposure Limit</li> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>				
Preparation Date (mm/dd/yyy	y)				
	: 10/18/2022				
Other special considerations	-				
	: Provide adequate information, instruction, and training for operators.				
Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401	BIOSCIENCES®				
Bronarad by:					

Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com



# DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.



Name, address, and telephone number of

the manufacturer:

Refer to supplier

#### **N Blocker**

SDS Preparation Date (mm/dd/yyyy): 12/19/2022

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### SECTION 1. IDENTIFICATION

#### Product identifier used on the label

#### : N Blocker

Other means of identification: 232108

#### Recommended use of the chemical and restrictions on use

 Research and development only. No restrictions on use known.
 Chemical family
 Mixture

Name, address, and telephone number of the supplier:

Akoya Biosciences, Inc.

 100 Campus Dr,

 6th Floor

 Marlborough, MA, USA

 01752

 Supplier's Telephone #

 :
 (855) 896 8401

 :
 INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

### SECTION 2. HAZARDS IDENTIFICATION

#### **Classification of the chemical**

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

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### **N Blocker**

SDS Preparation Date (mm/dd/yyyy): 12/19/2022

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### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
No hazardous ingredients	Not applicable.	N/Av	Not applicable.

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

#### **SECTION 4. FIRST-AID MEASURES**

#### Description of first aid measures

Description of mist ald	
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	<ul> <li>Wash off with plenty of water. If irritation or symptoms develop, seek medical attention.</li> <li>Wash contaminated clothing before reuse.</li> </ul>
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympto	ms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any imme	diate medical attention and special treatment needed

al attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

- : Not classified as flammable.
- Hazardous combustion products
  - : Carbon oxides;Hydrogen chloride ;Nitrogen oxides;Phosphorus oxides

#### Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



#### N Blocker

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways and soil.

#### Methods and material for containment and cleaning up

:

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): See section 15.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

Conditions for safe storage	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Store in cool/well-ventilated place. Storage area should be clearly identified, clear of
Incompatible materials		obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Strong oxidizers.
incompatible materials	•	

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSH</u>	A PEL
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients	N/Av	N/Av	N/Av	N/Av

### Exposure controls

#### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
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Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.		
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.		
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.		
General hygiene consideration	ns		
	: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.		
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES			
Appearance	: Clear liquid.		

Appearance	:	Clear liquid.				
Odour	:	Odorless.				
Odour threshold	:	Av				
рН	:	7.4				
Melting Point/Freezing point	:	N/Ap				
Initial boiling point and boili	۱g	range				
	:	>100°C				
Flash point	:	None.				
Flashpoint (Method)	:	N/Av				
Evaporation rate (BuAe = 1)	:	N/Av				
Flammability (solid, gas)	:	Not applicable.				
Lower flammable limit (% by	vc	ı.)				
	:	N/Av				
Upper flammable limit (% by	vo					
	:	N/Av				
Oxidizing properties	:	None.				
Explosive properties	:	Not explosive				
Vapour pressure	:	N/Ap				
Vapour density		N/Ap				
Relative density / Specific gr	av	-				
	:	N/Ap				
Solubility in water	:	Soluble				
Other solubility(ies)	-	N/Av				
Partition coefficient: n-octan	ol/	water or Coefficient of water/oil distribution				
	-	N/Av				
Auto-ignition temperature	-	N/Av				
Decomposition temperature						
Viscosity	:					
Volatiles (% by weight)	-	N/Av				
Volatile organic Compounds	•	•				
		N/Av				
Absolute pressure of contain						
		N/Ap				
Flame projection length		N/Ap				
Other physical/chemical com	۱m					
	:	No additional information.				



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SECTION 10. STABILITY AND REACTIVITY			
Reactivity	: Not normally reactive.		
Chemical stability	: Stable under normal conditions.		
Possibility of hazardous reactions			
	: Hazardous polymerization does not occur.		
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.		
Incompatible materials	: Strong oxidizing agents		
Hazardous decomposition products			
	: None known, refer to hazardous combustion products in Section 5.		

# SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin abs	sorp	otion	
	:	NO	
Potential Health Effects:			

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation	n
Sign and symptoms ingestion	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
0 , , 0	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Effe	cts
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Terate	•
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	: According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.
Medical conditions aggravate	ed by overexposure
	: Pre-existing skin, eye and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: There is no data available for this product.



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# SAFETY DATA SHEET

	LC₅₀(4hr)	LD	50
Chemical name	inh, rat	<u>(Oral, rat)</u>	(Rabbit, dermal)
No hazardous ingredients	N/Av	N/Av	N/Av

#### Other important toxicological hazards

: None known or reported by the manufacturer.

# SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

la sue dies te	0.0.4	Toxicity to Fish		
<u>Ingredients</u>	CAS#	LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Algae		Toxicity to Algae	
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor	
No hazardous ingredients	N/Av	N/Av	N/Av	None.	

Persistence and degradability

: The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)		
No hazardous ingredients (CAS N/Av)	N/Av	N/Av		
Mobility in soil :	The product itself has not been tested.			
Other Adverse Environmental ef	fects			
:	: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.			
SECTION 13. DISPOSAL CON	SIDERATIONS			



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# SAFETY DATA SHEET

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORT INFORMATION

Not regulated.	not regulated	none	$\frown$
			$\bigotimes$
Not regulated.	not regulated	none	$\bigotimes$
	· · · · · ·		
Not regulated.	not regulated	none	$\bigotimes$
·			
Not regulated.	not regulated	none	$\bigotimes$
·			1
	Not regulated.	Not regulated.       not regulated         Not regulated.       not regulated	Not regulated. not regulated none

**Environmental hazards** 

: This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# **SECTION 15 - REGULATORY INFORMATION**

# **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:



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	TSCA		CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS # Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration		
No hazardous ingredients	N/Av	NS	None.	None.	NS	NS	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

# US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients	N/Av	No		NS	NS	NS	NS	NS	NS

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
No hazardous ingredients	N/Av	Not applicable	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

#### **SECTION 16. OTHER INFORMATION**

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration /LD: Lethal Dose N/Ap: Not Applicable /N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration



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# SAFETY DATA SHEET

References : Preparation Date (mm/dd/yyyy)	OSHA: Occupational Safety PEL: Permissible exposure li PICCS: Philippine Inventory SARA: Superfund Amendme STEL: Short Term Exposure TDG: Canadian Transportati TLV: Threshold Limit Values TSCA: Toxic Substance Con TWA: Time Weighted Average 1. ACGIH, Threshold Limit V Biological Exposure Indices 2. ECHA - European Chemic 3. Canadian Centre for Occu 4. Safety Data Sheets from r 5. US EPA Title III List of List 6. California Proposition 65 L	nomic Co-operation and Development and Health Administration mit of Chemicals and Chemical Substances ents and Reauthorization Act Limit on of Dangerous Goods Act & Regulations trol Act ge alues for Chemical Substances and Physical Agents & al Agency pational Health and Safety, CCInfoWeb databases nanufacturer.
Other special considerations fo	12/19/2022 or handling	
-	-	n, instruction and training for operators.
Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401		<b>AKOYA</b> BIOSCIENCES®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): ( http://www.thecompliancecen		icc Compliance Center

# DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

# END OF DOCUMENT



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# SAFETY DATA SHEET

# **SECTION 1. IDENTIFICATION**

# Product identifier used on the label

#### : J Blocker

Other means of identification: 232110

#### Recommended use of the chemical and restrictions on use

<ul> <li>Research and development on No restrictions on use known.</li> <li>Chemical family</li> <li>DNA</li> </ul>		<i>'</i> .						
Name, address, and telephone number of the supplier:		Name, address, and telephone number of the manufacturer:						
Akoya Biosciences, Inc.		Refer to supplier						
100 Campus Dr, 6th Floor								

Marlborough, MA, USA 01752 : (855) 896 8401 Supplier's Telephone # - INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US) 24 Hr. Emergency Tel #

# SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.



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# SAFETY DATA SHEET

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

М	ixtu	r۵
111	ixtu	пe

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Oligodeoxyribonucleic acid, modified	Not applicable.	N/Av	0.0 - 0.0

### SECTION 4. FIRST-AID MEASURES

Description of first aid	measures
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important symptom	oms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any imme	ediate medical attention and special treatment needed
	: Provide general supportive measures and treat symptomatically.
SECTION 5. FIRE-FI	IGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

Hazardous combustion products

: Carbon oxides; Hydrogen chloride ; Nitrogen oxides

#### Special protective equipment and precautions for firefighters

:

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways and soil.

#### Methods and material for containment and cleaning up

:

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): See section 15.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

Conditions for safe storage	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect
Incompatible materials	:	periodically for damage or leaks. Keep away from incompatibles. Strong oxidizers.

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:					
Chemical Name	ACGI	<u>H TLV</u>	OSHA PEL		
	TWA	<u>STEL</u>	PEL	<u>STEL</u>	
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	N/Av	

#### **Exposure controls**

#### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
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Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
General hygiene consideration	ons
	: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

SECTION 9. FHISICALAI	d chewical i koi ekties			
Appearance	: Clear liquid.			
Odour	Odorless.			
Odour threshold	N/Av			
рН	Ар			
Melting Point/Freezing point	: N/Av			
Initial boiling point and boilir	ig range			
	: N/Av			
Flash point	: N/Ap			
Flashpoint (Method)	: N/Av			
Evaporation rate (BuAe = 1)	: N/Av			
Flammability (solid, gas)	: Not applicable.			
Lower flammable limit (% by	vol.)			
	: N/Av			
Upper flammable limit (% by				
	: N/Av			
Oxidizing properties	: None.			
Explosive properties	: Not explosive			
Vapour pressure	: N/Ap			
Vapour density	: N/Ap			
Relative density / Specific gra	-			
	: N/Av			
Solubility in water	: Soluble			
Other solubility(ies)	: N/Av			
Partition coefficient: n-octan	ol/water or Coefficient of water/oil distribution			
	: N/Av			
Auto-ignition temperature	: N/Av			
Decomposition temperature				
Viscosity	: N/Av			
Volatiles (% by weight)	: N/Av			
Volatile organic Compounds	. ,			
	: N/Av			
Absolute pressure of contain				
	: N/Ap			
Flame projection length	: N/Ap			
Other physical/chemical com				
	: No additional information.			



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# SAFETY DATA SHEET

SECTION 10. STABILITY AND REACTIVITY				
Reactivity	: Not normally reactive.			
Chemical stability	: Stable under normal conditions.			
Possibility of hazardous reactions				
	: Hazardous polymerization does not occur.			
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.			
Incompatible materials	: Strong oxidizing agents			
Hazardous decomposition products				
	: None known, refer to hazardous combustion products in Section 5.			

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin abs	sorp	otion	
	:	NO	
Potential Health Effects:			
		_	

# Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalatio	n
Sign and symptoms ingestior	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
eigh and cymptomo mgoodol	<ul> <li>Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.</li> </ul>
Sign and symptoms skin	: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Effe	cts
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Terato	•
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	: According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.
Medical conditions aggravate	d by overexposure
	: Pre-existing skin, eye and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: There is no data available for this product.



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	LC50(4hr)	LD	50
Chemical name	inh, rat	(Oral, rat)	<u>(Rabbit, dermal)</u>
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av

#### Other important toxicological hazards

: None known or reported by the manufacturer.

# SECTION 12. ECOLOGICAL INFORMATION

```
Ecotoxicity
```

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingredients	CAC #	Toxicity to Fish		
	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.

Ingredients	Ingredients CAS # Toxicity to Algae			
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.

Persistence and degradability

: The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Oligodeoxyribonucleic acid, modified (CAS N/Av)	N/Av	N/Av

Mobility in soil : The product itself has not been tested.

**Other Adverse Environmental effects** 

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



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# SAFETY DATA SHEET

# SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	: Dispose in accordance with all applicable federal, state, provincial and local regulations.
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

# SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		- -		
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·	•		
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	I	1		
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				
Special preca	utions for use	r : Appropriate advice on safety must accompany	the package.		
Environmenta		This product does not meet the criteria for an e according to the IMDG Code. See Section 12 f			

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.



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# SAFETY DATA SHEET

# SECTION 15 - REGULATORY INFORMATION

# **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

	<b>••••</b> "	TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: S 372, Specific To	
Ingredients	CAS #	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration
Oligodeoxyribonucleic acid, modified	N/Av	NL	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

#### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Oligodeoxyribonucleic acid, modified	N/Av	No	N/Ap	No	No	No	No	No	No

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Oligodeoxyribonucleic acid, modified	N/Av	Not applicable	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

### **SECTION 16. OTHER INFORMATION**

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances</li> </ul>
	IMDG: International Maritime Dangerous Goods



J Blocker

SDS Preparation Date (mm/dd/yyyy): 12/19/2022

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# SAFETY DATA SHEET

	IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration /LD: Lethal Dose N/Ap: Not Applicable /N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV: Threshold Limit Values TSCA: Toxic Substance Control Act TWA: Time Weighted Average
References	<ul> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>

Preparation Date (mm/dd/yyyy)

: 12/19/2022

### Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401	AKOYA BIOSCIENCES®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	complianceCenter

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# END OF DOCUMENT



# SAFETY DATA SHEET

**SECTION 1. IDENTIFICATION** 

Product identifier used on the label

# : 10X Spectral DAPI (Formerly Spectral DAPI)

Other means of identification: FP1490

#### Recommended use of the chemical and restrictions on use

: Mixture

- : Research and development only.
- No restrictions on use known.
- Chemical family

# Name, address, and telephone number of the supplier: Akoya Biosciences, Inc. 100 Campus Dr, 6th Floor

Marlborough, MA, USA 01752 Supplier's Telephone # : (855) 896 8401 24 Hr. Emergency Tel # : INFOTRAC - (8

the manufacturer:

Refer to supplier

Name, address, and telephone number of

Tel # : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

#### SECTION 2. HAZARDS IDENTIFICATION

#### **Classification of the chemical**

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

#### Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

# Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

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# SAFETY DATA SHEET

Other hazards which do not result in classification:

Toxic fumes, gases, or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

# SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Chemical name		Common name and synonyms	<u>CAS #</u>	Concentration (% by weight)
No hazardous ingredien concentration cut-offs	nts above	Not applicable.	No information available.	N/Ap
SECTION 4. FIRST-AI	D MEASURE	S		
Description of first aid m				
Ingestion		t induce vomiting. Never give ar		a person who is unconscious
Inhalation	: If inha perso	aving convulsions. Call a physi led, move to fresh air. If breathin nnel only. If breathing stops, pro op, seek medical attention.	ng is difficult, give o	
Skin contact	: Wash	off with plenty of water. If irritat contaminated clothing before r		evelop, seek medical attention
Eye contact	: Imme	diately flush eye(s) with plenty or a strention.		or symptoms develop, seek
Most important sympton	ns and effects	, both acute and delayed		
Indication of any immed	cough May c Direct Inges	tion of mists or sprays may mild ing or sneezing. ause slight eye and skin irritation skin contact may cause tempo tion may cause gastrointestinal <b>ttention and special treatmen</b>	on. Direct eye conta rary redness. irritation, nausea, v	ct may cause slight redness.
-	: Provid	le general supportive measures	s and treat symptom	natically.
SECTION 5. FIRE-FIG	HTING MEA	SURES		
Extinguishing media				
Suitable extinguishing				
	foams	nedia suitable to the surrounding , carbon dioxide and dry chemi		fog or fine spray, alcohol
Unsuitable extinguishir	-	lun ou un		
Special bazarda arigina	: None		offlommobility	
Special nazarus ansing		tance or mixture / Conditions assified as flammable. Toxic fur		re may avalue on huming
Flammability classificati			nes, gases or vapo	is may evolve on burning.
,,	=	assified as flammable.		
Hazardous combustion				
	: Carbo irritati	n oxides; Nitrogen oxides (NO» ng fumes and smoke.	<);Hydrochloric acid	; Sodium oxides; Other
Special protective equip Protective equipment f		cautions for firefighters		
		hters must use standard protec at with face shield, gloves, rubbe		

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Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

# Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways, and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): None reportable.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

#### SECTION 7. HANDLING AND STORAGE

Precautions for safe handling						
	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.				
Conditions for safe storage	:	Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated.				
Incompatible materials	:	Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds				

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSHA</u>	<u>PEL</u>
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap	N/Ap

# **Exposure controls**

#### Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.



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Respiratory protection	: If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
General hygiene consideration	
	: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

Appearance	:	Clear liquid.
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
Melting Point/Freezing point	:	0°C
Initial boiling point and boilir	۱g	range
	:	> 100°C (212°F) (based on ingredients)
Flash point	:	None. (> 90% water)
Flashpoint (Method)	:	N/Av
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)		Not applicable.
Lower flammable limit (% by		
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	23 hPa
Vapour density	:	(Air = 1) 0.633
Relative density / Specific gr	av	ity
	:	1
Solubility in water	:	Soluble
Other solubility(ies)	:	N/Av
Partition coefficient: n-octan	ol/	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	2,000°C
Viscosity	:	same as water
Volatiles (% by weight)	:	N/Av
Volatile organic Compounds	(V	OC's)
	:	N/Av
Absolute pressure of contain	ner	
	:	N/Ap



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Flame projection length	: N/Ap						
Other physical/chemical comments							
	: No additional information.						
SECTION 10. STABILITY	AND REACTIVITY						
Reactivity	: Not normally reactive.						
Chemical stability	: Stable under normal conditions.						
Possibility of hazardous re	actions						
	: Hazardous polymerization does not occur.						
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.						
Incompatible materials	Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds						
Hazardous decomposition	products						
	: None known, refer to hazardous combustion products in Section 5.						

# SECTION 11. TOXICOLOGICAL INFORMATION

# Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

# Potential Health Effects:

# Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
Sign and symptoms ingesti	
	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Eff	
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Tera	togenicity
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	<ul> <li>According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.</li> </ul>
Medical conditions aggrava	
	: Pre-existing skin, eye and respiratory disorders.



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Synergistic materials	:	None known or reported by the manufacturer.
Toxicological data	:	Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD	50
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap

# Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGI	CAL INFORMATION
Ecotoxicity	: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.
Persistence and degradab	5
	: The product itself has not been tested.
Bioaccumulation potential	: The product itself has not been tested.
<u>Components</u>	Partition coefficient n-octanol/water (log Kow) Bioconcentration factor (BCF)
Mobility in soil	: The product itself has not been tested.
Other Adverse Environme	ntal effects
	: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Handling for Disposal	<ul> <li>Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.</li> </ul>
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.



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# SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·	·		
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	·	1		
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				
	utions for use				
Environmenta	al hazards	: This product does not meet the criteria for an en	nvironmentall	y hazardo	us mixture,

according to the IMDG Code. See Section 12 for more environmental information. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# **SECTION 15 - REGULATORY INFORMATION**

# **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

	0.10 //	TSCA CERCL Reporta		SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS #	Inventory	Quantity (RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
No hazardous ingredients above concentration cut-offs	N/Av	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.



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# SAFETY DATA SHEET

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# US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	Californi	State "Right to Know" Lists						
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients above concentration cut-offs	N/a	No	N/Ap	No	No	No	No	No	NS

# Canadian Information:

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

# International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
No hazardous ingredients above	N/Av N/A	All	All	All	All components are	All	All	All
concentration cut-offs		component s are listed or exempted.	components are listed or exempted.	are listed or exempted.	listed or exempted.	components of are listed or a exempted.		components are listed or exempted.

# **SECTION 16. OTHER INFORMATION**

	Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980</li> <li>CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration LD: Lethal Dose N/Ap: Not Applicable NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration</li> </ul>
--	--------	--



**10X Spectral DAPI (Formerly Spectral DAPI)** 

### SAFETY DATA SHEET

PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV: Threshold Limit Values **TSCA:** Toxic Substance Control Act TWA: Time Weighted Average 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & References **Biological Exposure Indices** 2. ECHA - European Chemical Agency 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases 4. Safety Data Sheets from manufacturer. 5. US EPA Title III List of Lists 6. California Proposition 65 List 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal Preparation Date (mm/dd/yyyy) : 10/21/2022

#### Other special considerations for handling

: Provide adequate information, instruction, and training for operators.



