<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NEL811001KT</strong></td>
<td>Opal 7-Color Manual IHC Kit 50 slides</td>
</tr>
</tbody>
</table>

Components:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP1498</td>
<td>1X Plus Amplification Diluent</td>
</tr>
<tr>
<td>FP1487A</td>
<td>Opal 520 Reagent</td>
</tr>
<tr>
<td>FP1488A</td>
<td>Opal 570 Reagent</td>
</tr>
<tr>
<td>FP1497A</td>
<td>Opal 690 Reagent</td>
</tr>
<tr>
<td>FP1494A</td>
<td>Opal 540 Reagent</td>
</tr>
<tr>
<td>FP1490A</td>
<td>Spectral DAPI</td>
</tr>
<tr>
<td>FP1496A</td>
<td>Opal 650 Reagent</td>
</tr>
<tr>
<td>ARD1001EA</td>
<td>Antibody Diluent, 1X, 100mL</td>
</tr>
<tr>
<td>ARH1001EA</td>
<td>PolyHRP Broad Spectrum</td>
</tr>
<tr>
<td>DMSO0500UL</td>
<td>DMSO</td>
</tr>
<tr>
<td>AR600125ML</td>
<td>AR6 Buffer</td>
</tr>
</tbody>
</table>
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** 1X Plus Amplification Diluent
  - **Product number:** FP1498
  - **Relevant identified uses of the substance or mixture and uses advised against**
    - Application of the substance / the mixture Laboratory chemicals
  - **Details of the supplier of the safety data sheet**
    - Manufacturer/Supplier: PerkinElmer Inc
      549 Albany st
      Boston, MA 02118

- **Further information obtainable from:**
  - US Technical Support
    800-762-4000
  - **Emergency telephone number:**
    - If inside USA, call CHEMTREC at 1-800-424-9300
    - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
    - Not applicable.

- **Label elements**
  - **Labelling according to EU guidelines:**
    - Observe the general safety regulations when handling chemicals.
    - The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).
  - **Special labelling of certain preparations:**
    - Safety data sheet available for professional user on request.

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterisation:** Mixtures
  - **Description:** Mixture of substances listed below with nonhazardous additions.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Dangerous components:**
  - 1330-43-4 disodium tetraborate, anhydrous  
    - T Repr. Cat. 2 R60-61 <1%
  - 10043-35-3 boric acid  
    - T Repr. Cat. 2 R60-61 <1%

- **SVHC**
  - 1330-43-4 disodium tetraborate, anhydrous
  - 10043-35-3 boric acid

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.
4 First aid measures

- Description of first aid measures
  - General information: No special measures required.
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: If skin irritation continues, consult a doctor.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If symptoms persist consult doctor.
  - Information for doctor:
    - Most important symptoms and effects, both acute and delayed: No further relevant information available.
    - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
  - Special hazards arising from the substance or mixture: No further relevant information available.
  - Advice for firefighters
    - Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/surface or ground water.
- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- Handling:
  - Precautions for safe handling: No special measures required.
  - Information about fire - and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
· Control parameters
  · Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· Exposure controls
  · Personal protective equipment:
    · General protective and hygienic measures:
      The usual precautionary measures are to be adhered to when handling chemicals.
    · Respiratory protection: Not required.
    · Protection of hands:
      The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
      Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
  · Material of gloves
    The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
  · Penetration time of glove material
    The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  · Eye protection: Goggles recommended during refilling

9 Physical and chemical properties

· Information on basic physical and chemical properties
  · General Information
    · Appearance:
      · Form: Fluid
      · Colour: According to product specification
    · Odour:
      · Odour threshold: Not determined.
    · pH-value:
      Not determined.

· Change in condition
  · Melting point/freezing point: Undetermined.
  · Initial boiling point and boiling range: 100 °C

· Flash point:
  Not applicable.

· Flammability (solid, gas):
  Not applicable.

· Ignition temperature:
  · Decomposition temperature: Not determined.
  · Auto-ignition temperature: Product is not selfigniting.
  · Explosive properties: Product does not present an explosion hazard.

· Explosion limits:
  · Lower: Not determined.
  · Upper: Not determined.