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#### **END OF DOCUMENT**

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Name, address, and telephone number of

the manufacturer:

Refer to supplier

**1X Plus Automation Amplification Diluent** 

### SAFETY DATA SHEET

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#### **SECTION 1. IDENTIFICATION**

Product identifier used on the label

### : 1X Plus Automation Amplification Diluent

Other means of identification: FP1609

#### Recommended use of the chemical and restrictions on use

: Mixture

- : Research and development only.
- No restrictions on use known.
- Chemical family

# Name, address, and telephone number of the supplier:

#### Akoya Biosciences, Inc.

 100 Campus Dr,

 6th Floor

 Marlborough, MA, USA

 01752

 Supplier's Telephone #
 : (855) 896 8401

 24 Hr. Emergency Tel #
 : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

#### SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Liquid. Characteristic odor.

Most important hazards:

Causes serious eye irritation. May damage fertility or the unborn child. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification Serious eye damage/eye irritation - Category 2A Reproductive Toxicity - Category 1B

#### Label elements

Hazard pictogram(s)



DANGER! Hazard statement(s)

> Causes serious eye irritation. May damage fertility or the unborn child.



**1X Plus Automation Amplification Diluent** 

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### SAFETY DATA SHEET

Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection.

IF exposed or concerned: Get medical attention/advice. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Store locked up.

Dispose of contents/container in accordance with local regulation.

#### Other hazards

Other hazards which do not result in classification: Toxic fumes, gases or vapours may evolve on burning. May cause gastrointestinal irritation.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
Sodium borate	Anhydrous sodium tetraborate Borax	1330-43-4	0.1 - 1.0
Boric Acid	Trihydrooxidoboron	10043-35-3	0.1 - 1.0
Stannate (Sn(OH)62-), disodium, (OC-6-11)-	Sodium Stannate	12027-70-2	0.1 - 1.0
Hydrogen peroxide	Dihydrogen dioxide	7722-84-1	0.1 - 1.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

#### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	: Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important symptoms a	nd effects, both acute and delayed
	: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.
Indication of any immediate	medical attention and special treatment needed
	: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES



**1X Plus Automation Amplification Diluent** 

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### SAFETY DATA SHEET

Suitable extinguishing media	
:	Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
Unsuitable extinguishing med	
	None known.
Special hazards arising from th	e substance or mixture / Conditions of flammability
	Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.
Flammability classification (OS	
:	Not classified as flammable.
Hazardous combustion produc	ts
:	Carbon oxides; Nitrogen oxides (NOx);Sodium oxides; Hydrogen chloride; Boric acid
Special protective equipment a Protective equipment for fire-t	
	Firefighters must use standard protective equipment including flame retardant coat,
	helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Special fire-fighting procedure	
:	Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
SECTION 6. ACCIDENTAL	RELEASE MEASURES
Personal precautions, protectiv	ve equipment, and emergency procedures
:	Wear appropriate protective equipment. Refer to protective measures listed in sections
Environmental precautions :	7 and 8. Prevent product from entering drains, sewers, waterways, and soil.
Methods and material for conta	
methous and material for conta	Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage
	if safe to do so. Absorb material with inert absorbent, and place into labelled containers for disposal. For waste disposal, see Section 13 of the SDS.
Special spill response procedu	res
:	If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
	US CERCLA Reportable quantity (RQ): See section 15.
	In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.
SECTION 7. HANDLING AN	D STORAGE
Precautions for safe handling	
:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing mist or vapor. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use.



**1X Plus Automation Amplification Diluent** 

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### SAFETY DATA SHEET

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

xposure Limits:				
Chemical Name	ACGIH	I TLV	<u>OSHA F</u>	PEL
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
Sodium borate	2 mg/m³ (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m <sup>3</sup> (inhalable fraction, listed under Borate compounds, inorganic)	N/Av	N/Av
Boric Acid	2 mg/m³ (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m <sup>3</sup> (inhalable fraction, listed under Borate compounds, inorganic)	N/Av	N/Av
Stannate (Sn(OH)62-), disodium, (OC-6-11)-	N/Av	N/Av	N/A∨	N/Av
Hydrogen peroxide	1 ppm	N/Av	1 ppm; 1.4 mg/m <sup>3</sup>	N/Av

#### Exposure controls

#### Ventilation and engineering measures

Respiratory protection	provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of nsufficient ventilation wear suitable respiratory equipment. airbourne concentrations are above the permissible exposure limit or are not know use NIOSH-approved respirators. Respirators should be selected based on the forr and concentration of contaminants in air, and in accordance with OSHA (29 CFR 910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection pecialists.	/n,
Skin protection	sloves impervious to the material are recommended. The suitability for a specific vorkplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.	
Eye / face protection	Vear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.	
Other protective equipment	Insure that eyewash stations and safety showers are close to the workstation local Other equipment may be required depending on workplace standards.	tion.
General hygiene consideration		
	void breathing mist or vapor. Avoid contact with skin, eyes, and clothing. Wash horoughly after handling. Remove and wash contaminated clothing before re-use.	

# Handle in accordance with good industrial hygiene and safety practice. SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
Melting Point/Freezing point	:	0°C



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Initial boiling point and boiling range

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	:	100°C
Flash point	:	N/Av
Flashpoint (Method)	:	Closed cup
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)		Not applicable.
Lower flammable limit (% by		••
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	23 hPa
Vapour density	-	0.633
Relative density / Specific gr	avi	ty
	:	N/Av
Solubility in water	:	Insoluble.
Other solubility(ies)	:	N/Av
Partition coefficient: n-octan	ol/	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
<b>Decomposition temperature</b>	:	N/Av
Viscosity	:	same as water
Volatiles (% by weight)	:	N/Av
<b>Volatile organic Compounds</b>	(V	OC's)
	:	N/Av
Absolute pressure of contain	ner	
	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical con	nm	ents
	:	No additional information.
SECTION 10. STABILITY A	N]	D REACTIVITY
Reactivity	:	Not normally reactive.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous read	ctic	ons
		Hazardous polymerization does not occur.
Conditions to avoid	:	Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition p	rod	lucts
	:	None known, refer to hazardous combustion products in Section 5.

#### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin & eye : YES



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Routes of entry Ingestion	:	YES
Routes of exposure skin ab	sor	otion
	:	NO
Potential Health Effects:		
Signs and symptoms of sho	ort-t	erm (acute) exposure
Sign and symptoms Inhalat	ion	
Sign and symptoms ingesti	: on	Mild respiratory irritant
	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	:	Direct skin contact may cause slight or mild, transient irritation.
Sign and symptoms eyes	:	Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.
Potential Chronic Health Eff		-
		None known or reported by the manufacturer.
Mutagenicity	:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	:	Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects & Tera	tog	
		Reproductive Toxicity - Category 1B. May damage fertility or the unborn child. Boric acid may cause fetotoxic and teratogenic effects at dose which are not maternally toxic, based on animal data.
Sensitization to material		Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	5:	According to the classification criteria of U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause target organ toxicity through single or repeated exposures.
Medical conditions aggrava	ted	by overexposure
	:	Pre-existing skin, eye and respiratory disorders.
Synergistic materials	:	None known or reported by the manufacturer.
Toxicological data	:	Not classified for acute toxicity based on available data. No data is available on the product itself.

	LC50(4hr)	LD	50
Chemical name	inh, rat	(Oral, rat)	(Rabbit, dermal)
Sodium borate	> 2.04 mg/L (dust) (No mortality)	3225 - 5560 mg/kg	> 2000 mg/kg (No mortality)
Boric Acid	>2.12 mg/L	2660 mg/kg	>2000 mg/kg
Stannate (Sn(OH)62-), disodium, (OC-6-11)-	N/Av	N/Av	N/Av
Hydrogen peroxide	0.17 mg/L 4 h (no deaths)	1193 mg/kg	>2000 mg/kg

See below for individual ingredient acute toxicity data.

Other important toxicological hazards

: None known or reported by the manufacturer.



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#### SECTION 12. ECOLOGICAL INFORMATION

SDS Preparation Date (mm/dd/yyyy): 11/18/2022

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingredients	0.4.0 //		Toxicity to Fish		
	CAS #	LC50 / 96h	NOEC / 21 day	M Factor	
Sodium borate	1330-43-4	79.7 mg/L (Fathead minnow) (Read-across)	6.4 mg/L/34 days (Zebra fish) (Read-across)	None.	
Boric Acid	10043-35-3	79.1mg/L (Fathead minnow)	102 mg/L (Fathead minnow)	None.	
Hydrogen peroxide	7722-84-1	16.4mg/L (Fathead minnow)	N/Av	None.	

Ingredients	CAS #	Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor	
Sodium borate	1330-43-4	91 mg/L Ceriodaphnia (water flea)	10.8 mg/L (Read-across)	None.	
Boric Acid	10043-35-3	102 mg/L (Daphnia magna)	11.2mg/L (Daphnia magna)	None.	
Hydrogen peroxide	7722-84-1	2.4mg/L Water flea	N/Av	None.	

Ingredients	CAS#	CAS # Toxicity to Algae			
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor	
Sodium borate	1330-43-4	52.4 mg/L/72hr (Green algae) (Read-across)	17.5 mg/L/72hr (Read-across)	None.	
Boric Acid	10043-35-3	40mg/L (Green algae)	17.5mg/L (Green algae)	None.	
Hydrogen peroxide	7722-84-1	N/Av	0.63 mg/L (Green algae)	None.	

Persistence and degradability

: The product itself has not been tested.

Bioaccumulation potential : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Sodium borate (CAS 1330-43-4)	N/Av	no evidence of
· · ·		bioaccumulation
Boric Acid (CAS 10043-35-3)	0.175	0
Hydrogen peroxide (CAS 7722-84-1)	1.50	no bioaccumulation

Mobility in soil: The product itself has not been tested.Other Adverse Environmental effects

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### SAFETY DATA SHEET

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

#### SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

#### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\oslash$
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	1			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\oslash$
ICAO/IATA Additional information	None.	1			U
IMDG	None.	Not regulated.	not regulated	none	$\oslash$
IMDG Additional information	None.	1	1		

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.



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### SAFETY DATA SHEET

#### SECTION 15 - REGULATORY INFORMATION

#### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
<u>Ingredients</u>	CAS #	Inventory	tory Quantity (RQ) Hazardou (40 CFR 355 CFR 117.302):		Toxic Chemical	de minimus Concentration	
Sodium borate	1330-43-4	Yes	None.	None.	No	N/Ap	
Boric Acid	10043-35-3	Yes	N/Ap	N/Av	No	NS	
Stannate (Sn(OH)62-), disodium, (OC-6-11)-	12027-70-2	Yes	N/Ap	N/Av	No	N/Ap	
Hydrogen peroxide	7722-84-1	Yes	N/Ap	1000 lb TPQ (concentration >52%)	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Eye irritation; Reproductive toxicity

#### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65		State "Right to Know" Lists					
myrouonto		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Sodium borate	1330-43-4	No	N/Ap	Yes	Yes	Yes	No	Yes	No
Boric Acid	10043-35-3	No	N/Ap	No	No	No	No	No	No
Stannate (Sn(OH)62-), disodium, (OC-6-11)-	12027-70-2	No	N/Ap	No	No	No	No	No	No
Hydrogen peroxide	7722-84-1	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

#### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:



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Ingredients	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
Sodium borate	1330-43-4	215-540-4	Present	Present	(1)-69	KE-12384	Present	HSR002799
Boric Acid	10043-35-3	233-139-2	Present	Present	(1)-63	KE-03499	Present	HSR002995
Stannate (Sn(OH)62-), disodium, (OC-6-11)-	12027-70-2	234-724-5	Present	N/Av	(1)-510	KE-12398	N/Av	N/Av
Hydrogen peroxide	7722-84-1	231-765-0	Present	Present	(1)-419	KE-20204	Present	HSR001326,
								HSR001449, HSR001450 (dilution)

### SECTION 16. OTHER INFORMATION

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances
	CAS: Chemical Abstract Services
	CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
	CFR: Code of Federal Regulations CSA:
	Canadian Standards Association DOT:
	Department of Transportation EC50:
	Effective Concentration 50%
	ENCS: Existing and New Chemical Substances EPA:
	Environmental Protection Agency
	IARC: International Agency for Research on Cancer
	IECSC: Inventory of Existing Chemical Substances
	IMDG: International Maritime Dangerous Goods IOC:
	Inventory of Chemicals
	KECI: Korean Existing Chemicals Inventory KECL:
	Korean Existing Chemicals List
	LC: Lethal Concentration
	LD: Lethal Dose
	N/Ap: Not Applicable N/Av:
	Not Available
	NIOSH: National Institute of Occupational Safety and Health NOEC:
	No observable effect concentration
	NTP: National Toxicology Program
	OECD: Organisation for Economic Co-operation and Development OSHA:
	Occupational Safety and Health Administration
	PEL: Permissible exposure limit
	PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA:
	Superfund Amendments and Reauthorization Act
	STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV:
	Threshold Limit Values
	TSCA: Toxic Substance Control Act TWA:
	Time Weighted Average
References	: 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &
	Biological Exposure Indices
	2. ECHA - European Chemical Agency
	3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases
	4. Safety Data Sheets from manufacturer.
	5. US EPA Title III List of Lists
	6. California Proposition 65 List
Preparation Date (mm/dd/yyyy	
-	
	: 11/18/2022



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#### Other special considerations for handling

: Provide adequate information, instruction, and training for operators.



### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.



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PhenoCycler™ or PhenoImager Antibody

SDS Revision Date (mm/dd/yyyy): 11/01/2017

### SAFETY DATA SHEET

SECTION 1. IDENTIFICATION									
Product iden Other means			PhenoC	ycler™ or P	henolmager	Antibody			
232122	232123	232124	232125	232126	232127	232128	232129	232130	232131
232132	232133	232134	232135	232136	232137	232138	232139	232140	232141
232142	232143	232144	232145	232146	232147	232148	232149	232150	232151
232152	232153	232154	232155	232156	232157	232158	232159	232160	232161
232162	232163	232164	232165	232166	232167	232168	232169	232170	232171
232172	232173	232174	232175	232176	232177	232178	232180	232181	232182
232183	232184	232185	232186	232187	232188	232189	240001	240003	240004
240006	240017	240018	240019	240020	240021	240022	240033	240034	240035
240036	240058	240059	240060	240061	240062	240064	240065	240066	240077
240068	240069	240070	240071	240072	240073	240074	240075	240076	240077
240078	240079	240080	240081	240082	240083	240084	240125	240126	240127
240128	240129	240170	240171	240172	240173	240174	240175	240176	240177
240178	240179	240180	240181	240182	240183	240184	240185	240186	240187
240188	240189	240190	240191	240192	240200	240201	240202	240203	232179
200066	200067	200068	200069	200070	200071	240228	240229	240230	240231
240227	240232	240074S	2321515						

#### Recommended use of the chemical and restrictions on use

- : Research and development only.
  - No restrictions on use known.

Chemical family

: Mixture

Name, address, and telephone number of the supplier:		Name, address, and telephone number of the manufacturer:			
Akoya Biosciences, Inc.		Refer to supplier			
100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 Supplier's Telephone # <b>24 Hr. Emergency Tel #</b>	:(855) 896 8401 : INFOTRAC - (800) 535-5	053 (Within Continental US); (352) 323-3500 (Outside US)			

#### SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical Clear liquid. No odour.



PhenoCycler™ or PhenoImager Antibody SDS Revision Date (mm/dd/yyyy): 11/01/2017 Page 2 of 12

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Most important hazards:

Suspected of damaging the unborn child. May cause damage to organs. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Hazardous classification:

Reproductive toxicity - Category 2 (Developmental) Specific target organ toxicity, single exposure - Category 2

#### Label elements

Hazard pictogram(s)



Signal Word

WARNING!

Hazard statement(s)

Suspected of damaging the unborn child. May cause damage to organs.

#### Precautionary statement(s)

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fumes, mists or vapours. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/clothing and eye/face protection. If exposed or concerned: Call a POISON CENTER or doctor/physician. Store locked up. Dispose of contents/container in accordance with local regulation.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes may be released during a fire. Direct eye contact may cause slight or mild, transient irritation. May be mildly irritating to skin and respiratory system. May cause gastrointestinal irritation. In extremely high concentrations, may cause symptoms of central nervous system depression.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Ethylene glycol	1,2-Ethanediol 1,2-Dihydroxyethane	107-21-1	1.0 - 5.0



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The exact concentrations of the above listed chemicals are being withheld as a trade secret.

Description of first aid measures         Ingestion       : Do not induce vomiting. Never give anything by mouth to an unconscious person. If exposed or concerned: Call a POISON CENTER or doctor/physician.         Inhalation       : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If exposed or concerned: Call a POISON CENTER or doctor/physician.         Skin contact       : Immediately flush with plenty of water, while removing contaminated clothing. If exposed or concerned: Call a POISON CENTER or doctor/physician.         Eye contact       : Immediately flush eye(s) with plenty of water. After initial flushing, remove any contact lenses if worn, and continue flushing for at least 5 to 10 minutes. If irritation or symptoms and effects, both acute and delayed         Most important symptoms and effects, both acute and delayed       : Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.
<ul> <li>exposed or concerned: Call a POISON CENTER or doctor/physician.</li> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If exposed or concerned: Call a POISON CENTER or doctor/physician.</li> <li>Skin contact</li> <li>Immediately flush with plenty of water, while removing contaminated clothing. If exposed or concerned: Call a POISON CENTER or doctor/physician.</li> <li>Eye contact</li> <li>Immediately flush eye(s) with plenty of water. After initial flushing, remove any contact lenses if worn, and continue flushing for at least 5 to 10 minutes. If irritation or symptoms develop, seek medical attention.</li> <li>Most important symptoms and effects, both acute and delayed</li> <li>Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.</li> </ul>
<ul> <li><i>Skin contact</i></li> <li><i>Immediately flush with plenty of water, while removing contaminated clothing. If exposed or concerned: Call a POISON CENTER or doctor/physician.</i></li> <li><i>Immediately flush with plenty of water, while removing contaminated clothing. If exposed or concerned: Call a POISON CENTER or doctor/physician.</i></li> <li><i>Immediately flush eye(s) with plenty of water. After initial flushing, remove any contact lenses if worn, and continue flushing for at least 5 to 10 minutes. If irritation or symptoms develop, seek medical attention.</i></li> <li>Most important symptoms and effects, both acute and delayed</li> <li>Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.</li> <li>Direct eye contact may cause slight or mild, transient irritation. Symptoms may include</li> </ul>
<ul> <li>Eye contact</li> <li>Eye contact</li> <li>Immediately flush eye(s) with plenty of water. After initial flushing, remove any contact lenses if worn, and continue flushing for at least 5 to 10 minutes. If irritation or symptoms develop, seek medical attention.</li> <li>Most important symptoms and effects, both acute and delayed</li> <li>Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition. Direct eye contact may cause slight or mild, transient irritation. Symptoms may include</li> </ul>
<ul> <li>Inses if worn, and continue flushing for at least 5 to 10 minutes. If irritation or symptoms develop, seek medical attention.</li> <li>Most important symptoms and effects, both acute and delayed</li> <li>Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.</li> <li>Direct eye contact may cause slight or mild, transient irritation. Symptoms may include</li> </ul>
<ul> <li>Suspected of damaging the unborn child. Symptoms may include late resorptions, reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition. Direct eye contact may cause slight or mild, transient irritation. Symptoms may include</li> </ul>
reduced fetal body weight and external, soft tissue and skeletal defects. May cause damage to organs. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition. Direct eye contact may cause slight or mild, transient irritation. Symptoms may include
redness, pain, tearing and conjunctivitis. Direct skin contact may cause temporary redness. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. In
extremely high concentrations, may also cause nausea, vomiting, dizziness, drowsiness and other symptoms of central nervous system depression.
Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

#### Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

#### Unsuitable extinguishing media

#### : None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Not considered flammable.

#### Hazardous combustion products

: Carbon oxides; Formaldehyde; Metal oxides; Hydrochloric acid; Other irritating fumes and smoke.

#### Special protective equipment and precautions for firefighters

:

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.



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Special fire-fighting procedures

: Move containers from fire area if safe to do so. Use water spray to keep containers cool. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

<ul> <li>Ventilate the area. Soo the spill at source if it is safe to do so. Eliminate all ignition sources. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Never return spills in original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required. Refer to Section 13 for disposal of contaminated material.</li> <li>Special spill response procedures         <ul> <li>If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): Ethylene glycol (5000 lbs / 2270 kg)</li> <li>In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.</li> </ul> </li> </ul>		<ul> <li>Restrict access to area until completion of clean-up. Keep all other personnel upwind and away from the spill/release. Ensure clean-up is conducted by trained personnel only. All persons dealing with the clean-up should wear the appropriate personal protective equipment. Refer to protective measures listed in sections 7 and 8.</li> <li>Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.</li> <li>cainment and cleaning up</li> </ul>					
<ul> <li>If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).</li> <li>US CERCLA Reportable quantity (RQ): Ethylene glycol (5000 lbs / 2270 kg)</li> <li>In Canada: Contact appropriate local and provincial environmental authorities for</li> </ul>		sources. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Never return spills in original containers for re-use. Contaminated absorbent material may pose the same hazards as the spilled product. Notify the appropriate authorities as required.					
immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): Ethylene glycol (5000 lbs / 2270 kg) In Canada: Contact appropriate local and provincial environmental authorities for	Special spill response proced	Special spill response procedures					
assistance and/or reporting requirements.		immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): Ethylene glycol (5000 lbs / 2270 kg) In Canada: Contact appropriate local and provincial environmental authorities for					
SECTION 7 HANDI ING AND STORAGE	SECTION 7 HANDLING AN						

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

	:	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear suitable protective equipment during handling. Wear protective gloves/clothing and eye/face protection. Do not ingest. Do not breathe fumes, mists or vapours. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Keep away from acids and other incompatibles. Keep containers tightly closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Wash thoroughly after handling.
Conditions for safe storage	:	Store in a cool, dry, well-ventilated area. Store away from areas of excessive heat, open flames, sparks, and other possible sources of ignition. Keep away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Store locked up. Keep refrigerated.
Incompatible materials	:	Strong oxidizing agents; Strong acids; Strong bases; Halogenated compounds



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### SAFETY DATA SHEET

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>I TLV</u>	<u>OSHA F</u>	PEL
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
Ethylene glycol	25 ppm (vapour)	50 ppm (vapour); 10 mg/m³ (inhalable) (aerosol)	50 ppm (125 mg/m³) (Ceiling) (final rule limit)	N/Av

**Exposure controls** 

#### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR</li> </ul>
Skin protection	<ul> <li>1910.134) or CSA Z94.4-02.</li> <li>Wear protective gloves/clothing. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear resistant clothing and boots.</li> </ul>
Eye / face protection	: Wear eye/face protection. Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles. A full face shield may also be necessary.
Other protective equipment	<ul> <li>Ensure that eyewash stations and safety showers are close to the workstation location.</li> <li>Other equipment may be required depending on workplace standards.</li> </ul>
General hygiene consideration	
	: Do not breathe fumes, mists or vapours. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.
SECTION 9. PHYSICAL A	ND CHEMICAL PROPERTIES
Appearance	: Clear liquid.

Appearance	:	Clear liquid.
Odour	:	No odour.
Odour threshold	:	N/Av
рН	:	N/Av
Melting Point/Freezing point	:	N/Av
Initial boiling point and boilir	ŋ	range
	:	N/Av
Flash point	:	N/Av
Flashpoint (Method)	:	N/Av
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by	vo	l.)
	:	N/Av



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### SAFETY DATA SHEET

Upper flammable limit (% by vol.)					
	:	N/Av			
Oxidizing properties	:	None known.			
Explosive properties	:	Not explosive			
Vapour pressure	:	N/Av			
Vapour density	:	N/Av			
Relative density / Specific gra	avi	ty			
	:	N/Av			
Solubility in water	:	Soluble			
Other solubility(ies)	:	N/Av			
Partition coefficient: n-octand	י/וכ	water or Coefficient of water/oil distribution			
	:	N/Av			
Auto-ignition temperature	:	N/Av			
Decomposition temperature	:	N/Av			
Viscosity	:	N/Av			
Volatiles (% by weight)	:	N/Av			
Volatile organic Compounds	(V	OC's)			
	:	N/Av			
Absolute pressure of contain	er				
	:	N/Ap			
Flame projection length	:	N/Ap			
Other physical/chemical com	m	ents			
	:	No additional information.			

SECTION 10. STABILITY AND REACTIVITY				
Reactivity	: Not normally reactive.			
Chemical stability	: Stable under normal conditions.			
Possibility of hazardous r	eactions			
	Hazardous polymerization does not occur.			
Conditions to avoid	: Avoid excessive heat, sparks and open flame. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.			
Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Halogenated compounds			
Hazardous decomposition products				
	None known, refer to begardaus combustion products in Castion F			

: None known, refer to hazardous combustion products in Section 5.

#### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: YES



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### SAFETY DATA SHEET

#### **Potential Health Effects:**

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

		nhalation of mists or sprays may mildly irritate the upper respiratory tract and cause oughing or sneezing.
Sign and symptoms ingestion	ו	
	e d d	ngestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. In extremely high concentrations, may cause symptoms of central nervous system lepression. Symptoms may include pain, headache, nausea, vomiting, dizziness, lrowsiness and other central nervous system effects. Initially, the central nervous ystem is stimulated, followed by depression.
Sign and symptoms skin	С	irect skin contact may cause temporary redness. Product may be absorbed and ause symptoms similar to those listed for ingestion.
Sign and symptoms eyes		irect eye contact may cause slight or mild, transient irritation. Symptoms may include edness, pain, tearing and conjunctivitis.
Potential Chronic Health Effe		
	: P	Prolonged or repeated ingestion may cause bladder or kidney stones.
Mutagenicity		o data available to indicate product or any components present at greater than 0.1% re mutagenic or genotoxic.
Carcinogenicity		ot considered to be a hazard. No components are listed as carcinogens by ACGIH, ARC, OSHA or NTP.
Reproductive effects & Terato	geni	icity
Sensitization to material	1 R e m re	his material is classified as hazardous under U.S. OSHA regulations (29CFR 910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Reproductive toxicity - Category 2. Suspected of damaging the unborn child. Contains thylene glycol, which may cause teratogenic effects at doses which are not naternally toxic, based on animal data. Symptoms may include late resorptions, educed fetal body weight and external, soft tissue and skeletal defects. lot expected to be a skin or respiratory sensitizer.
Specific target organ effects	1 R S o k p tł	his material is classified as hazardous under U.S. OSHA regulations (29CFR 910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015). Classification: Specific target organ toxicity, single exposure - Category 2. May cause damage to organs. Contains: Ethylene glycol. Ethylene glycol may cause kidney stones and idney damage if ingested. Symptoms may include abdominal pain, excess urine production followed by diminished urine production, blood in the urine, tissue death in the kidney and oxalate crystal deposition.
	(  (\ re	Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) WHMIS 2015), this product is not expected to cause target organ toxicity through epeated exposures.
Medical conditions aggravate	d by	v overexposure
	: P	Pre-existing skin or eye disorders, and impaired liver or kidney functions.
Synergistic materials	: N	lone known or reported by the manufacturer.
Toxicological data	р	lot classified for acute toxicity based on available data. No data is available on the roduct itself. The calculated ATE values for this mixture are: ATE oral = 18,739 mg/kg ATE inhalation (mists) = 225.5 mg/L/4H ee below for individual ingredient acute toxicity data.



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## SAFETY DATA SHEET

	LC50(4hr)	LD50	
Chemical name	<u>inh, rat</u>	(Oral, rat)	(Rabbit, dermal)
Ethylene glycol	4300 ppm (10.92 mg/L) (aerosol)	4000 (rat) The estimated human lethal	9530 mg/kg
		dose is: 1110 - 1665 mg/kg	

#### Other important toxicological hazards

: None known or reported by the manufacturer.

#### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

: There is no data available for this product. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

Ingredients	CAC #	Toxicity to Fish		
	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
Ethylene glycol	107-21-1	22 810 mg/L (Rainbow trout	N/Av	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Ethylene glycol	107-21-1	49 000 mg/L (Daphnia magna)	7500 - 15 000 mg/L	None.

Ingredients	CAS#	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Ethylene glycol	107-21-1	6500 - 13 000 mg/L/96hr (Green algae)	10 000 mg/L/96hr	None.

Persistence and degradability

No data is available on the product itself.

The following ingredients are considered to be readily biodegradable: Ethylene glycol.No data is available on the product itself. See the following data for ingredient

**Bioaccumulation potential** 

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Ethylene glycol (CAS 107-21-1)	- 1.36	10

Mobility in soil : No data is available on the product itself.

information.

:

#### **Other Adverse Environmental effects**

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



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### SAFETY DATA SHEET

### SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
Methods of Disposal	: Dispose in accordance with all applicable federal, state, provincial and local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

#### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\oslash$
49CFR/DOT Additional information	None.	·	i		
TDG	None.	Not regulated.	not regulated	none	$\oslash$
TDG Additional information	None.	1			1
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	1	1		
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	1			
	utions for use	r: Appropriate advice on safety must accor	mpany the package.		
Environmenta	al hazards	<ul> <li>This product does not meet the criteria for according to the IMDG Code. See Section</li> </ul>			

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.



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### SAFETY DATA SHEET

### SECTION 15 - REGULATORY INFORMATION

#### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		TSCA	Reportable		,	
Ingredients	CAS #	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Loxic Chemical	de minimus Concentration
Ethylene glycol	107-21-1	Yes	5000 lb/ 2270 kg	None.	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Health hazards (Reproductive toxicity; Specific target organ toxicity, single exposure)

#### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California	California Proposition 65		State "Right to Know" Lists				
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Ethylene glycol	107-21-1	Yes	Developmental	Yes	Yes	Yes	Yes	Yes	Yes

#### Canadian Information:

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Ethylene glycol	107-21-1	203-473-3	Present	Present	(2)-230	KE-13169	Present	HSR001534

#### **SECTION 16. OTHER INFORMATION**

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances ATE: Acute Toxicity Estimate CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations DOT: Department of Transportation EC50: Effective Concentration 50% EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer</li> </ul>
	IARC: International Agency for Research on Cancer IATA: International Air Transport Association ICAO: International Civil Aviation Organisation



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### SAFETY DATA SHEET

References	IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration LD: Lethal Dose N/Ap: Not Applicable N/Ap: Not Applicable NIOSH: National Institute of Occupational Safety and Health NTP: National Institute of Occupational Safety and Health NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TLV: Threshold Limit Values TWA: Time Weighted Average 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices 2. ECHA - European Chemical Agency 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases 4. Safety Data Sheets from manufacturer. 5. US EPA Title III List of Lists 6. California Proposition 65 List
Preparation Date (mm/dd/yyy)	7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal
	: 09/18/2022
Reviewed Date SDS (dd/mm/y	
Revision No.	: 01/11/2017 : 2
Revision Information	. 2
	for bondling
Other special considerations	
	: Provide adequate information, instruction and training for operators.
HMIS Rating	+- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
	Health: *1 Flammability: 1 Reactivity: 0
NFPA Rating	0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
	: Health: 1 Flammability1: Instability:0 Special Hazards: None.



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### SAFETY DATA SHEET

Prepared for:	
Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401	<b>AKOYA</b> BIOSCIENCES®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	icc Compliance Center

### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences.

#### END OF DOCUMENT



PhenoCode<sup>™</sup> Signature Diluent

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### SAFETY DATA SHEET

#### SECTION 1. IDENTIFICATION

#### Product identifier used on the label

#### : PhenoCode™ Signature Diluent

Other means of identification : PCSA1001

#### Recommended use of the chemical and restrictions on use

 Research and development only. No restrictions on use known.
 Polyether compound
 Name, address, and telephone number
 of the compliant

of the supplier: Akoya Biosciences, Inc.

100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 Supplier's Telephone # **the manufacturer:** Refer to supplier

Name, address, and telephone number of

: (855) 896 8401 Monday to Friday, 9 am to 5 pm, Pacific Standard Time

24 Hr. Emergency Tel # :

: INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

#### SECTION 2. HAZARDS IDENTIFICATION

#### **Classification of the chemical**

Yellow liquid. Odorless.

Most important hazards Non-hazardous, non-flammable, non-toxic solid. Product is a highly water-soluble protein substance isolated from non-toxic plant materials. :

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

#### Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards



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### SAFETY DATA SHEET

Other hazards which do not result in classification:

May cause slight eye and skin irritation. Fumes from heated product or mists may irritate respiratory tract. May cause gastrointestinal irritation. Incomplete toxicological data are available for this product.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name		Common name and synonyms	<u>CAS #</u>	Concentration (% by weight)			
Polyethylene glycol		N/Av	25322-68-3	100.00			
SECTION 4. FIRST-A	AID MEAS	URES					
Description of first aid m	easures						
Ingestion	:	Do not induce vomiting. Never give a	nything by mouth to	a person who is unconscious			
	c	r is having convulsions. Call a physician.					
Inhalation	: 1	f inhaled, move to fresh air. If breathing is personnel only. If breathing stops, pr develop, seek medical attention.	.0 .0				
Skin contact		Immediately flush with plenty of water, while removing contaminated clothing. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.					
Eye contact	: r	Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.					
Most important symptom	s and effect	s, both acute and delayed					
	: 1	ncomplete toxicological data are available	e for this product.				
	E	Direct eye contact may cause slight or mile		. Direct eye contact may cause			
		Direct skin contact may cause slight or mil emporary redness.	d, transient irritatior	n. Direct skin contact may cause			
		Fumes from heated product or mists may i preathing difficulties.	irritate respiratory tr	act. May cause coughing and			
ndication of any immedi	ate medical a	Ingestion may cause gastrointes attention and special treatment needed		ea, vomiting and diarrhea.			
-		Provide general supportive measures and	troot ourmatematica	lbz			

#### **SECTION 5. FIRE-FIGHTING MEASURES**

#### Extinguishing media

Suitable extinguishing media	
:	Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
Unsuitable extinguishing media	
:	None known.
Special hazards arising from the su	ubstance or mixture / Conditions of flammability
:	Not classified as flammable.
Flammability classification (OSHA	29 CFR 1910.106)
:	Not classified as flammable.
Hazardous combustion products	
:	irritating fumes and smoke; Carbon oxides
Special protective equipment and Protective equipment for fire-fight	
:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
	Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.



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### SAFETY DATA SHEET

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment, and emergency procedures

- Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent product from entering drains, sewers, waterways and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).

US CERCLA Reportable quantity (RQ): None known.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

#### SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	
:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash thoroughly after handling.
Conditions for safe storage :	Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated.
Incompatible materials	Strong oxidizers.

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
<u>Chemical Name</u>	ACGIH 1 <u>TWA</u>	<u>rlv</u> <u>Stel</u>	<u>OSHA</u> PEL	<u>PEL</u> <u>STEL</u>
Polyethylene glycol	10 mg/m³ (aerosol) (AIHA WEEL)	N/Av	N/Av	N/Av

#### Exposure controls

Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.



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### SAFETY DATA SHEET

Respiratory protection	:	Where exposure is likely to be prolonged or is unknown wear approved respiratory protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
Skin protection	:	Gloves impervious to the material are recommended. Wear as appropriate: Latex
		gloves; Neoprene gloves. The suitability for a specific workplace should be discussed
		with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	-	Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	:	Ensure that eyewash stations and safety showers are close to the workstation location.
		Other equipment may be required depending on workplace standards.
General hygiene considerations		
	:	Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash
		thoroughly after handling. Remove and wash contaminated clothing before
		re-use. Handle in accordance with good industrial hygiene and safety practice.

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Yellow liquid.
Odour	:	Odorless.
Odour threshold	:	Not available.
рН	:	5 to 7
Melting Point/Freezing point	:	-14.08°C @ 973 hPa
Initial boiling point and boiling r	ang	ge
	:	205.7°C@ 977.6 hPa
Flash point	:	138.6°C
Flashpoint (Method)	:	Closed cup
Evaporation rate (BuAe = 1)	:	Not available.
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by vol	.)	
	:	Not available.
Upper flammable limit (% by vol	.)	
	:	Not available.
Oxidizing properties	:	None known.
Explosive properties	:	Not explosive
Vapour pressure	:	<0.1 hPa @ 20°C
Vapour density	:	Not available.
Relative density / Specific gravit	ty	
	:	1.116 g/cm <sup>3</sup>
Solubility in water	:	Soluble 256.084 g/L @ 25°C
Other solubility(ies)	:	Not available.
Partition coefficient: n-octanol/v	vate	er or Coefficient of water/oil distribution
	:	Not available.
Auto-ignition temperature	:	Not applicable.
Decomposition temperature :		Not available.
Viscosity	:	N/Av Not available.
Volatiles (% by weight)	:	INOL AVAILADIE.
Volatile organic Compounds (Vo	C'	s)
	:	Not applicable.
Absolute pressure of container		
	:	Not applicable.
Flame projection length	:	Not applicable.



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### SAFETY DATA SHEET

#### Other physical/chemical comments

: No additional information.

#### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous rea	actions
	: Hazardous polymerization does not occur.
Conditions to avoid	: Avoid contact with incompatible materials. Extremely high or low temperatures.
Incompatible materials	: Strong oxidizers.
Hazardous decomposition p	products
	: Nitrogen oxides (NOx) ;Carbon oxides.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation	:	YES
----------------------------	---	-----

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

#### Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

	: Fumes from heated product or mists may irritate respiratory tract. May cause coughing and breathing difficulties.
Sign and symptoms ingestion	on
	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	:Direct skin contact may cause slight or mild, transient irritation.
Sign and symptoms eyes	:Direct eye contact may cause slight or mild, transient irritation.
Potential Chronic Health Eff	ects
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Tera	togenicity
Sensitization to material	<ul> <li>This product is not expected to cause reproductive or developmental effects.</li> <li>Not expected to be a skin or respiratory sensitizer.</li> </ul>
Specific target organ effect	<ul> <li>According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.</li> </ul>
Medical conditions aggrava	ted by overexposure
	: No information available.
Synergistic materials	: None known or reported by the manufacturer.
	PL-000365-LISA REV A



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**Toxicological data** : Not classified for acute toxicity based on available data. No data is available on the product itself.

<u>Chemical name</u>	LC₅₀(4hr) <u>inh, rat</u>	LD: <u>(Oral, rat) (Ra</u>	<sup>50</sup> bbit, dermal)
Polyethylene glycol	N/Av	30 200 mg/kg	>20 000 mg/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

#### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

		Toxicity to Fish		
Ingredients	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
Polyethylene glycol	25322-68-3	N/Av	N/Av	None.

Ingredients	CAS #	Ingredients CAS # Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor	
Polyethylene glycol	25322-68-3	N/Av	N/Av	None.	

Ingredients	Ingredients CAS #		oxicity to Algae	
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Polyethylene glycol	25322-68-3	N/Av	N/Av	None.

Persistence and degradability

The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

:

Components	Partition coefficient n-octanol/water (log Kow) Bioconcentration factor (BCF)
Mobility in soil Other Adverse Environme	: The product itself has not been tested.
	: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.
SECTION 13. DISPOSAL	CONSIDERATIONS

**Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.



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### SAFETY DATA SHEET

Methods of Disposal	: Dispose in accordance with all applicable federal, state, provincial and local regulations.
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

#### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.				<u> </u>
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				-

Special precautions for user : Environmental hazards :

Appropriate advice on safety must accompany the package.

 This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

#### **SECTION 15 - REGULATORY INFORMATION**

#### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:



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### SAFETY DATA SHEET

Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: S 372, Specific To Toxic Chemical	ec. 313, 40 CFR xic Chemical de minimus Concentration
Polyethylene glycol	25322-68-3	Yes	N/Ap	N/Ap	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

#### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

		California	California Proposition 65 State "Right to Know" Lists			Lists			
Ingredients	CAS #	Listed	Type of Toxicity	CA	MA	MN	NJ	РА	RI
Polyethylene glycol	25322-68-3	No	N/Ap	No	No	Yes	No	No	No

#### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

N/Av: Not Available

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Polyethylene glycol	25322-68-3	500-038-2	Present	Present	(8)-429; (7)-129; (2)-441	KE-20228	Present	Listed

#### **SECTION 16. OTHER INFORMATION**

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists
-	AICS: Australian Inventory of Chemical Substances
	CAS: Chemical Abstract Services
	CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
	CFR: Code of Federal Regulations
	CSA: Canadian Standards Association
	DOT: Department of Transportation
	EC50: Effective Concentration 50%
	ENCS: Existing and New Chemical Substances
	EPA: Environmental Protection Agency
	HSDB: Hazardous Substances Data Bank
	IARC: International Agency for Research on Cancer
	IECSC: Inventory of Existing Chemical Substances
	IMDG: International Maritime Dangerous Goods
	IOC: Inventory of Chemicals
	KECI: Korean Existing Chemicals Inventory
	KECL: Korean Existing Chemicals List
	LC: Lethal Concentration
	LD: Lethal Dose
	N/Ap: Not Applicable



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### SAFETY DATA SHEET

References	<ul> <li>NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration</li> <li>NTP: National Toxicology Program</li> <li>OECD: Organisation for Economic Co-operation and Development</li> <li>OSHA: Occupational Safety and Health Administration</li> <li>PEL: Permissible exposure limit</li> <li>PICCS: Philippine Inventory of Chemicals and Chemical Substances</li> <li>SARA: Superfund Amendments and Reauthorization Act</li> <li>STEL: Short Term Exposure Limit</li> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>
Preparation Date (mm/dd/yy Other special consideration	s for handling
HMIS Rating	<ul> <li>Provide adequate information, instruction and training for operators.</li> <li>*- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe Health: 0 Flammability: 0 Reactivity: 0</li> </ul>
NFPA Rating	0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
	: Health: 0 Flammability: 0 Instability: 0 Special Hazards: None.
Prepared for: Akoya Biosciences, Inc 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401	<b>AKOYA</b> BIOSCIENCES®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S http://www.thecomplianced	.): (888) 977-4834 (Canada)

#### DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

#### END OF DOCUMENT



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**Opal® 480 Reagent (Formerly Opal® Polaris 480 Reagent)** 

### SAFETY DATA SHEET

#### **SECTION 1. IDENTIFICATION**

#### Product identifier used on the label

### : Opal<sup>®</sup> 480 Reagent (Formerly Opal<sup>®</sup> Polaris 480 Reagent)

Other means of identification : OP-001000

### Recommended use of the chemical and restrictions on use

Recommended use of the cl	nemical and restrictions on use	
Chemical family	<ul> <li>Research and development only. No restrictions on use known.</li> <li>Mixture</li> </ul>	
Name, address, and telep of the supplier:		Name, address, and telephone number of the manufacturer:
Akoya Biosciences, Inc.		Refer to supplier
100 Campus Dr, 6th Floor Marlborough, MA, USA 01752		
Supplier's Telephone #	: (855) 896 8401	
24 Hr. Emergency Tel #	: INFOTRAC - (800) 535-5053 (Wi	thin Continental US); (352) 323-3500 (Outside US)

#### **SECTION 2. HAZARDS IDENTIFICATION**

#### **Classification of the chemical**

Solid. Odorless.

#### Most important hazards:

Harmful if swallowed.Causes skin irritation.Causes serious eye irritation.May cause respiratory irritation.Occupational exposure to the substance or mixture may cause adverse effects.For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

Hazard pictogram(s)



WARNING!

#### Hazard statement(s)

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.



#### Opal 480 Reagent ( OP-001000

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### SAFETY DATA SHEET

#### Precautionary statement(s)

Avoid breathing dust and fume. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local regulation.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. May cause gastrointestinal irritation.

#### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
4-lodophenylboronic acid	Not available.	5122-99-6	80.0 - 100.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

#### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	: If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important symptoms	s and effects, both acute and delayed
Indication of any immedia	<ul> <li>Causes skin irritation. Symptoms may include redness, itching and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath. Harmful if swallowed.</li> <li>te medical attention and special treatment needed</li> </ul>
,	Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media



Opal 480 Reagent (Formerly Opal Polaris 480 Reagent)

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### SAFETY DATA SHEET

Suitable extinguishing media	
:	: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
Unsuitable extinguishing med	
:	None known.
Special hazards arising from t	he substance or mixture / Conditions of flammability
	Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.
Flammability classification (OS	
	Not classified as flammable.
Hazardous combustion produc	
	: Carbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Protective equipment for fire-	and precautions for firefighters
	Firefighters must use standard protective equipment including flame retardant coat,
	helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Special fire-fighting procedure	es
:	: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
SECTION 6. ACCIDENTAL	RELEASE MEASURES
Personal precautions, protecti	ve equipment, and emergency procedures
:	Wear appropriate protective equipment. Refer to protective measures listed in sections
Environmental precautions	7 and 8. Prevent product from entering drains, sewers, waterways, and soil.
Methods and material for cont	ainment and cleaning up
	Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. For waste disposal, see Section 13 of the SDS.
Special spill response procedu	ires
	<ul> <li>If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).</li> <li>US CERCLA Reportable quantity (RQ): None reportable.</li> </ul>
	In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.
SECTION 7. HANDLING AN	ND STORAGE
Precautions for safe handling	
	: Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

Conditions for safe storageWash thoroughly after handling.Conditions for safe storage: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles.Incompatible materials: Storage agents



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# SAFETY DATA SHEET

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGIH TLV		OSHA PEL	
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
4-lodophenylboronic acid	N/Av	N/Av	N/Av	N/Av

**Exposure controls** 

### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
General hygiene consideration	
	: Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

### Handle in accordance with good industrial hygiene and safety practice. SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid					
Odour	:	Odorless.					
Odour threshold	:	N/Av					
рН	:	N/Av					
Melting Point/Freezing point	:	326-330°C					
Initial boiling point and boiling range							
	:	N/Av					
Flash point	:	None.					
Flashpoint (Method)	:	N/Av					
Evaporation rate (BuAe = 1)	:	N/Av					
Flammability (solid, gas)	:	Not applicable.					
Lower flammable limit (% by	vo	l.)					
	:	N/Av					
Upper flammable limit (% by	vo	l.)					
	:	N/Av					
Oxidizing properties	:	None.					
Explosive properties	:	Not explosive					



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Vapour pressure	:	N/Av
Vapour density	:	N/Av
Relative density / Specific gra	avi	ty
	:	N/Av
Solubility in water	:	Insoluble.
Other solubility(ies)	:	N/Av
••••	ol/	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Av
Viscosity		N/Ap
Volatiles (% by weight)	:	N/Av
Volatile organic Compounds	(V(	DC's)
	:	N/Av
Absolute pressure of contain	ner	
	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical com		
		No additional information.
SECTION 10. STABILITY A	NI	O REACTIVITY
Reactivity	:	Not normally reactive.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous read	ctio	ns
-		Hazardous polymerization does not occur.
Conditions to avoid	:	Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	:	Strong oxidizing agents

Hazardous decomposition products

: None known, refer to hazardous combustion products in Section 5.

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES

Routes of exposure skin absorption

: NO

# Potential Health Effects:

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath.

Sign and symptoms ingestion

: Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.



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# SAFETY DATA SHEET

Sign and symptoms skin	Causes skin irritation. Symptoms may include redness, blistering, pain and swelling.							
Sign and symptoms eyes	: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.							
Potential Chronic Health Effects								
	: None known or reported by the manufacturer.							
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.							
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>							
Reproductive effects & Tera	togenicity							
	: This product is not expected to cause reproductive or developmental effects.							
Sensitization to material	• Not expected to be a skin or respiratory sensitizer.							
Specific target organ effects	: Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.							
Medical conditions aggrava	ed by overexposure							
	: Pre-existing skin, eye and respiratory disorders.							
Synergistic materials	: None known or reported by the manufacturer.							
Toxicological data	: Not classified for acute toxicity based on available data. No data is available on the product itself.							

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD50			
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>		
4-lodophenylboronic acid	N/Av	N/Av	N/Av		

### Other important toxicological hazards

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

### Ecotoxicity data:

Ingradianta	CAC #	Toxicity to Fish			
Ingredients	CAS #	LC50 / 96h	NOEC / 21 day	M Factor	
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.	

Ingredients	CAS #	Toxicity to Daphnia				
		EC50 / 48h	NOEC / 21 day	M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.		

<sup>:</sup> None known or reported by the manufacturer.



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# SAFETY DATA SHEET

Ingredients	CAS#	То	oxicity to Algae			
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.		
Persistence and degradabilit		tself has not been tested.	· ·			
Bioaccumulation potential	: The product in	tself has not been tested.				
<u>Components</u>	Partition coe	efficient n-octanol/water	(log Kow) Bioconcentra	ation factor (BCF)		
4-lodophenylboronic acid (Ca 5122-99-6)	AS	N/Av	N/Av			
Mobility in soil	: The product it	tself has not been tested.				
Other Adverse Environmenta	al effects					
		ntial, endocrine disruption	s (e.g., ozone depletion, pho , global warming potential)			
SECTION 13. DISPOSAL C	ONSIDERATIO	NS				
Handling for Disposal Methods of Disposal	protective me disposed of ir	easures listed in sections 7 n a safe way.	rial hygiene and safety pract 7 and 8. This material and its le federal, state, provincial a	s container must b		
RCRA	: If this product criteria of a har responsibility disposal meth	tions. broduct, as supplied, becomes a waste in the United States, it may meet the a of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the nsibility of the waste generator to determine the proper waste identification and sal method. For disposal of unused or waste material, check with local, state, and al environmental agencies.				



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# SAFETY DATA SHEET

### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		^		
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.		-		
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				·
Special preca Environmenta	utions for use al hazards	<ul> <li>Appropriate advice on safety must accompany</li> <li>This product does not meet the criteria for an el</li> </ul>			us mixture.

This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# **SECTION 15 - REGULATORY INFORMATION**

# **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

	<b>••••</b> <i>"</i>	TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: S 372, Specific To	
Ingredients	CAS #		Quantity (RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration
4-lodophenylboronic acid	5122-99-6	NL	None.	None.	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute toxicity; Skin irritation; Eye irritation; Specific target organ toxicity, single exposure.



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# SAFETY DATA SHEET

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California	State "Right to Know" Lists						
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
4-lodophenylboronic acid	5122-99-6	No	N/Av	No	NS	No	No	No	No

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
4-lodophenylboronic acid	5122-99-6	N/Av	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

# **SECTION 16. OTHER INFORMATION**

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration LD: Lethal Dose N/Ap: Not Applicable N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit



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# SAFETY DATA SHEET

References :	<ul> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>
Preparation Date (mm/dd/yyyy)	
:	11/18/2022
Other special considerations for	or handling

: Provide adequate information, instruction, and training for operators.



# DISCLAIMER

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This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT



**Opal® 570 Reagent** 

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# SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

### Product identifier used on the label

# : Opal<sup>®</sup> 570 Reagent

Other means of identification : OP-001003

#### Recommended use of the chemical and restrictions on use

- : Research and development only.
  - No restrictions on use known.

Chemical family : Mixture Name, address, and telephone number

of the supplier:

Akoya Biosciences, Inc.

 100 Campus Dr,

 6th Floor

 Marlborough, MA, USA

 01752

 Supplier's Telephone #

 :
 (855) 896 8401

 :
 INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

Name, address, and telephone number of the manufacturer:

Refer to supplier

# SECTION 2. HAZARDS IDENTIFICATION

### **Classification of the chemical**

Solid. Odorless.

Most important hazards:

Harmful if swallowed.Causes skin irritation.Causes serious eye irritation.May cause respiratory irritation.Occupational exposure to the substance or mixture may cause adverse effects.For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

### Label elements

Hazard pictogram(s)



WARNING!

### Hazard statement(s)

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

Precautionary statement(s)

Avoid breathing dust and fume. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local regulation.

#### Other hazards

Other hazards which do not result in classification: Toxic fumes, gases or vapours may evolve on burning. May cause gastrointestinal irritation.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	<u>CAS #</u>	Concentration (% by weight)
4-lodophenylboronic acid	Not available.	5122-99-6	80.0 - 100.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	: Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	<ul> <li>Wash off with plenty of water. If irritation or symptoms develop, seek medical attention.</li> <li>Wash contaminated clothing before reuse.</li> </ul>
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important symptom	s and effects, both acute and delayed
	: Causes skin irritation. Symptoms may include redness, itching and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath. Harmful if swallowed.
Indication of any immedia	ate medical attention and special treatment needed
	: Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

Suitable extinguishing med	ia
	: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol
Unsuitable extinguishing me	foams, carbon dioxide and dry chemical. edia
	: None known.
Special hazards arising from	the substance or mixture / Conditions of flammability
Flammability classification (	: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning. DSHA 29 CFR 1910.106)
,	: Not classified as flammable.
Hazardous combustion prod	ucts
-	: Carbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Special protective equipmen Protective equipment for fire	t and precautions for firefighters e-fighters
Special fire fighting proceed	: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Special fire-fighting procedu	: Move containers from fire area if safe to do so. Cool closed containers exposed to fire
	with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
SECTION 6. ACCIDENTAL	L RELEASE MEASURES
Personal precautions, protect	tive equipment, and emergency procedures
	: Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	: Prevent product from entering drains, sewers, waterways, and soil.
Methods and material for cor	ntainment and cleaning up
	: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. For waste disposal, see Section 13 of the SDS.
Special spill response proce	
	<ul> <li>If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).</li> <li>US CERCLA Reportable quantity (RO): Nane reportable</li> </ul>
	US CERCLA Reportable quantity (RQ): None reportable.
	In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.
SECTION 7. HANDLING A	ND STORAGE
Precautions for safe handlin	g
Conditions for safe storage	<ul> <li>Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.</li> <li>Store in cool/well-ventilated place. Storage area should be clearly identified, clear of</li> </ul>

Conditions for safe storage: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of<br/>obstruction and accessible only to trained and authorized personnel. Inspect<br/>periodically for damage or leaks. Keep away from incompatibles.Incompatible materials: Strong oxidizing agents



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	<u>ACGI</u>	<u>H TLV</u>	<u>OSH/</u>	A PEL
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
4-lodophenylboronic acid	N/Av	N/Av	N/Av	N/Av

### **Exposure controls**

### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific
	workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location.
	Other equipment may be required depending on workplace standards.
General hygiene consideration	DNS
	: Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
<b>Melting Point/Freezing point</b>	:	189°C
Initial boiling point and boilir	ng I	range
	:	N/Av
Flash point	:	95°C
Flashpoint (Method)	:	Closed cup
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by	vo	l.)
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	N/Av



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

Vapour density	:	N/Av
Relative density / Specific gra	avi	ty
	:	N/Av
Solubility in water	:	Insoluble.
Other solubility(ies)	:	N/Av
Partition coefficient: n-octane	ol/\	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Av
Viscosity	:	N/Av
Volatiles (% by weight)	:	N/Av
<b>Volatile organic Compounds</b>	(V0	OC's)
	:	N/Av
Absolute pressure of contain	ner	
	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical com	me	ents
	:	No additional information.

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive.			
Chemical stability	: Stable under normal conditions.			
Possibility of hazardous re	eactions			
	Hazardous polymerization does not occur.			
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.			
Incompatible materials	: Strong oxidizing agents			
Hazardous decomposition products				
	None known, refer to hazardous combustion products in Section 5.			

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation	:	YES				
Routes of entry skin & eye	:	YES				
Routes of entry Ingestion	:	YES				
Routes of exposure skin absorption						
	:	NO				

### Potential Health Effects:

### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

:	May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath.
Sign and symptoms ingestion	
:	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting

and diarrhea.Sign and symptoms skin : Causes skin irritation. Symptoms may include redness, blistering, pain and swelling.



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

Sign and symptoms eyes	: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, and swelling.
Potential Chronic Health Effe	ects
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Terat	ogenicity
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	: Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.
Medical conditions aggravate	ed by overexposure
	: Pre-existing skin, eye and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LC50(4hr) LD50			
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>		
4-lodophenylboronic acid	N/Av	N/Av	N/Av		

### Other important toxicological hazards

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

#### Ecotoxicity data:

In succion to	0.0.0.#	Toxicity to Fish				
Ingredients	CAS #	LC50 / 96h	NOEC / 21 day	M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.		

Ingredients	CAS #	Toxicity to Daphnia				
		EC50 / 48h	NOEC / 21 day	M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.		



Opal 570 Reagent

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# SAFETY DATA SHEET

<b>Ingredients</b>	CAS #	Toxicity to Algae					
		EC50 / 96h or 72h	NOEC / 96h	or 72h	M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av		None.		
Persistence and degradabilit	-	tself has not been tested.					
Bioaccumulation potential	: The product i	tself has not been tested.					
<u>Components</u>	Partition co	efficient n-octanol/water	(log Kow) Bio	oconcentra	tion factor (BCF)		
4-lodophenylboronic acid (Ca 5122-99-6)	AS	N/Av	Ν	N/Av			
Mobility in soil	: The product i	tself has not been tested.					
Other Adverse Environmenta	al effects						
		erse environmental effects ntial, endocrine disruption ent.					
SECTION 13. DISPOSAL C	ONSIDERATIO	NS					
Handling for Disposal Methods of Disposal	protective me disposed of in : Dispose in ac	ordance with good industr easures listed in sections 7 n a safe way. cordance with all applicab	and 8. This mat	erial and its	container must be		
RCRA	criteria of a h responsibility disposal met	, as supplied, becomes a azardous waste as defined of the waste generator to hod. For disposal of unuse onmental agencies.	d under RCRA, T determine the pr	Title 40 CFR	261. It is the identification and		



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		^		
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				
Special preca Environmenta	utions for use al hazards	<ul> <li>Appropriate advice on safety must accompany</li> <li>This product does not meet the criteria for an er</li> </ul>			us mixture.

I his product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# **SECTION 15 - REGULATORY INFORMATION**

### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS #	Inventory	Quantity (RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
4-lodophenylboronic acid	5122-99-6	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute toxicity; Skin irritation; Eye irritation; Specific target organ toxicity, single exposure.



**Opal 570 Reagent** 

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# SAFETY DATA SHEET

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65		State "Right to Know" Lis			Lists	ists	
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
4-lodophenylboronic acid	5122-99-6	No		No	NS	No	No	No	No

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
4-lodophenylboronic acid	5122-99-6		Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
SECTION 16. OTHER INFORMATION								

Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 198 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations	Legend	CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 198 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration LD: Lethal Dose N/Ap: Not Applicable N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit
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**Opal 570 Reagent** 

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# SAFETY DATA SHEET

	<ul> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp;</li> <li>Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>
Preparation Date (mm/dd/yyyy)	
-	11/18/2022
Other energial considerations fo	r handling

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.



# DISCLAIMER

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### END OF DOCUMENT



**Opal<sup>®</sup> 620 Reagent** 

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# SAFETY DATA SHEET

### **SECTION 1. IDENTIFICATION**

Product identifier used on the label

# : Opal<sup>®</sup> 620 Reagent

Other means of identification : OP-001004

### Recommended use of the chemical and restrictions on use

Chemical family	<ul><li>Research and development only No restrictions on use known.</li><li>Mixture</li></ul>	
Name, address, and teleph of the supplier:	none number	Name, address, and telephone number of the manufacturer:
Akoya Biosciences, Inc.		Refer to supplier
100 Campus Dr, 6th Floor		
Marlborough, MA, USA 01752 Supplier's Telephone #	: (855) 896 8401	
24 Hr. Emergency Tel #	: INFOTRAC - (800) 535-5053 (W	thin Continental US); (352) 323-3500 (Outside US)

### SECTION 2. HAZARDS IDENTIFICATION

### **Classification of the chemical**

Solid. Odorless.

Most important hazards:

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

Hazard pictogram(s)



WARNING!

#### Hazard statement(s)

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.



**Opal 620 Reagent** 

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# SAFETY DATA SHEET

Precautionary statement(s)

Avoid breathing dust and fume. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local regulation.

### Other hazards

Other hazards which do not result in classification: Toxic fumes, gases or vapours may evolve on burning. May cause gastrointestinal irritation.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
4-lodophenylboronic acid	Not available.	5122-99-6	80.0 - 100.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

### SECTION 4. FIRST-AID MEASURES

doctor/physician if you feel unwell.

# Description of first aid measures

Description of mist ald	
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	<ul> <li>Wash off with plenty of water. If irritation or symptoms develop, seek medical attention.</li> <li>Wash contaminated clothing before reuse.</li> </ul>
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympto	ms and effects, both acute and delayed
Indication of any immed	: Causes skin irritation. Symptoms may include redness, itching and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath. Harmful if swallowed. diate medical attention and special treatment needed
indicates of any innice	•
	<ul> <li>Provide general supportive measures and treat symptomatically.</li> </ul>

: Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media



**Opal 620 Reagent** 

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# SAFETY DATA SHEET

foa Unsuitable extinguishing media : No Special hazards arising from the su : No Flammability classification (OSHA : No Hazardous combustion products : Co	t classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
foa Unsuitable extinguishing media : No Special hazards arising from the su : No Flammability classification (OSHA : No Hazardous combustion products : Co	ams, carbon dioxide and dry chemical. Ine known. Ibstance or mixture / Conditions of flammability t classified as flammable. Toxic fumes, gases or vapors may evolve on burning. 29 CFR 1910.106) t classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Unsuitable extinguishing media : No Special hazards arising from the su : No Flammability classification (OSHA : No Hazardous combustion products : Co	ne known. <b>Ibstance or mixture / Conditions of flammability</b> t classified as flammable. Toxic fumes, gases or vapors may evolve on burning. <b>29 CFR 1910.106)</b> t classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
: No Special hazards arising from the su : No Flammability classification (OSHA : No Hazardous combustion products : Co	<b>ubstance or mixture / Conditions of flammability</b> t classified as flammable. Toxic fumes, gases or vapors may evolve on burning. <b>29 CFR 1910.106)</b> t classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Special hazards arising from the su : No Flammability classification (OSHA : No Hazardous combustion products : C	<b>ubstance or mixture / Conditions of flammability</b> t classified as flammable. Toxic fumes, gases or vapors may evolve on burning. <b>29 CFR 1910.106)</b> t classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
: No Flammability classification (OSHA : No Hazardous combustion products : C	t classified as flammable. Toxic fumes, gases or vapors may evolve on burning. <b>29 CFR 1910.106)</b> t classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Flammability classification (OSHA : : No Hazardous combustion products : C	<b>29 CFR 1910.106)</b> It classified as flammable. arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Hazardous combustion products : C	arbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
: C	
• • • • • • • • • •	
Special protective equipment and p Protective equipment for fire-fighte	-
he Fir ap	efighters must use standard protective equipment including flame retardant coat, Imet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. efighters should wear proper protective equipment and self-contained breathing paratus with full face piece operated in positive pressure mode.
Special fire-fighting procedures	wa containers from fire area if onto to do an Ocal closed containers evenesed to fire
wit	ove containers from fire area if safe to do so. Cool closed containers exposed to fire h water spray. Do not allow run-off from fire fighting to enter drains or water urses. Dike for water control.
SECTION 6. ACCIDENTAL REL	EASE MEASURES
Personal precautions, protective ed	quipment, and emergency procedures
	ear appropriate protective equipment. Refer to protective measures listed in sections and 8.
Environmental precautions : Pre	event product from entering drains, sewers, waterways, and soil.
Methods and material for containm	ent and cleaning up
if s	entilate the area. Remove all sources of ignition. Prevent further leakage or spillage afe to do so. Sweep up or vacuum up spillage and collect in suitable container for sposal. Avoid dust formation. For waste disposal, see Section 13 of the SDS.
Special spill response procedures	
imi 1-8	spill/release in excess of the EPA reportable quantity is made into the environment, mediately notify the National Response Center in the United States (phone: 300-424-8802). CERCLA Reportable quantity (RQ): None reportable.
In	Canada: Contact appropriate local and provincial environmental authorities for sistance and/or reporting requirements.
SECTION 7. HANDLING AND ST	FORAGE
Precautions for safe handling	
: Us Av dri flar Wa	e with adequate ventilation. Wear suitable protective equipment during handling. oid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Do not eat, nk, or smoke when using this product. Keep away from extreme heat and direct me. Keep away from incompatibles. Keep containers tightly closed when not in use. ash thoroughly after handling. ore in cool/well-ventilated place. Storage area should be clearly identified, clear of

Conditions for safe storage: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of<br/>obstruction and accessible only to trained and authorized personnel. Inspect<br/>periodically for damage or leaks. Keep away from incompatibles.Incompatible materials: Strong oxidizing agents



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### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSH/</u>	A PEL
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
4-lodophenylboronic acid	N/Av	N/Av	N/Av	N/Av

### **Exposure controls**

### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific
	workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location.
	Other equipment may be required depending on workplace standards.
General hygiene consideration	ons
	: Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
Melting Point/Freezing point	:	189°C
Initial boiling point and boilir	ng I	range
	:	N/Av
Flash point	:	95°C
Flashpoint (Method)	:	Closed cup
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by	vo	l.)
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	N/Av



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# SAFETY DATA SHEET

Vapour density		N/Av		
Relative density / Specific gravity				
	:	N/Av		
Solubility in water	:	Insoluble.		
Other solubility(ies)	:	N/Av		
Partition coefficient: n-octan	ol/v	water or Coefficient of water/oil distribution		
	:	N/Av		
Auto-ignition temperature	:	N/Av		
Decomposition temperature	:	N/Av		
Viscosity	:	N/Ap		
Volatiles (% by weight)	:	N/Av		
Volatile organic Compounds (VOC's)				
	:	N/Av		
Absolute pressure of container				
	:	N/Ap		
Flame projection length	:	N/Ap		
Other physical/chemical com	me	ents		
	:	No additional information.		

# SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous re	eactions
	Hazardous polymerization does not occur.
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition	products
	None known, refer to hazardous combustion products in Section 5.

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin absorption			
	:	NO	

### Potential Health Effects:

### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

	May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath.
Sign and symptoms ingestion	
	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting

Sign and symptoms skinCauses skin irritation. Symptoms may include redness, blistering, pain and swelling.



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# SAFETY DATA SHEET

Sign and symptoms eyes	: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.
Potential Chronic Health Effe	ects
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Terat	ogenicity
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	: Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.
Medical conditions aggravate	ed by overexposure
	: Pre-existing skin, eye and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD	50
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>
4-lodophenylboronic acid	N/Av	N/Av	N/Av

### Other important toxicological hazards

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

#### Ecotoxicity data:

In succion to	0.0.0.#	Toxicity to Fish				
<u>Ingredients</u>	CAS #	LC50 / 96h	NOEC / 21 day	M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.		

Ingredients	CAS #	Тох		
		EC50 / 48h	NOEC / 21 day	M Factor
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.



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# SAFETY DATA SHEET

Ingredients	CAS #	То	xicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or	72h M Factor	
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.	
Persistence and degradabilit	•	self has not been tested.			
Bioaccumulation potential	: The product it	self has not been tested.			
<u>Components</u>	Partition coe	efficient n-octanol/water	(log Kow) <u>Bioco</u>	ncentration factor (BCF)	
4-lodophenylboronic acid (CA 5122-99-6)	NS	N/Av N/Av			
Nobility in soil	: The product it	self has not been tested.			
Other Adverse Environmenta	l effects				
		ntial, endocrine disruption,		ion, photochemical ozone tential) are expected from	
SECTION 13. DISPOSAL CO	ONSIDERATIO	NS			
Handling for Disposal Methods of Disposal	protective me disposed of in		and 8. This materia	al and its container must be	
RCRA	regulations. If this product, criteria of a ha	as supplied, becomes a v azardous waste as defined	vaste in the United S I under RCRA, Title	States, it may meet the	



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### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		^		
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				
Special preca Environmenta	utions for use al hazards	<ul> <li>Appropriate advice on safety must accompany</li> <li>This product does not meet the criteria for an er</li> </ul>			us mixture.

I his product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# **SECTION 15 - REGULATORY INFORMATION**

### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		SARA TITLE III: TSCA CERCLA Sec. 302, Reportable Extremely			II: Sec. 313, 40 CFR c Toxic Chemical		
Ingredients	CAS #	Inventory	Quantity (RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
4-lodophenylboronic acid	5122-99-6	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute toxicity; Skin irritation; Eye irritation; Specific target organ toxicity, single exposure.



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### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California	a Proposition 65		State	"Right to	o Know"	Lists	
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
4-lodophenylboronic acid	5122-99-6	No		No	NS	No	No	No	No

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
4-lodophenylboronic acid	5122-99-6		Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
SECTION 16. OTHER INFORMATION								

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances</li> <li>CAS: Chemical Abstract Services</li> <li>CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980</li> <li>CFR: Code of Federal Regulations CSA:</li> <li>Canadian Standards Association DOT:</li> <li>Department of Transportation EC50:</li> <li>Effective Concentration 50%</li> <li>ENCS: Existing and New Chemical Substances EPA:</li> <li>Environmental Protection Agency</li> <li>IARC: International Agency for Research on Cancer</li> <li>IECSC: Inventory of Existing Chemical Substances IMDG:</li> <li>International Maritime Dangerous Goods IOC: Inventory of</li> <li>Chemicals</li> <li>KECI: Korean Existing Chemicals Inventory KECL:</li> <li>Korean Existing Chemicals Inventory KECL:</li> <li>Korean Existing Chemicals Inventory KECL:</li> <li>Korean Existing Chemicals List</li> <li>LC: Lethal Concentration LD:</li> <li>Lethal Dose</li> <li>N/Ap: Not Applicable N/Av:</li> <li>Not Applicable N/Av:</li> <li>Not Applicable N/Av:</li> <li>Not Applicable N/Av:</li> <li>Not Available</li> <li>NIOSH: National Institute of Occupational Safety and Health NOEC: No</li> <li>observable effect concentration</li> <li>NTP: National Toxicology Program</li> <li>OECD: Organisation for Economic Co-operation and Development OSHA:</li> <li>Occupational Safety and Health Administration</li> <li>PEL: Permissible exposure limit</li> <li>PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA:</li> <li>Superfund Amendments and Reauthorization Act</li> <li>STEL: Short Term Exposure Limit</li> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> </ul>
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References :	<ul> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> </ul>
	6. California Proposition 65 List
	7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal
Preparation Date (mm/dd/yyyy)	
:	11/18/2022
Other special considerations for	or handling

: Provide adequate information, instruction, and training for operators.

Ν



# DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

# END OF DOCUMENT



Name, address, and telephone number of

the manufacturer:

**Opal® 690 Reagent** 

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# SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

### Product identifier used on the label

### : Opal<sup>®</sup> 690 Reagent

Other means of identification : OP-001006

### Recommended use of the chemical and restrictions on use

: Research and development only. No restrictions on use known. : Mixture

Name, address, and telephone number of the supplier:

Akoya Biosciences, Inc.

**Chemical family** 

Refer to supplier 100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 Supplier's Telephone # : (855) 896 8401 INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US) 24 Hr. Emergency Tel #

### SECTION 2. HAZARDS IDENTIFICATION

### **Classification of the chemical**

Solid. Odorless.

Most important hazards:

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

### Label elements

Hazard pictogram(s)



WARNING!

### Hazard statement(s)

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.



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# SAFETY DATA SHEET

Precautionary statement(s)

Avoid breathing dust and fume. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves and eye/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Dispose of contents/container in accordance with local regulation.

#### Other hazards

Other hazards which do not result in classification: Toxic fumes, gases or vapours may evolve on burning. May cause gastrointestinal irritation.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
4-lodophenylboronic acid	Not available.	5122-99-6	80.0 - 100.0

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympton	ns and effects, both acute and delayed
	: Causes skin irritation. Symptoms may include redness, itching and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling. May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath. Harmful if swallowed.
Indication of any immedi	ate medical attention and special treatment needed
	: Provide general supportive measures and treat symptomatically.

### SECTION 5. FIRE-FIGHTING MEASURES



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Suitable extinguishing med	ia
	: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol
Unsuitable extinguishing me	foams, carbon dioxide and dry chemical.
Unsulable extinguishing me	: None known.
Special hazards arising from	the substance or mixture / Conditions of flammability
	: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.
Flammability classification (0	
	: Not classified as flammable.
Hazardous combustion produ	ucts
	: Carbon oxides; Nitrogen oxides (NOx); Phenols; Iodine
Special protective equipment Protective equipment for fire	t and precautions for firefighters e-fighters
	: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Special fire-fighting procedu	
	: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
SECTION 6. ACCIDENTAI	L RELEASE MEASURES
Personal precautions, protect	tive equipment, and emergency procedures
	: Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	: Prevent product from entering drains, sewers, waterways, and soil.
Methods and material for con	ntainment and cleaning up
	: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. For waste disposal, see Section 13 of the SDS.
Special spill response procee	dures
	<ul> <li>If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).</li> <li>US CERCLA Reportable quantity (RQ): None reportable.</li> </ul>
	In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.
SECTION 7. HANDLING A	ND STORAGE
Precautions for safe handling	g
	<ul> <li>Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.</li> <li>Store in cool/well-ventilated place. Storage area should be clearly identified, clear of</li> </ul>

Conditions for safe storage: Store in cool/well-ventilated place. Storage area should be clearly identified, clear of<br/>obstruction and accessible only to trained and authorized personnel. Inspect<br/>periodically for damage or leaks. Keep away from incompatibles.Incompatible materials: Strong oxidizing agents



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### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
4-lodophenylboronic acid	N/Av	N/Av	N/Av	N/Av

### **Exposure controls**

### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific
	workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location.
	Other equipment may be required depending on workplace standards.
General hygiene consideration	ons
	: Avoid breathing dust and fume. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
<b>Melting Point/Freezing point</b>	:	189°C
Initial boiling point and boilir	ng I	range
	:	N/Av
Flash point	:	95°C
Flashpoint (Method)	:	Closed cup
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by	vo	l.)
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	N/Av



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Vapour density	:	N/Av
Relative density / Specific gra	avi	ty
	:	N/Av
Solubility in water	:	Insoluble.
Other solubility(ies)	:	N/Av
Partition coefficient: n-octand	ol/v	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Av
Viscosity	:	N/Ap
Volatiles (% by weight)	:	N/Av
Volatile organic Compounds	(V0	DC's)
	:	N/Av
Absolute pressure of contain	er	
	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical com	me	ents
	:	No additional information.

# SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive.			
Chemical stability	: Stable under normal conditions.			
Possibility of hazardous re	eactions			
	Hazardous polymerization does not occur.			
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.			
Incompatible materials	: Strong oxidizing agents			
Hazardous decomposition products				
	: None known, refer to hazardous combustion products in Section 5.			

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES
Routes of exposure skin abs	orp	otion
	:	NO

### Potential Health Effects:

### Signs and symptoms of short-term (acute) exposure

and diarrhea.

Sign and symptoms Inhalation

:	May cause respiratory irritation. Symptoms may include sore throat, running nose and shortness of breath.
Sign and symptoms ingestion	
:	Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting

Sign and symptoms skin : Causes skin irritation. Symptoms may include redness, blistering, pain and swelling.



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# SAFETY DATA SHEET

Sign and symptoms eyes	: Causes serious eye irritation. Symptoms may include stinging, tearing, redness and swelling.
Potential Chronic Health Effe	cts
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	: Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects & Terat	genicity
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	: Specific target organ toxicity, single exposure - Category 3 (respiratory). May cause respiratory irritation.
Medical conditions aggravate	d by overexposure
	Pre-existing skin, eye and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD50		
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>	
4-lodophenylboronic acid	N/Av	N/Av	N/Av	

### Other important toxicological hazards

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

#### Ecotoxicity data:

Ingredients	0.0.0.#	Toxicity to Fish		
	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.

Ingredients	CAS #	# Toxicity to Daphnia						Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor						
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av	None.						



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# SAFETY DATA SHEET

<b>Ingredients</b>	CAS #	Toxicity to Algae					
		EC50 / 96h or 72h	72h NOEC / 96h		M Factor		
4-lodophenylboronic acid	5122-99-6	N/Av	N/Av		None.		
Persistence and degradabili	-	itself has not been tested.		I			
Bioaccumulation potential	: The product	tself has not been tested.					
<u>Components</u>	Partition co	efficient n-octanol/water	(log Kow) <u>Bi</u>	oconcentra	tion factor (BCF)		
4-lodophenylboronic acid (Ca 5122-99-6)	AS	N/Av N/Av					
Mobility in soil	: The product	itself has not been tested.					
Other Adverse Environmenta	al effects						
		erse environmental effects intial, endocrine disruption ent.					
SECTION 13. DISPOSAL C	ONSIDERATIC	INS					
Handling for Disposal Methods of Disposal	<ul> <li>Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.</li> <li>Dispose in accordance with all applicable federal, state, provincial and local</li> </ul>						
RCRA	criteria of a h responsibility disposal met	t, as supplied, becomes a azardous waste as defined of the waste generator to hod. For disposal of unuse onmental agencies.	d under RCRA, determine the p	Title 40 CFR proper waste	261. It is the identification and		



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# SAFETY DATA SHEET

### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		- -		
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\oslash$
ICAO/IATA Additional information	None.	·			
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	·			
Special preca Environmenta	utions for use al hazards	<ul> <li>Appropriate advice on safety must accompany</li> <li>This product does not meet the criteria for an elitication of the criteria for an elit</li></ul>			us mixture.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

# **SECTION 15 - REGULATORY INFORMATION**

### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		TSCA	Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS #	CAS # Inventory		Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
4-lodophenylboronic acid	5122-99-6	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Acute toxicity; Skin irritation; Eye irritation; Specific target organ toxicity, single exposure.



**Opal 690 Reagent** 

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# SAFETY DATA SHEET

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California	State "Right to Know" Lists						
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
4-lodophenylboronic acid	5122-99-6	No		No	NS	No	No	No	No

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
4-lodophenylboronic acid	5122-99-6		Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
SECTION 16. OTHE	R INFORMA	ATION						
Legend	Ar C, C C C C C C C C C C C C C C C C C C	ustralian Ir AS: Chem ERCLA: O 980 FR: Code anadian S epartment ffective Co NCS: Exis nvironmen ARC: Intern CSC: Intern Ventory of ECI: Korea orean Exis C: Lethal C D: Lethal C CAp: Not A ot Availabl IOSH: Nat o observal TP: Nation ECD: Orga ccupationa EL: Permis ICCS: Phil uperfund A	oventory of C ical Abstract Comprehensi of Federal R tandards Ass of Transport incentration a ting and New tal Protection ational Ager entory of Exis national Mar Chemicals an Existing C ting Chemicals oncentration Dose pplicable N// e tional Institut ble effect cor nal Toxicolog anisation for al Safety and ssible expose ippine Inventor	chemical Sub- Services ve Environme Regulations C Sociation DOT tation EC50: 50% / Chemical Sub- roy for Resea sting Chemical time Dangerd hemicals Inve als List hemicals Inve als List hemicals Inve als List hemicals Inve als Construction gy Program Economic Co I Health Admi ure limit tory of Chemi and Reautho sure Limit	ental Response, Cor SA: -: ubstances EPA: rch on Cancer al Substances bus Goods IOC: entory KECL: ional Safety and Hea p-operation and Deve nistration cals and Chemical S	npensation, alth NOEC: elopment OS	and Liabil SHA: SARA:	ity Act of



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## SAFETY DATA SHEET

	<ul> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>
Preparation Date (mm/dd/yyyy)	
:	11/18/2022
Other special considerations for	or handling

Other special considerations for handling

: Provide adequate information, instruction, and training for operators.



## DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

### END OF DOCUMENT



**Opal<sup>®</sup> TSA-DIG Reagent** 

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## SAFETY DATA SHEET

## **SECTION 1. IDENTIFICATION**

## Product identifier used on the label

## Opal<sup>®</sup> TSA-DIG Reagent

Other means of identification : OP-001007

### Recommended use of the chemical and restrictions on use

Chemical family	<ul><li>Research and development onl No restrictions on use known.</li><li>Mixture</li></ul>	у.
Name, address, and telep of the supplier:	hone number	Name, address, and telephone number of the manufacturer:
Akoya Biosciences, Inc.		Refer to supplier
100 Campus Dr, 6th Floor		
Marlborough, MA, USA 01752 Supplier's Telephone #	: (855) 896 8401	
24 Hr. Emergency Tel #	: INFOTRAC - (800) 535-5053 (V	Vithin Continental US); (352) 323-3500 (Outside US)

## SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Solid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

## Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.



**Opal TSA-DIG Reagent** 

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## SAFETY DATA SHEET

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
No hazardous ingredients above concentration cut-offs	Not applicable.	No information available.	N/Ap

### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.				
If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.				
Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.				
Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.				
Most important symptoms and effects, both acute and delayed				
Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.				
May cause slight eye and skin irritation. Direct eye contact may cause slight redness.				
Direct skin contact may cause temporary redness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.				
Indication of any immediate medical attention and special treatment needed				
e				

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

#### Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); Hydrochloric acid; Sodium oxides; Other irritating fumes and smoke.

#### Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



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## SAFETY DATA SHEET

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways, and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

- If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
   US CERCLA Reportable quantity (RO): None reportable
  - US CERCLA Reportable quantity (RQ): None reportable.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

#### SECTION 7. HANDLING AND STORAGE

### Precautions for safe handling

Conditions for safe storage	Avoid breathing dust, fume, or vapors. Avoid away from extreme heat and direct flame. K containers tightly closed when not in use. W	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Store in cool/well-ventilated place. Storage area should be clearly identified, clear of
Incompatible materials	:	obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated. Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	<u>ACGI</u>	<u>H TLV</u>	<u>OSH/</u>	<u>PEL</u>
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap	N/Ap

#### **Exposure controls**

#### Ventilation and engineering measures

	: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of
Respiratory protection	<ul> <li>insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>



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## SAFETY DATA SHEET

Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
General hygiene consideration	ons
	: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing.

Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid.
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
Melting Point/Freezing point	:	N/Av
Initial boiling point and boilir	١g	range
	:	N/Av
Flash point	:	None.
Flashpoint (Method)	:	N/Av
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)		Not applicable.
Lower flammable limit (% by		
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	N/Av
Vapour density	:	N/Av
Relative density / Specific gra	avi	ty
	:	N/Av
Solubility in water	:	Insoluble
Other solubility(ies)	:	N/Av
	ol/	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Av
Viscosity	:	N/Av
Volatiles (% by weight)	:	N/Av
Volatile organic Compounds	(V	OC's)
2 .	:	N/Av
Absolute pressure of contain	ner	
	:	N/Ap
Flame projection length		N/Ap
Other physical/chemical com		•
		No additional information.
	•	



**Opal TSA-DIG Reagent** 

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## SAFETY DATA SHEET

SECTION 10. STABILITY AND REACTIVITY		
Reactivity	: Not normally reactive.	
Chemical stability	: Stable under normal conditions.	
Possibility of hazardous reactions		
	<ul> <li>Hazardous polymerization does not occur.</li> </ul>	
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.	
Incompatible materials	: Strong oxidizing agents	
Hazardous decomposition products		
	: None known, refer to hazardous combustion products in Section 5.	

## SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin abs	sorp	otion	
	:	NO	
Potential Health Effects:			

### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation			
	: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.		
Sign and symptoms ingestic	n		
	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.		
Sign and symptoms skin	: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.		
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.		
Potential Chronic Health Effe			
	: None known or reported by the manufacturer.		
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.		
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>		
Reproductive effects & Teratogenicity			
	: This product is not expected to cause reproductive or developmental effects.		
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.		
Specific target organ effects	: According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.		
Medical conditions aggravated by overexposure			
	: Pre-existing skin, eye and respiratory disorders.		
Synergistic materials	: None known or reported by the manufacturer.		



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## SAFETY DATA SHEET

# **Toxicological data** : Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD	50
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap

### Other important toxicological hazards

: None known or reported by the manufacturer.

Ecotoxicity	: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.
Persistence and degradat	<ul><li>bility</li><li>The product itself has not been tested.</li></ul>
Bioaccumulation potential	: The product itself has not been tested.
<u>Components</u>	Partition coefficient n-octanol/water (log Kow) Bioconcentration factor (BCF)
Mobility in soil	: The product itself has not been tested.
<b>Other Adverse Environme</b>	ntal effects
	<ul> <li>No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.</li> </ul>

Handling for Disposal	<ul> <li>Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.</li> </ul>
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.



**Opal TSA-DIG Reagent** 

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## SAFETY DATA SHEET

## SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		^		^
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.		1		1
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	·			
Special preca Environmenta	utions for use al hazards	<ul> <li>Appropriate advice on safety must accompany</li> <li>This product does not meet the criteria for an el</li> </ul>		v hazardo	us mixture.

according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

## **SECTION 15 - REGULATORY INFORMATION**

## **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
		Inventory	Quantity (RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
No hazardous ingredients above concentration cut-offs	nformation availa	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.



## **Opal TSA-DIG Reagent**

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## SAFETY DATA SHEET

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients above concentration cut-offs	formation avai	No	N/Ap	No	No	No	No	No	NS

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
No hazardous ingredients above concentration cut-offs	formation avai		All components are listed or exempted.	All are listed or exempted.	All components are listea or exemptea.	All components are listed or exempted.		All components are listed or exempted.

## SECTION 16. OTHER INFORMATION

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration LD: Lethal Dose N/Ap: Not Applicable N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit
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**Opal TSA-DIG Reagent** 

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## SAFETY DATA SHEET

References :	<ul> <li>PICCS: Philippine Inventory of Chemicals and Chemical Substances</li> <li>SARA: Superfund Amendments and Reauthorization Act</li> <li>STEL: Short Term Exposure Limit</li> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>
Preparation Date (mm/dd/yyyy)	
: Other special considerations fo :	11/18/2022 or handling Provide adequate information, instruction, and training for operators.



## DISCLAIMER

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## END OF DOCUMENT



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## SAFETY DATA SHEET

## SECTION 1. IDENTIFICATION

Product identifier used on the label

## : Opal<sup>®</sup> 780 Reagent (Formerly Opal Polaris 780)

Other means of identification : OP-001008

#### Recommended use of the chemical and restrictions on use

Chemical family	<ul> <li>Research and development only No restrictions on use known.</li> <li>Mixture</li> </ul>	
Name, address, and telepl of the supplier:	hone number	Name, address, and telephone number of the manufacturer:
Akoya Biosciences, Inc.		Refer to supplier
100 Campus Dr, 6th Floor		
Marlborough, MA, USA 01752		
Supplier's Telephone #	: (855) 896 8401	
24 Hr. Emergency Tel #	: INFOTRAC - (800) 535-5053 (W	ithin Continental US); (352) 323-3500 (Outside US)

#### SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Solid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

#### Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.



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## SAFETY DATA SHEET

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
No hazardous ingredients above concentration cut-offs	Not applicable.	No information available.	N/Ap

#### SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	: Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympt	oms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any imme	ediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

: Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

#### Hazardous combustion products

Carbon oxides; Nitrogen oxides (NOx); Hydrochloric acid; Sodium oxides; Other irritating fumes and smoke.

#### Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



**Opal 780 Reagent (Formerly Opal Polaris 780)** 

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## SAFETY DATA SHEET

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent product from entering drains, sewers, waterways, and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

- : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
  - US CERCLA Reportable quantity (RQ): None reportable.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

#### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

		Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.
Conditions for safe storage	:	Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated. Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds
moompatible materials	•	

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap	N/Ap

#### **Exposure controls**

#### Ventilation and engineering measures

ronnanon ana onginoonn	
Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>



Decomposition temperature : N/Av

Volatile organic Compounds (VOC's)

Other physical/chemical comments

Absolute pressure of container

Viscosity

Volatiles (% by weight)

Flame projection length

: N/Av

: N/Av

: N/Av

: N/Ap

: N/Ap

: No additional information.

**Opal 780 Reagent (Formerly Opal Polaris 780)** 

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## SAFETY DATA SHEET

Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location.
	Other equipment may be required depending on workplace standards.
General hygiene consideration	
	: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.
SECTION 9. PHYSICAL AN	ID CHEMICAL PROPERTIES
Appearance	: Solid
Odour	: Odorless.
Odour threshold	: N/Av
Н	: N/Av
Melting Point/Freezing point	: N/Av
Initial boiling point and boiling	
Initial boiling point and boilin	
	: N/Av
Flash point	: None.
Flashpoint (Method)	: N/Av
Evaporation rate (BuAe = 1)	: N/Av
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by	vol.)
	: N/Av
Upper flammable limit (% by	vol.)
	: N/Av
Oxidizing properties	: None.
Explosive properties	: Not explosive
Vapour pressure	: N/Av
Vapour density	: N/Av
Relative density / Specific gr	avity
	: N/Av
Solubility in water	: Insoluble.
Other solubility(ies)	: N/Av
	ol/water or Coefficient of water/oil distribution
	: N/Av
Auto-ignition temperature	: N/Av
	• • • • • •



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## SAFETY DATA SHEET

Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous r	eactions
	Hazardous polymerization does not occur.
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition	n products
	: None known, refer to hazardous combustion products in Section 5.

## Information on likely routes of exposure:

Routes of entry inhalation	:	YES			
Routes of entry skin & eye	:	YES			
Routes of entry Ingestion	:	YES			
Routes of exposure skin absorption					
	:	NO			
Potential Health Effects:					

## Signs and symptoms of short-term (acute) exposure

Sign and symptoms	Inhalation
-------------------	------------

	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
Sign and symptoms ingestion	
	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	: Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Eff	
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	<ul> <li>Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.</li> </ul>
Reproductive effects & Tera	togenicity
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	<ul> <li>According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.</li> </ul>
Medical conditions aggravat	ed by overexposure
	: Pre-existing skin, eye, and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.



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## SAFETY DATA SHEET

# **Toxicological data** : Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD <sub>50</sub>	
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>
No hazardous ingredients above concentration cut-offs	N/Ap	N/Ap	N/Ap

#### Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION					
Ecotoxicity	Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.				
Persistence and degradabili	· · · · · · · · · · · · · · · · · · ·				
	he product itself has not been tested.				
Bioaccumulation potential	he product itself has not been tested.				
<u>Components</u>	Partition coefficient n-octanol/water (log Kow) Bioconcentration factor (B	CF)			
Mobility in soil	he product itself has not been tested.				
Other Adverse Environmental effects					
	lo other adverse environmental effects (e.g., ozone depletion, photochemical oz reation potential, endocrine disruption, global warming potential) are expected finis component.				

## SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	: Dispose in accordance with all applicable federal, state, provincial and local regulations.
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state, and federal environmental agencies.



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## SAFETY DATA SHEET

## SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.		^		
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.				
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.				
Special preca Environmenta	utions for use al hazards	<ul> <li>Appropriate advice on safety must accompany</li> <li>This product does not meet the criteria for an el</li> </ul>			us mixture,

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

## **SECTION 15 - REGULATORY INFORMATION**

### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

<u>Ingredients</u>		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
		Inventory	Quantity (RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
No hazardous ingredients above concentration cut-offs	N/Av	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.



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## SAFETY DATA SHEET

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients above concentration cut-offs	N/Av	No	N/Ap	No	No	No	No	No	NS

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
No hazardous ingredients above concentration cut-offs	N/Av	All component s are listed or exempted.	All components are listed or exempted.	All are listed or exempted.	All components are listed or exempted.	All components co are listed or ar exempted. e	e listed or	All components are listed or exempted.

## **SECTION 16. OTHER INFORMATION**

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980</li> <li>CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50%</li> <li>ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency</li> <li>IARC: International Agency for Research on Cancer</li> <li>IECSC: Inventory of Existing Chemical Substances</li> <li>IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals</li> <li>KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration</li> <li>LD: Lethal Dose</li> <li>N/Ap: Not Applicable N/Av: Not Available</li> <li>NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration</li> <li>NTP: National Toxicology Program</li> <li>OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration</li> <li>PEL: Permissible exposure limit</li> </ul>
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**Opal 780 Reagent (Formerly Opal Polaris 780)** 

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## SAFETY DATA SHEET

References :	<ul> <li>PICCS: Philippine Inventory of Chemicals and Chemical Substances</li> <li>SARA: Superfund Amendments and Reauthorization Act</li> <li>STEL: Short Term Exposure Limit</li> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>
Preparation Date (mm/dd/yyyy)	
•	11/21/2022
Other special considerations for	br handling
:	Provide adequate information, instruction, and training for operators.



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**END OF DOCUMENT** 



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Name, address, and telephone number of

the manufacturer:

Refer to supplier

#### DMSO

(Formerly Dimethylsulfoxide)

## SAFETY DATA SHEET

## SECTION 1. IDENTIFICATION

#### Product identifier used on the label

## : DMSO (Formerly Dimethyl sulfoxide)

#### Recommended use of the chemical and restrictions on use

	: Research and development only. No restrictions on use known.			
Chemical family	: Organic sulfur compound			

Name, address, and telephone number of the supplier:

Akoya Biosciences, Inc.

 100 Campus Dr,

 6th Floor

 Marlborough, MA, USA

 01752

 Supplier's Telephone #

 : (855) 896 8401

 : INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)

#### SECTION 2. HAZARDS IDENTIFICATION

#### **Classification of the chemical**

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer tosection 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

#### Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards



## DMSO

## (Formerly Dimethylsulfoxide)

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## SAFETY DATA SHEET

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical name	Common name and synonyms	<u>CAS #</u>	Concentration (% by weight)
Dimethyl sulfoxide	Not available.	67-68-5	>99.9

## SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

Ingestion	: Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.
Inhalation	: If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	: Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.
Most important symptoms	s and effects, both acute and delayed
	: Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

#### **SECTION 5. FIRE-FIGHTING MEASURES**

#### **Extinguishing media**

Extinguishing media	
Suitable extinguishing media	
	a suitable to the surrounding fire such as water fog or fine spray, alcohol bon dioxide and dry chemical.
Unsuitable extinguishing media	
: None know	'n.
Special hazards arising from the substanc	e or mixture / Conditions of flammability
: Not classifie	ed as flammable. Toxic fumes, gases or vapors may evolve on burning.
Flammability classification (OSHA 29 CFR	1910.106)
: Not classifie	ed as flammable.
Hazardous combustion products	
: Carbon oxid	des Sulfur oxide ; Other irritating fumes and smoke.
Special protective equipment and precauti Protective equipment for fire-fighters	ons for firefighters
helmet with Firefighters	must use standard protective equipment including flame retardant coat, h face shield, gloves, rubber boots, and in enclosed spaces, SCBA. s should wear proper protective equipment and self-contained breathing with full face piece operated in positive pressure mode.



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200045

DMSO

(Formerly Dimethylsulfoxide)

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: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protection	ctive equipment, and emergency procedures	
	: Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.	
Environmental precautions	: Prevent product from entering drains, sewers, waterways, and soil.	
Methods and material for containment and cleaning up		
	: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.	
Special spill response proce	edures	
	<ul> <li>If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).</li> <li>US CERCLA Reportable quantity (RQ): None reportable.</li> </ul>	

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

## SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

	5	
	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.
Conditions for safe storage	:	Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect
Incompatible materials	:	periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated. Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>HTLV</u>	<u>OSH</u>	<u>PEL</u>
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
Dimethyl sulfoxide	N/Av	N/Av	N/Av	N/Av

### Exposure controls

#### Ventilation and engineering measures

: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.



DMSO	
(Formerly Dimethylsulfoxide)	

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Respiratory protection	: If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
General hygiene considerat	ions

: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Clear liquid.
Odour	: Odorless.
Odour threshold	: N/Av
рН	: N/Av
Melting Point/Freezing point	: 18.45 °C
Initial boiling point and boili	ng range
	: >189°C
Flash point	: 95°C
Flashpoint (Method)	: Closed cup
Evaporation rate (BuAe = 1)	: 0.026
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by	vol.)
	: N/Av
Upper flammable limit (% by	vol.)
	: N/Av
Oxidizing properties	: None.
Explosive properties	: Not explosive
Vapour pressure	: 2.5 hPa
Vapour density	: $(Air = 1)  0.633$
Relative density / Specific gr	avity
	: 1.1 g/cm <sup>3</sup>
Solubility in water	: Soluble
Other solubility(ies)	: N/Av
Partition coefficient: n-octan	ol/water or Coefficient of water/oil distribution
	: -2.03
Auto-ignition temperature	: N/Av
Decomposition temperature	: 189°C
Viscosity	: 1.818
Volatiles (% by weight)	: 100%
Volatile organic Compounds	
	: N/Av
Absolute pressure of contain	ner
	: N/Ap



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Flame projection length	: N/Ap
Other physical/chemical com	ments

: No additional information.

## SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not normally reactive.			
Chemical stability	: Stable under normal conditions.			
Possibility of hazardous re	eactions			
	: Hazardous polymerization does not occur.			
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.			
Incompatible materials	: Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds			
Hazardous decomposition products				
	: None known, refer to hazardous combustion products in Section 5.			

## SECTION 11. TOXICOLOGICAL INFORMATION

## Information on likely routes of exposure:

Routes	of	entrv	inhalation	YES
nouted	<b>~</b> .	<b>U</b> 111	maiation	163

Routes of entry skin & eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption

: NO

#### **Potential Health Effects:**

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation : Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. Sign and symptoms ingestion : Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Sign and symptoms skin : Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness. Sign and symptoms eyes Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness. **Potential Chronic Health Effects** : None known or reported by the manufacturer. **Mutagenicity** : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Carcinogenicity : Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. **Reproductive effects & Teratogenicity** : This product is not expected to cause reproductive or developmental effects. : Not expected to be a skin or respiratory sensitizer. Sensitization to material Specific target organ effects : According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures. Medical conditions aggravated by overexposure : Pre-existing skin, eye, and respiratory disorders.



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 Synergistic materials
 : None known or reported by the manufacturer.

 Toxicological data
 : Not classified for acute toxicity based on available data. No data is available on the product itself.

See below for individual ingredient acute toxicity data.

	LC50(4hr)	LD50	
Chemical name	<u>inh, rat</u>	(Oral, rat)	<u>(Rabbit, dermal)</u>
Dimethyl sulfoxide	N/Av	14500 mg/kg	40 g/kg

Other important toxicological hazards

: None known or reported by the manufacturer.

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter

drains or water courses or be deposited where it can affect ground or surface waters.

### Ecotoxicity data:

Ingradianta	CAC #	Toxicity to Fish		
Ingredients	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
Dimethyl sulfoxide	67-68-5	34mg/L	N/Av	None.

Ingredients	CAS #	Toxicity to Daphnia		Toxicity to Daphnia		
	EC50 / 48h		NOEC / 21 day	M Factor		
Dimethyl sulfoxide	67-68-5	N/Av	N/Av	None.		

Ingredients	CAS #	Toxicity to Algae       EC50 / 96h or 72h     NOEC / 96h or 72h     M Factor		
				M Factor
Dimethyl sulfoxide	67-68-5	N/Av	N/Av	None.

Persistence and degradability

: The product itself has not been tested.

Bioaccumulation potential : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Dimethyl sulfoxide (CAS 67-68-5)	-2.03	N/Av
N	The product itself has not been tested	

Mobility in soil: The product itself has not been tested.Other Adverse Environmental effects



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: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state, and federal environmental agencies.

## SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\oslash$
49CFR/DOT Additional information	None.	·			
TDG	None.	Not regulated.	not regulated	none	$\oslash$
TDG Additional information	None.	1			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	1			
IMDG	None.	Not regulated.	not regulated	none	$\oslash$
IMDG Additional information	None.	1	I		

: This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.



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## SECTION 15 - REGULATORY INFORMATION

## **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: S 372, Specific To	
<u>Ingredients</u>	CAS #	CAS # Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration
Dimethyl sulfoxide	67-68-5	Yes	N/Ap	N/Av	No	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	Listed Type of Toxicity CA MA MN NJ PA					Lists		
		Listed	Type of Toxicity	CA	MA	A MN	NJ	PA	RI
Dimethyl sulfoxide	67-68-5	No	N/Ap	No	No	No	Yes	No	No

#### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Dimethyl sulfoxide	67-68-5	200-664-3	Present	Present	(2)-1553	KE-32367	Present	HSR002978

## SECTION 16. OTHER INFORMATION

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods</li> </ul>
	IOC: Inventory of Chemicals



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References :	<ul> <li>KECI: Korean Existing Chemicals Inventory</li> <li>KECL: Korean Existing Chemicals List</li> <li>LC: Lethal Concentration</li> <li>LD: Lethal Dose</li> <li>N/Ap: Not Applicable</li> <li>N/Av: Not Available</li> <li>NIOSH: National Institute of Occupational Safety and Health</li> <li>NOEC: No observable effect concentration</li> <li>NTP: National Toxicology Program</li> <li>OECD: Organisation for Economic Co-operation and Development</li> <li>OSHA: Occupational Safety and Health Administration</li> <li>PEL: Permissible exposure limit</li> <li>PICCS: Philippine Inventory of Chemicals and Chemical Substances</li> <li>SARA: Superfund Amendments and Reauthorization Act</li> <li>STEL: Short Term Exposure Limit</li> <li>TDG: Canadian Transportation of Dangerous Goods Act &amp; Regulations</li> <li>TLV: Threshold Limit Values</li> <li>TSCA: Toxic Substance Control Act</li> <li>TWA: Time Weighted Average</li> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> </ul>
	6. California Proposition 65 List 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal
Preparation Date (mm/dd/yyyy)	
:	10/21/2022
Other special considerations for	or handling
:	Provide adequate information, instruction, and training for operators.



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## SAFETY DATA SHEET



## DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

END OF DOCUMENT



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S Blocker

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## SAFETY DATA SHEET

## SECTION 1. IDENTIFICATION

Product identifier used on the	he label	
	: S Blocker	
Other means of identification	on: 232111	
Recommended use of the cl	hemical and restrictions on use	
Chemical family	<ul> <li>Research and development only No restrictions on use known.</li> <li>Mixture</li> </ul>	<i>'</i> .
Name, address, and telep of the supplier: Akoya Biosciences, Inc.	hone number	Name, address, and telephone number of the manufacturer: Refer to supplier
100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 Supplier's Telephone #	: (855) 896 8401	
24 Hr. Emergency Tel #		(ithin Continental US); (352) 323-3500 (Outside US)

## SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for

more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

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## SAFETY DATA SHEET

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
No hazardous ingredients	Not applicable.	N/Av	Not applicable.

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

#### **SECTION 4. FIRST-AID MEASURES**

#### Description of first aid measures

Description of mist and	incusures
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympton	oms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any imme	ediate medical attention and special treatment needed

#### Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

#### Hazardous combustion products

: Carbon oxides;Hydrogen chloride ;Nitrogen oxides

#### Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



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## SAFETY DATA SHEET

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways and soil.

#### Methods and material for containment and cleaning up

:

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): See section 15.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

#### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

Conditions for safe storage	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Store in cool/well-ventilated place. Storage area should be clearly identified, clear of
Incompatible materials		obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Strong oxidizers.
incompatible materials	•	

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSH</u>	A PEL
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

#### Ventilation and engineering measures

Respiratory protection	<ul> <li>Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.</li> <li>If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.</li> </ul>
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Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.			
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.			
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.			
General hygiene considerations				
	: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.			
SECTION 9. PHYSICAL A	ND CHEMICAL PROPERTIES			

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear liquid.
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Av
Melting Point/Freezing point	:	N/Ap
Initial boiling point and boilir	ng	range
	:	N/Av
Flash point	:	None.
Flashpoint (Method)	:	N/Av
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)	:	Not applicable.
Lower flammable limit (% by	vo	l.)
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties		Not explosive
Vapour pressure		N/Ap
Vapour density		N/Ap
Relative density / Specific gra	avi	ty
	:	N/Ap
Solubility in water	:	Soluble
Other solubility(ies)		N/Av
Partition coefficient: n-octan	ol/	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	-	N/Av
Decomposition temperature		•
Viscosity		N/Av
Volatiles (% by weight)		N/Av
Volatile organic Compounds	•	•
		N/Av
Absolute pressure of contain		
		N/Ap
Flame projection length		N/Ap
Other physical/chemical com		
	:	No additional information.



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SECTION 10. STABILITY AND REACTIVITY				
Reactivity	: Not normally reactive.			
Chemical stability	: Stable under normal conditions.			
Possibility of hazardous reactions				
	Hazardous polymerization does not occur.			
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.			
Incompatible materials	: Strong oxidizing agents			
Hazardous decomposition products				
	: None known, refer to hazardous combustion products in Section 5.			

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin abs	sorp	otion	
	:	NO	
Potential Health Effects:			

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalati	on	
Sign and symptoms ingestic	: on	Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.
	:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	:	Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.
Sign and symptoms eyes	:	Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Effe	ects	5
	:	None known or reported by the manufacturer.
Mutagenicity	:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	:	Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects & Terat	og	
	:	This product is not expected to cause reproductive or developmental effects.
Sensitization to material	:	Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	:	According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.
Medical conditions aggravate	ed	by overexposure
	:	Pre-existing skin, eye and respiratory disorders.
Synergistic materials	:	None known or reported by the manufacturer.
Toxicological data	:	There is no data available for this product.



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	LC₅₀(4hr)	LD	50
Chemical name	<u>inh, rat</u>	(Oral, rat)	(Rabbit, dermal)
No hazardous ingredients	N/Av	N/Av	N/Av

#### Other important toxicological hazards

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingredients	0.0.4	Toxicity to Fish		
	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Ingredients	CAS #	Toxicity to Algae		Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor		
No hazardous ingredients	N/Av	N/Av	N/Av	None.		

Persistence and degradability

: The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
No hazardous ingredients (CAS N/Av)	N/Av	N/Av
Mobility in soil :	The product itself has not been tested.	
Other Adverse Environmental et	ifects	
<ul> <li>No other adverse environmental effects (e.g. ozone depletion, photochemical or creation potential, endocrine disruption, global warming potential) are expected this component.</li> </ul>		
SECTION 13. DISPOSAL CON	SIDERATIONS	



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## SAFETY DATA SHEET

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### **SECTION 14. TRANSPORT INFORMATION**

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\oslash$
ICAO/IATA Additional information	None.	·			
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	· ·			
Special precautions for user : Appropriate advice on safety must accompany the package.					

**Environmental hazards** 

: This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

## **SECTION 15 - REGULATORY INFORMATION**

## **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:



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		TSCA	CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS #	Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
No hazardous ingredients	N/Av	NS	None.	None.	NS	NS	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California Proposition 65		State "Right to Know" Lists				Lists	
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients	N/Av	No		NS	NS	NS	NS	NS	NS

#### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
No hazardous ingredients	N/Av	Not applicable	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

#### **SECTION 16. OTHER INFORMATION**

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration /LD: Lethal Dose N/Ap: Not Applicable /N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration



#### S Blocker

SDS Preparation Date (mm/dd/yyyy): 12/16/2022

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# SAFETY DATA SHEET

References : Preparation Date (mm/dd/yyyy)	OSHA: Occupational Safety PEL: Permissible exposure li PICCS: Philippine Inventory SARA: Superfund Amendme STEL: Short Term Exposure TDG: Canadian Transportati TLV: Threshold Limit Values TSCA: Toxic Substance Con TWA: Time Weighted Averag 1. ACGIH, Threshold Limit V Biological Exposure Indices 2. ECHA - European Chemic 3. Canadian Centre for Occu 4. Safety Data Sheets from r 5. US EPA Title III List of List 6. California Proposition 65 L	nomic Co-operation and Development and Health Administration mit of Chemicals and Chemical Substances ents and Reauthorization Act Limit on of Dangerous Goods Act & Regulations trol Act ge alues for Chemical Substances and Physical Agents & al Agency pational Health and Safety, CCInfoWeb databases nanufacturer.
Other special considerations fo	12/16/2022	
-	-	n, instruction and training for operators.
Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401		<b>AKOYA</b> BIOSCIENCES®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): ( http://www.thecompliancecen		icc Compliance Center

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### END OF DOCUMENT



# SAFETY DATA SHEET

### **SECTION 1. IDENTIFICATION**

#### Product identifier used on the label

## PhenoCode<sup>™</sup> Signature Blocker 1

Other means of identification: 200039

#### Recommended use of the chemical and restrictions on use

Research and development only. No restrictions on use known. Chemical family : Mixture Name, address, and telephone number Name, address, and telephone number of of the supplier: the manufacturer: Akoya Biosciences, Inc. Refer to supplier 100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 : (855) 896 8401 Supplier's Telephone # - INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US) 24 Hr. Emergency Tel #

### SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.



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# SAFETY DATA SHEET

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
No hazardous ingredients	Not applicable.	N/Av	Not applicable.

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

#### **SECTION 4. FIRST-AID MEASURES**

#### Description of first aid measures

Description of mist ald	illeasa es
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important sympto	oms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any imme	ediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

- : Not classified as flammable.
- Hazardous combustion products
  - : Carbon oxides; Hydrogen chloride ; Nitrogen oxides; Phosphorus oxides

#### Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



## PhenoCode<sup>™</sup> Signature Blocker 1 SDS Preparation Date (mm/dd/yyyy): 12/16/2022

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# SAFETY DATA SHEET

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways and soil.

#### Methods and material for containment and cleaning up

:

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802). US CERCLA Reportable quantity (RQ): See section 15.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

Conditions for safe storage	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Store in cool/well-ventilated place. Storage area should be clearly identified, clear of
Incompatible materials		obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Strong oxidizers.
incompatible materials	•	

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSH</u>	A PEL
	TWA	<u>STEL</u>	PEL	<u>STEL</u>
No hazardous ingredients	N/Av	N/Av	N/Av	N/Av

#### Exposure controls

#### Ventilation and engineering measures

Respiratory protection       ccupation         Base of the use       insufficient         If airbourne       use NIOSH         and concer       and concer	equate ventilation. Apply technical measures to comply with the al exposure limits. Where reasonably practicable this should be achieved of local exhaust ventilation and good general extraction. In case of ventilation wear suitable respiratory equipment. concentrations are above the permissible exposure limit or are not known, -approved respirators. Respirators should be selected based on the form tration of contaminants in air, and in accordance with OSHA (29 CFR or CSA Z94.4-02. Advice should be sought from respiratory protection
--	--



Volatiles (% by weight)

Flame projection length

Volatile organic Compounds (VOC's)

Other physical/chemical comments

Absolute pressure of container

: N/Av

: N/Av

: N/Ap

: N/Ap

: No additional information.

## PhenoCode<sup>™</sup> Signature Blocker 1 SDS Preparation Date (mm/dd/yyyy): 12/16/2022

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	GALETT DATA SHEET
Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location.
Concret hygiana concideratio	Other equipment may be required depending on workplace standards.
General hygiene consideratio	: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing.
	Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.
SECTION 9. PHYSICAL AN	D CHEMICAL PROPERTIES
Appearance	: Clear liquid.
Odour	: Odorless.
Odour threshold	: N/Av
pH	: 7.4
Melting Point/Freezing point	
6 61	•
Initial boiling point and boilin	
	: >100°C
Flash point	: None.
Flashpoint (Method)	: N/Av
	: N/Av
Flammability (solid, gas)	: Not applicable.
Lower flammable limit (% by	•
	: N/Av
Upper flammable limit (% by	vol.)
	: N/Av
Oxidizing properties	: None.
Explosive properties	: Not explosive
Vapour pressure	: N/Ap
Vapour density	: N/Ap
Relative density / Specific gra	avity
	: N/Ap
Solubility in water	: Soluble
Other solubility(ies)	: N/Av
Partition coefficient: n-octand	ol/water or Coefficient of water/oil distribution
	: N/Av
Auto-ignition temperature	: N/Av
Decomposition temperature	: N/Ap
Viscosity	: N/Áv
	N1/A



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# SAFETY DATA SHEET

SECTION 10. STABILITY	Y AND REACTIVITY
Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous re	eactions
	Hazardous polymerization does not occur.
Conditions to avoid	: Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition	products
	: None known, refer to hazardous combustion products in Section 5.

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin abs	sorp	otion	
	:	NO	
Potential Health Effects:			

#### Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation	n	
Sign and symptoms ingestio	CC	nhalation of mists or sprays may mildly irritate the upper respiratory tract and cause oughing or sneezing.
		gestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin		irect skin contact may cause slight or mild, transient irritation. Direct skin contact may ause temporary redness.
Sign and symptoms eyes		Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may ause slight redness.
Potential Chronic Health Effe	cts	
	: N	lone known or reported by the manufacturer.
Mutagenicity		o data available to indicate product or any components present at greater than 0.1% re mutagenic or genotoxic.
Carcinogenicity		ot expected to have carcinogenic effects. No components are listed as carcinogens y ACGIH, IARC, OSHA or NTP.
Reproductive effects & Terat		
	: TI	his product is not expected to cause reproductive or developmental effects.
Sensitization to material		ot expected to be a skin or respiratory sensitizer.
Specific target organ effects	Р	cording to the classification criteria of Canadian WHMIS regulations (Hazardous roducts Regulations) (WHMIS 2015), this product is not expected to cause specific arget organ toxicity (STOT) through single or repeated exposures.
Medical conditions aggravate		
	: P	re-existing skin, eye and respiratory disorders.
Synergistic materials	: N	lone known or reported by the manufacturer.
Toxicological data	: Th	here is no data available for this product.



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# SAFETY DATA SHEET

	LC50(4hr)	LD	50
Chemical name	<u>inh, rat</u>	(Oral, rat)	(Rabbit, dermal)
No hazardous ingredients	N/Av	N/Av	N/Av

#### Other important toxicological hazards

: None known or reported by the manufacturer.

### SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingredients	0.0.4	Toxicity to Fish				
	CAS #	LC50 / 96h	NOEC / 21 day	M Factor		
No hazardous ingredients	N/Av	N/Av	N/Av	None.		

Ingredients	CAS #	Тох	cicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor		
No hazardous ingredients	N/Av	N/Av	N/Av	None.		

Ingredients	CAS #	Тс		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
No hazardous ingredients	N/Av	N/Av	N/Av	None.

Persistence and degradability

: The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)					
No hazardous ingredients (CAS N/Av)	N/Av	N/Av					
Mobility in soil :	: The product itself has not been tested.						
Other Adverse Environmental ef	fects						
: No other adverse environmental effects (e.g. ozone depletion, photochemical ozon creation potential, endocrine disruption, global warming potential) are expected from this component.							
SECTION 13. DISPOSAL CON	SIDERATIONS						



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# SAFETY DATA SHEET

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.				
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·	-		
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	·			
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	· ·			·
Special preca	utions for use	<ul> <li>Appropriate advice on safety must accompany</li> </ul>	the package.		

**Environmental hazards** 

: This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

## **SECTION 15 - REGULATORY INFORMATION**

### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:



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# SAFETY DATA SHEET

	TSCA		CERCLA Reportable	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS #	CAS # Inventory	Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration	
No hazardous ingredients	N/A∨	NS	None.	None.	NS	NS	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California	California Proposition 65		State "Right to Know" Lists				
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
No hazardous ingredients	N/Av	No		NS	NS	NS	NS	NS	NS

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS#	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
No hazardous ingredients	N/Av	Not applicable	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

#### **SECTION 16. OTHER INFORMATION**

Legend	: ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances IMDG: International Maritime Dangerous Goods IOC: Inventory of Chemicals KECI: Korean Existing Chemicals List LC: Lethal Concentration /LD: Lethal Dose N/Ap: Not Applicable /N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration



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# SAFETY DATA SHEET

References : Preparation Date (mm/dd/yyyy)	OSHA: Occupational Safety PEL: Permissible exposure li PICCS: Philippine Inventory SARA: Superfund Amendme STEL: Short Term Exposure TDG: Canadian Transportati TLV: Threshold Limit Values TSCA: Toxic Substance Con TWA: Time Weighted Averag 1. ACGIH, Threshold Limit V Biological Exposure Indices 2. ECHA - European Chemic 3. Canadian Centre for Occu 4. Safety Data Sheets from r 5. US EPA Title III List of List 6. California Proposition 65 L	nomic Co-operation and Developmer and Health Administration imit of Chemicals and Chemical Substan- ents and Reauthorization Act Limit ion of Dangerous Goods Act & Regul trol Act ge alues for Chemical Substances and I cal Agency pational Health and Safety, CCInfoW nanufacturer. s	ces lations Physical Agents & /eb databases
Other special considerations for :	-	n, instruction and training for operato	rs.
Duran and fam			
Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401		BIOSCI	DYA ences®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): ( http://www.thecompliancecer		icc Compliand	<b>ce</b> Center

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## END OF DOCUMENT



# SAFETY DATA SHEET

### **SECTION 1. IDENTIFICATION**

#### Product identifier used on the label

## PhenoCode<sup>™</sup> Signature Blocker 5

Other means of identification: 200040

#### Recommended use of the chemical and restrictions on use

Research and development only. No restrictions on use known. Chemical family : DNA Name, address, and telephone number Name, address, and telephone number of of the supplier: the manufacturer: Akoya Biosciences, Inc. Refer to supplier 100 Campus Dr, 6th Floor Marlborough, MA, USA 01752 : (855) 896 8401 Supplier's Telephone # - INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US) 24 Hr. Emergency Tel #

### SECTION 2. HAZARDS IDENTIFICATION

#### Classification of the chemical

Clear liquid. Odorless.

Most important hazards:

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

#### Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations.

Signal Word

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Hazard statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

Precautionary statement(s)

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

#### Other hazards

Other hazards which do not result in classification:

Toxic fumes, gases or vapours may evolve on burning. Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing. May cause slight eye and skin irritation. May cause gastrointestinal irritation.

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# SAFETY DATA SHEET

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS#	Concentration (% by weight)
Oligodeoxyribonucleic acid, modified	Not applicable.	N/Av	10 mg/mL

The exact concentrations of the above listed chemicals are being withheld as a trade secret.

#### **SECTION 4. FIRST-AID MEASURES**

#### Description of first aid measures

Description of mist alu	ineasures
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	<ul> <li>If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.</li> </ul>
Skin contact	: Wash off with plenty of water. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.
Eye contact	<ul> <li>Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.</li> </ul>
Most important symptom	oms and effects, both acute and delayed
	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
	May cause slight eye and skin irritation. Direct eye contact may cause slight redness. Direct skin contact may cause temporary redness.
	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any imme	ediate medical attention and special treatment needed

#### Indication of any immediate medical attention and special treatment needed

: Provide general supportive measures and treat symptomatically.

#### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

Suitable extinguishing media

Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

: None known.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Not classified as flammable. Toxic fumes, gases or vapors may evolve on burning.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Not classified as flammable.

#### Hazardous combustion products

: Carbon oxides; Nitrogen oxides (NOx); Hydrochloric acid; Sodium oxides; Other irritating fumes and smoke.

#### Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.



# PhenoCode<sup>™</sup> Signature Blocker 5

SDS Preparation Date (mm/dd/yyyy): 12/16/2022

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# SAFETY DATA SHEET

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

- : Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
- : Prevent product from entering drains, sewers, waterways and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

Environmental precautions

- If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
   US CERCLA Reportable quantity (RQ): see section 15.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

Conditions for safe storage	Avoid breathing dust, fume or vapors. Avoid cor away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling. Store in cool/well-ventilated place. Storage area should be clearly identified, clear of
Incompatible materials	:	obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated. Strong oxidizing agents; Strong acids; Strong bases; Nitrogen compounds

#### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Chemical Name	ACGI	<u>H TLV</u>	<u>OSH/</u>	<u> PEL</u>
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	N/Av

#### **Exposure controls**

#### Ventilation and engineering measures

· · · · · · · · · · · · · · · · · · ·	
	: Provide adequate ventilation. Apply technical measures to comply with the
	occupational exposure limits. Where reasonably practicable this should be achieved
	by the use of local exhaust ventilation and good general extraction. In case of
	insufficient ventilation wear suitable respiratory equipment.
Respiratory protection	: If airbourne concentrations are above the permissible exposure limit or are not known,
Respiratory protection	· · · · · · · · · · · · · · · · · · ·
	use NIOSH-approved respirators. Respirators should be selected based on the form
	and concentration of contaminants in air, and in accordance with OSHA (29 CFR
	1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection
	specialists.



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Skin protection	: Gloves impervious to the material are recommended. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.
General hygiene consideration	ons
	: Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Clear liquid.
Odour	:	Odorless.
Odour threshold	:	N/Av
рН	:	N/Ap
<b>Melting Point/Freezing point</b>	:	N/Ap
Initial boiling point and boilir	۱g	range
	:	N/Ap
Flash point	:	None.
Flashpoint (Method)	:	N/Av
Evaporation rate (BuAe = 1)	:	N/Av
Flammability (solid, gas)		Not applicable.
Lower flammable limit (% by	vo	l.)
	:	N/Av
Upper flammable limit (% by	vo	l.)
	:	N/Av
Oxidizing properties	:	None.
Explosive properties	:	Not explosive
Vapour pressure	:	N/Ap
Vapour density		N/Ap
Relative density / Specific gr	avi	ty
	:	N/Ap
Solubility in water	:	Soluble
Other solubility(ies)	:	N/Av
Partition coefficient: n-octan	ol/	water or Coefficient of water/oil distribution
	:	N/Av
Auto-ignition temperature	:	N/Av
Decomposition temperature	:	N/Ap
Viscosity	:	N/Av
Volatiles (% by weight)	:	N/Av
<b>Volatile organic Compounds</b>	(V	•
	:	N/Av
Absolute pressure of contain	ner	
	:	N/Ap
Flame projection length	:	N/Ap
Other physical/chemical com	nm	ents
	:	No additional information.



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# SAFETY DATA SHEET

Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous re	eactions
	Hazardous polymerization does not occur.
Conditions to avoid	<ul> <li>Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.</li> </ul>
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition	
-	None known, refer to hazardous combustion products in Section 5.

### SECTION 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure:

Routes of entry inhalation	:	YES	
Routes of entry skin & eye	:	YES	
Routes of entry Ingestion	:	YES	
Routes of exposure skin abs	sorp	otion	
	:	NO	
Potential Health Effects:			

## Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation	n
Sign and symptoms ingestio	<ul> <li>Inhalation of mists or sprays may mildly irritate the upper respiratory tract and cause coughing or sneezing.</li> </ul>
0 , 1 0	: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Sign and symptoms skin	<ul> <li>Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.</li> </ul>
Sign and symptoms eyes	: Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness.
Potential Chronic Health Effe	cts
	: None known or reported by the manufacturer.
Mutagenicity	: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	: Not expected to have carcinogenic effects. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects & Terate	
	: This product is not expected to cause reproductive or developmental effects.
Sensitization to material	: Not expected to be a skin or respiratory sensitizer.
Specific target organ effects	According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.
Medical conditions aggravate	d by overexposure
	: Pre-existing skin, eye and respiratory disorders.
Synergistic materials	: None known or reported by the manufacturer.
Toxicological data	: There is no data available for this product.



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	LC50(4hr)	LD	50
Chemical name	<u>inh, rat</u>	(Oral, rat)	(Rabbit, dermal)
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av

#### Other important toxicological hazards

: None known or reported by the manufacturer.

## SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

: Not expected to be harmful to aquatic organisms. No data is available on the product itself. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.

Ecotoxicity data:

Ingradianta	CAC #	Toxicity to Fish				
Ingredients	CAS #	LC50 / 96h	NOEC / 21 day	M Factor		
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.		

Ingredients	CAS #	Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor	
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.	

<b>Ingredients</b>	CAS#	Toxicity to Algae			
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor	
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.	

Persistence and degradability

: The product itself has not been tested.

Bioaccumulation potential : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Oligodeoxyribonucleic acid, modified (CAS N/Av)	N/Av	N/Av

Mobility in soil : The product itself has not been tested.

**Other Adverse Environmental effects** 

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.



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# SAFETY DATA SHEET

## SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8. This material and its container must be disposed of in a safe way.
Methods of Disposal	: Dispose in accordance with all applicable federal, state, provincial and local regulations.
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

## SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.	·			
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·			1
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	1	1		
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	1			
		r : Appropriate advice on safety must accompany			
Environmenta		This product does not meet the criteria for an e according to the IMDG Code. See Section 12 for the IMADDAL 72/72 and 72/72 a	nvironmentall for more envir	y hazardo onmental	us mixture, information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.



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## **SECTION 15 - REGULATORY INFORMATION**

### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

		CAS # TSCA		SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical		
Ingredients	CAS # Inventory	Reportable Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration		
Oligodeoxyribonucleic acid, modified	N/Av	NL	None.	None.	No	N/Ap	

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS#	California	a Proposition 65		State	"Right to	o Know"	Lists	
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Oligodeoxyribonucleic acid, modified	N/Av	No	N/Ap	No	No	No	No	No	No

### **Canadian Information:**

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL, or are exempted materials.

### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Oligodeoxyribonucleic acid, modified	N/Av	Not applicable	N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

#### **SECTION 16. OTHER INFORMATION**

Legend	<ul> <li>ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 CFR: Code of Federal Regulations CSA: Canadian Standards Association DOT: Department of Transportation EC50: Effective Concentration 50% ENCS: Existing and New Chemical Substances EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IECSC: Inventory of Existing Chemical Substances</li> </ul>
	IMDG: International Maritime Dangerous Goods



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	IOC: Inventory of Chemicals KECI: Korean Existing Chemicals Inventory KECL: Korean Existing Chemicals List LC: Lethal Concentration /LD: Lethal Dose N/Ap: Not Applicable /N/Av: Not Available NIOSH: National Institute of Occupational Safety and Health NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV: Threshold Limit Values TSCA: Toxic Substance Control Act
	TWA: Time Weighted Average
References	<ul> <li>1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents &amp; Biological Exposure Indices</li> <li>2. ECHA - European Chemical Agency</li> <li>3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases</li> <li>4. Safety Data Sheets from manufacturer.</li> <li>5. US EPA Title III List of Lists</li> <li>6. California Proposition 65 List</li> <li>7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal</li> </ul>

Preparation Date (mm/dd/yyyy)

#### : 12/16/2022

### Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Prepared for: Akoya Biosciences, Inc. 100 Campus Dr., 6th Floor Marlborough, MA 01752 Telephone: (855) 896 8401	AKOYA BIOSCIENCES®
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	icc Compliance Center

## DISCLAIMER

This Safety Data Sheet was prepared by ICC The Compliance Center Inc. using information provided by Akoya Biosciences, Inc. and CCOHS' Web Information Service. The information in the Safety Data Sheet is offered for your consideration and guidance when exposed to this product. ICC The Compliance Center Inc and Akoya Biosciences, Inc. expressly disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.This Safety Data Sheet may not be changed, or altered in any way without the expressed knowledge and permission of ICC The Compliance Center Inc. and Akoya Biosciences, Inc.

## END OF DOCUMENT



PhenoCode<sup>™</sup> Signature Detector

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# SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

Product identifier used on the	<sup>label</sup> PhenoCode <sup>™</sup> Signatuı	e Detector
Other means of identification	, ,	, PCSD046, PCSD026, PCSD066, PCSD080, , PCSD031, PCSD003, PCSD076, PCSD078,
Recommended use of the cher	nical and restrictions on use	
	Research and development only No restrictions on use known. DNA	
Name, address, and telepho of the supplier:	one number	Name, address, and telephone number of the manufacturer:
Akoya Biosciences, Inc. 100 Campus Dr, 6th Floor Marlborough, MA 01752 USA Supplier's Telephone #	(855) 896 8401 Monday to Frid	Refer to supplier ay, 9 am to 5 pm, Pacific Standard Time
24 Hr. Emergency Tel #	INFOTRAC - (800) 535-5053 (W	ithin Continental US); (352) 323-3500 (Outside US)

#### SECTION 2. HAZARDS IDENTIFICATION

#### **Classification of the chemical**

Light brown solid. Odorless.

Most important hazards Non-hazardous, non-flammable, non-toxic solid. Product is a highly water-soluble protein substance isolated from non-toxic plant materials. :

Occupational exposure to the substance or mixture may cause adverse effects. For further information, please refer to section 11 of the SDS.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See Section 12 for more environmental information.

This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

#### Label elements

Hazard pictogram(s)

None required under U.S. OSHA Hazcom 2012 and Canadian WHMIS 2015 regulations. *Signal Word* 

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations. *Hazard statement(s)* 

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations. *Precautionary statement(s)* 

None required under U.S. OSHA HazCom 2012 and Canadian WHMIS 2015 regulations.

### Other hazards



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Other hazards which do not result in classification:

May cause slight eye and skin irritation. Fumes from heated product or mists may irritate respiratory tract. May cause gastrointestinal irritation. Incomplete toxicological data are available for this product.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Common name and synonyms	<u>CAS #</u>	Concentration (% by weight)
Oligodeoxyribonucleic acid, modified	Not applicable.	N/Av	N/Av

## SECTION 4. FIRST-AID MEASURES

#### Description of first aid measures

1	
Ingestion	<ul> <li>Do not induce vomiting. Never give anything by mouth to a person who is unconscious or is having convulsions. Call a physician.</li> </ul>
Inhalation	: If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing stops, provide artificial respiration. If irritation or symptoms develop, seek medical attention.
Skin contact	<ul> <li>Immediately flush with plenty of water, while removing contaminated clothing. If irritation or symptoms develop, seek medical attention. Wash contaminated clothing before reuse.</li> </ul>
Eye contact	: Immediately flush eye(s) with plenty of water. If irritation or symptoms develop, seek medical attention.
Most important symptoms	and effects, both acute and delayed
	<ul> <li>Incomplete toxicological data are available for this product. Direct eye contact may cause slight or mild, transient irritation. Direct eye contact may cause slight redness. Direct skin contact may cause slight or mild, transient irritation. Direct skin contact may cause temporary redness.</li> </ul>
	Fumes from heated product or mists may irritate respiratory tract. May cause coughing and breathing difficulties.
Indiantian of any immedia	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Indication of any immediat	te medical attention and special treatment needed
Indication of any immediat	<ul> <li>Provide general supportive measures and treat symptomatically.</li> </ul>
SECTION 5. FIRE-FIGH	Provide general supportive measures and treat symptomatically.
SECTION 5. FIRE-FIGH Extinguishing media	: Provide general supportive measures and treat symptomatically. TING MEASURES
SECTION 5. FIRE-FIGH	Provide general supportive measures and treat symptomatically.  ITING MEASURES  nedia
SECTION 5. FIRE-FIGH Extinguishing media	: Provide general supportive measures and treat symptomatically. TING MEASURES
SECTION 5. FIRE-FIGH Extinguishing media	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>ITING MEASURES</li> <li>Indedia</li> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing m	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>ITING MEASURES</li> <li>Indedia</li> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing m Unsuitable extinguishing	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li><i>redia</i> <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> <li><i>media</i></li> </ul> </li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing m Unsuitable extinguishing	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li>Tedia         <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> </ul> </li> <li>media         <ul> <li>None known.</li> </ul> </li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing m Unsuitable extinguishing	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li>Tedia         <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> <li>media             <ul> <li>None known.</li> </ul> <li>The substance or mixture / Conditions of flammability</li> <li>Not classified as flammable.</li> </li></ul> </li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing media Unsuitable extinguishing Special hazards arising from	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li>Tedia         <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> <li>media             <ul> <li>None known.</li> </ul> <li>The substance or mixture / Conditions of flammability</li> <li>Not classified as flammable.</li> </li></ul> </li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing media Unsuitable extinguishing Special hazards arising from	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li>Tedia <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> </ul> </li> <li>media <ul> <li>None known.</li> </ul> </li> <li>The substance or mixture / Conditions of flammability <ul> <li>Not classified as flammable.</li> <li>(OSHA 29 CFR 1910.106)</li> <li>Not classified as flammable.</li> </ul> </li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing m Unsuitable extinguishing Special hazards arising fro Flammability classification	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li>Tedia <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> </ul> </li> <li>media <ul> <li>None known.</li> </ul> </li> <li>The substance or mixture / Conditions of flammability <ul> <li>Not classified as flammable.</li> <li>(OSHA 29 CFR 1910.106)</li> <li>Not classified as flammable.</li> </ul> </li> </ul>
SECTION 5. FIRE-FIGH Extinguishing media Suitable extinguishing m Unsuitable extinguishing Special hazards arising fro Flammability classification Hazardous combustion pro	<ul> <li>Provide general supportive measures and treat symptomatically.</li> <li>TTING MEASURES</li> <li>Interdia <ul> <li>Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.</li> </ul> </li> <li><i>media</i> <ul> <li>None known.</li> </ul> </li> <li>The substance or mixture / Conditions of flammability <ul> <li>Not classified as flammable.</li> <li>(OSHA 29 CFR 1910.106)</li> <li>Not classified as flammable.</li> </ul> </li> <li>oducts <ul> <li>irritating fumes and smoke; Carbon oxides</li> <li>ent and precautions for firefighters</li> </ul> </li> </ul>



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# SAFETY DATA SHEET

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

: Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment, and emergency procedures

	:	Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent product from entering drains, sewers, waterways, and soil.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g., sand). Pick up and transfer to properly labeled containers. Contaminated absorbent material may pose the same hazards as the spilled product. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.

#### Special spill response procedures

 If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the National Response Center in the United States (phone: 1-800-424-8802).
 US CERCLA Reportable quantity (RQ): None known.

In Canada: Contact appropriate local and provincial environmental authorities for assistance and/or reporting requirements.

#### SECTION 7. HANDLING AND STORAGE

Precautions for safe handlin	ıg	
	:	Use with adequate ventilation. Wear suitable protective equipment during handling. Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Keep away from extreme heat and direct flame. Keep containers tightly closed when not in use. Wash thoroughly after handling.
Conditions for safe storage	:	Store in cool/well-ventilated place. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Keep away from incompatibles. Keep refrigerated.
Incompatible materials	:	Strong oxidizers.



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## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:					
Chemical Name	ACGI	H TLV	OSHA PEL		
	<u>TWA</u>	<u>STEL</u>	PEL	<u>STEL</u>	
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	N/Av	

## Exposure controls

# Ventilation and engineering measures

	: Provide adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. In case of insufficient ventilation wear suitable respiratory equipment.			
Respiratory protection	: Where exposure is likely to be prolonged or is unknown wear approved respiratory protection. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.			
Skin protection	: Gloves impervious to the material are recommended. Wear as appropriate: Latex gloves; Neoprene gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.			
Eye / face protection	: Wear as appropriate: Safety glasses with side shields; Tightly fitting safety goggles.			
Other protective equipment	: Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.			
General hygiene considerations				
	: Avoid breathing dust, fume, or vapors. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.			

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Odour		Light brown solid. Odorless.
Odour threshold pH Melting Point/Freezing point	:	Not available. 7 (In a solution) Not available.

## Initial boiling point and boiling range

	:	Not available.
Flash point	:	Not available.
Flashpoint (Method)	:	Not applicable.
Evaporation rate (BuAe = 1)	:	Not available.
Flammability (solid, gas)	:	Not applicable.



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Lower flammable limit (% by	: Not available.
Upper flammable limit (% by	
	• Not available.
Oxidizing properties	None.
Oxidizing properties	. None.
Explosive properties	: Not explosive
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density / Specific gr	avity
	: 1 g//mL
Solubility in water	: Soluble
Other solubility(ies)	: Not available.
	ol/water or Coefficient of water/oil distribution
	: Not available.
Auto-ignition temperature	: Not available.
sulo-ignition temperature	i Not applicable.
Decomposition temperature	: Not available.
Viscosity	: N/Av
Volatiles (% by weight)	: Not available.
Volatile organic Compounds	(VOC's)
<b>3</b>	: applicable.
Absolute pressure of contain	er Not Not applicable.
Flame projection length	: Not applicable.
Other physical/chemical com	••
	: No additional information.
SECTION 10. STABILITY A	AND REACTIVITY
Reactivity	: Not normally reactive.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous read	ctions
	<ul> <li>Hazardous polymerization does not occur.</li> </ul>
Conditions to avoid	: Avoid contact with incompatible materials. Extremely high or low temperatures
Incompatible materials	: Strong oxidizers.
Hazardous decomposition p	
• •	: Nitrogen oxides (NOx) ;Carbon oxides.

## SECTION 11. TOXICOLOGICAL INFORMATION

# Information on likely routes of exposure:

Routes of entry inhalation	:	YES
Routes of entry skin & eye	:	YES
Routes of entry Ingestion	:	YES



PhenoCode <sup>™</sup> Signature Detector Page 6 of 11								
	SAFETY DAT	A SHEET						
Routes of exposure skin ab	bsorption							
	: NO							
Potential Health Effects:								
Signs and symptoms of sho	ort-term (acute) exposure							
Sign and symptoms Inhalat	ation							
	<ul> <li>Fumes from heated product or mists may irritate respiratory tract. May cause coug and breathing difficulties.</li> </ul>							
Sign and symptoms ingesti	tion							
	: Ingestion may cause gastroin	itestinal irritation, nausea, vo	omiting and diarrhea.					
Sign and symptoms skin	: Direct skin contact may caus	e slight or mild, transient irri	tation.					
Sign and symptoms eyes	: Direct eye contact may cause	e slight or mild, transient irrit	ation.					
Potential Chronic Health Eff	ffects : None known or reported by the	he manufacturer.						
Mutagenicity	: No data available to indicate pare mutagenic or genotoxic.	product or any components	present at greater than 0.1%					
Carcinogenicity	<ul> <li>Not expected to have carcino by ACGIH, IARC, OSHA or N</li> </ul>		ts are listed as carcinogens					
Reproductive effects & Tera								
	: This product is not expected	to cause reproductive or dev	velopmental effects.					
Sensitization to material	: Not expected to be a skin or	respiratory sensitizer.						
Specific target organ effects	Products Regulations) (WHM	According to the classification criteria of Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015), this product is not expected to cause specific target organ toxicity (STOT) through single or repeated exposures.						
Medical conditions aggrava								
	: No information available.							
Synergistic materials	: None known or reported by the	ne manufacturer						
Toxicological data	: Not classified for acute toxicity based on available data. No data is available on the product itself.							
	LC₅₀(4hr)	LC	950					
Chemical name	inh, rat	(Oral, rat)	(Rabbit, dermal)					

Other important toxicological hazards

Oligodeoxyribonucleic acid,

: None known or reported by the manufacturer.

N/Av

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

modified

: No data is available on the product itself. The product should not be allowed to enter drains or water courses or be deposited where it can affect ground or surface waters.

N/Av

N/Av



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Ecotoxicity data:

Increations	040 #		Toxicity to Fish	
Ingredients	CAS #	LC50 / 96h	NOEC / 21 day	M Factor
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.

Ingredients	CAS#	Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor	
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.	

Ingredients	CAS #	Toxicity to Algae				
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor		
Oligodeoxyribonucleic acid, modified	N/Av	N/Av	N/Av	None.		

#### Persistence and degradability

: The product itself has not been tested.

**Bioaccumulation potential** : The product itself has not been tested.

<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Oligodeoxyribonucleic acid, modified (CAS N/Av)	N/Av	N/Av

Mobility in soil : The product itself has not been tested.

## **Other Adverse Environmental effects**

: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component

## SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal	: Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.
Methods of Disposal	<ul> <li>Dispose in accordance with all applicable federal, state, provincial and local regulations.</li> </ul>
RCRA	: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.



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# SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	None.	Not regulated.	not regulated	none	$\bigotimes$
49CFR/DOT Additional information	None.	·			
TDG	None.	Not regulated.	not regulated	none	$\bigotimes$
TDG Additional information	None.	·			
ICAO/IATA	None.	Not regulated.	not regulated	none	$\bigotimes$
ICAO/IATA Additional information	None.	·	I		
IMDG	None.	Not regulated.	not regulated	none	$\bigotimes$
IMDG Additional information	None.	·			

Special precautions for user	Appropriate advice on safety must accompany the package			
Environmental hazards	This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.			
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.				
	· · • • • • • • • • • • • • • • • • • •			



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## SECTION 15 - REGULATORY INFORMATION

#### **US Federal Information:**

Components listed below are present on the following U.S. Federal chemical lists:

	TSCA CERCLA Sec. 302, Extremely		SARA TITLE III: Sec. 302, Extremely	2, 372 Specific Toxic Chemical		
<u>Ingredients</u>	CAS #	Inventory	Reportable Quantity(RQ) (40 CFR 117.302):	Hazardous Substance, 40 CFR 355:	Toxic Chemical	de minimus Concentration
Oligodeoxyribonucleic acid, modified	N/Av	NS	None.	None.	NS	N/Ap

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: None.

#### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California	a Proposition 65	osition 65 State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	IN NJ PA R		
Oligodeoxyribonucleic acid, modified	N/Av	No	N/Ap	NS	NS	NS	NS	NS	NS

## Canadian Information:

Canadian Environmental Protection Act (CEPA): All ingredients are listed on the DSL or are exempted materials.

#### International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Oligodeoxyribonucleic acid, modified	N/Av		N/Av	N/Av	N/Av	N/Av	N/Av	N/Av

#### Legend



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# SECTION 16. OTHER INFORMATION

References	: IMDG: International Maritime Dangerous Goods IOC:						
	Inventory of Chemicals						
	KECI: Korean Existing Chemicals Inventory KECL:						
	Korean Existing Chemicals List						
	LC: Lethal Concentration LD:						
	Lethal Dose						
	N/Ap: Not Applicable N/Av:						
	Not Available						
	NIOSH: National Institute of Occupational Safety and Health NOEC: No						
	observable effect concentration						
	NTP: National Toxicology Program						
	OECD: Organisation for Economic Co-operation and Development OSHA:						
	Occupational Safety and Health Administration						
	PEL: Permissible exposure limit						
	PICCS: Philippine Inventory of Chemicals and Chemical Substances SARA:						
	Superfund Amendments and Reauthorization Act						
	STEL: Short Term Exposure Limit						
	TDG: Canadian Transportation of Dangerous Goods Act & Regulations TLV:						
	Threshold Limit Values						
	TSCA: Toxic Substance Control Act TWA:						
	Time Weighted Average						
	1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological						
	Exposure Indices						
	2. ECHA - European Chemical Agency						
	3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases						
	4. Safety Data Sheets from manufacturer.						
	5. US EPA Title III List of Lists						
	6. California Proposition 65 List						
	7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal						
Preparation Date (mm/dd/yyyy							
( · · · · ))))							
	22/22/2222						
	: 09/02/2022						
Other special consideration	ns for handling						
	: Provide adequate information, instruction, and training for operators.						
HMIS Rating	+- Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe						
	Health: 0 Flammability: 0 Reactivity: 0						
NEBA Bating	0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe						
NFPA Rating							
	: Health: 0 Flammability0: Instability:0 Special Hazards: None.						



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END OF DOCUMENT

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