· Vapour pressure at 20 °C:
  23 hPa

· Density:
  Not determined.
· Relative density
  Not determined.
Trade name: 1X Plus Amplification Diluent

- Vapour density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with water: Not miscible or difficult to mix.
- Partition coefficient: n-octanol/water: Not determined.
- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.
- Solvent content:
  - Water: 84.5 %
- Solids content: 14.8 %
- Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity
- Primary irritant effect:
  - Skin corrosion/irritation: No irritant effect.
  - Serious eye damage/irritation: No irritating effect.
- Respiratory or skin sensitisation: No sensitising effects known.
- Additional toxicological information:
  The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.
  When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
Trade name: 1X Plus Amplification Diluent

· Other adverse effects: No further relevant information available.

13 Disposal considerations

· Waste treatment methods
  · Recommendation: Must be specially treated adhering to official regulations.

· Uncleaned packaging:
  · Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number
  · ADR, ADN, IMDG, IATA: Void

· UN proper shipping name
  · ADR, ADN, IMDG, IATA: Void

· Transport hazard class(es)
  · ADR, ADN, IMDG, IATA
    · Class: Void

· Packing group
  · ADR, IMDG, IATA: Void

· Environmental hazards: Not applicable.

· Special precautions for user: Not applicable.

· Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
  · Labelling according to EU guidelines:
    Observe the general safety regulations when handling chemicals.
    The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).

  · Special labelling of certain preparations:
    Safety data sheet available for professional user on request.

  · Directive 2012/18/EU
  · Named dangerous substances - ANNEX I: None of the ingredients is listed.

· National regulations:

· Other regulations, limitations and prohibitive regulations
  · Substances of very high concern (SVHC) according to REACH, Article 57
    1330-43-4 disodium tetraborate, anhydrous
    10043-35-3 boric acid

(Contd. on page 6)
Trade name: 1X Plus Amplification Diluent

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

Relevant phrases
R60 May impair fertility.
R61 May cause harm to the unborn child.
# 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** Opal 520 Reagent
  - **Product number:** FP1487A
  - **Relevant identified uses of the substance or mixture and uses advised against**
    - No further relevant information available.
  - **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** PerkinElmer Inc
    - 549 Albany st
    - Boston, MA 02118
  - **Further information obtainable from:**
    - US Technical Support
    - 800-762-4000
  - **Emergency telephone number:**
    - If inside USA, call CHEMTREC at 1-800-424-9300
    - If outside USA, call CHEMTREC at 1-703-527-3887

## 2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
    - Xn; Harmful
    - **R22:** Harmful if swallowed.
    - Xi; Irritant
    - **R36/37/38:** Irritating to eyes, respiratory system and skin.
  - **Additional information:** For the wording of the relevant risk phrases refer to section 16.

- **Label elements**
  - **Code letter and hazard designation of product:**
    - ![Xn Harmful](image)
  - **Hazard-determining components of labelling:**
    - 4-IODOPHENYLBORONIC ACID
  - **Risk phrases:**
    - 22 Harmful if swallowed.
    - 36/37/38 Irritating to eyes, respiratory system and skin.
  - **Safety phrases:**
    - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
    - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
    - 36/37 Wear suitable protective clothing and gloves.
    - 60 This material and its container must be disposed of as hazardous waste.
  - **Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterisation: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.
- Dangerous components:
  5122-99-6 4-iodophenylboronic acid Xn R22; Xi R36/37/38 75-100%

4 First aid measures

- Description of first aid measures
- General information:
  Immediately remove any clothing soiled by the product.
  In case of irregular breathing or respiratory arrest provide artificial respiration.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Do not induce vomiting; call for medical help immediately.
- Information for doctor:
  Most important symptoms and effects, both acute and delayed: No further relevant information available.
  Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
7 Handling and storage

- Handling:
  - Precautions for safe handling: Store in cool, dry place in tightly closed receptacles.
  - Information about fire - and explosion protection: No special measures required.

- Conditions for safe storage, including any incompatibilities
  - Storage:
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep container tightly sealed.
  - Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.

- Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing
      Wash hands before breaks and at the end of work.
      Avoid contact with the eyes and skin.
    - Respiratory protection:
      In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
      Suitable respiratory protective device recommended.
  - Protection of hands:
    Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
**Safety data sheet**

according to 1907/2006/EC, Article 31

Printing date 15.11.2017
Revision: 15.11.2017

**Trade name: Opal 520 Reagent**

- **Eye protection:**

  Tightly sealed goggles

---

**9 Physical and chemical properties**

<table>
<thead>
<tr>
<th>· Information on basic physical and chemical properties</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>· General Information</td>
<td></td>
</tr>
<tr>
<td>· Appearance:</td>
<td></td>
</tr>
<tr>
<td>· Form:</td>
<td>Fluid</td>
</tr>
<tr>
<td>· Colour:</td>
<td>According to product specification</td>
</tr>
<tr>
<td>· Odour:</td>
<td>Characteristic</td>
</tr>
<tr>
<td>· Odour threshold:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· pH-value:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Change in condition</td>
<td></td>
</tr>
<tr>
<td>· Melting point/freezing point:</td>
<td>Undetermined.</td>
</tr>
<tr>
<td>· Initial boiling point and boiling range:</td>
<td>189 °C</td>
</tr>
<tr>
<td>· Flash point:</td>
<td>95 °C</td>
</tr>
<tr>
<td>· Flammability (solid, gas):</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Ignition temperature:</td>
<td></td>
</tr>
<tr>
<td>· Decomposition temperature:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Auto-ignition temperature:</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>· Explosive properties:</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>· Explosion limits:</td>
<td></td>
</tr>
<tr>
<td>· Lower:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Upper:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapour pressure:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with water:</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>· Partition coefficient: n-octanol/water:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Viscosity:</td>
<td></td>
</tr>
<tr>
<td>· Dynamic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solvent content:</td>
<td></td>
</tr>
<tr>
<td>· Solids content:</td>
<td>3.9 %</td>
</tr>
</tbody>
</table>
10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity
  - Primary irritant effect:
  - Skin corrosion/irritation: Irritant to skin and mucous membranes.
  - Serious eye damage/irritation: Irritating effect.
  - Respiratory or skin sensitisation: No sensitising effects known.
- Additional toxicological information:
  The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Toxic
  Irritant

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
  - Results of PBT and vPvB assessment:
    - PBT: Not applicable.
    - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation: Must be specially treated adhering to official regulations.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
### 14 Transport information

<table>
<thead>
<tr>
<th>· UN-Number</th>
<th>UN2810</th>
</tr>
</thead>
<tbody>
<tr>
<td>· UN proper shipping name</td>
<td>2810 TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</td>
</tr>
<tr>
<td>· ADR</td>
<td>6.1 Toxic substances.</td>
</tr>
<tr>
<td>· IMDG, IATA</td>
<td>6.1</td>
</tr>
<tr>
<td>· Transport hazard class(es)</td>
<td>III</td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>SW2 Clear of living quarters.</td>
</tr>
<tr>
<td>· Packing group</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· ADR, IMDG, IATA</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>· Special precautions for user</td>
<td>Warning: Toxic substances.</td>
</tr>
<tr>
<td>· Danger code (Kemler):</td>
<td>60</td>
</tr>
<tr>
<td>· EMS Number:</td>
<td>F-A,S-A</td>
</tr>
<tr>
<td>· Stowage Category</td>
<td>A</td>
</tr>
<tr>
<td>· Stowage Code</td>
<td>SW2</td>
</tr>
<tr>
<td>· Transport/Additional information:</td>
<td></td>
</tr>
<tr>
<td>· ADR</td>
<td>5L</td>
</tr>
<tr>
<td>· Limited quantities (LQ)</td>
<td>Code: E1</td>
</tr>
<tr>
<td>· Exempted quantities (EQ)</td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td>· Transport category</td>
<td>2</td>
</tr>
<tr>
<td>· Tunnel restriction code</td>
<td>E</td>
</tr>
<tr>
<td>· IMDG</td>
<td>5L</td>
</tr>
<tr>
<td>· Limited quantities (LQ)</td>
<td>Code: E1</td>
</tr>
<tr>
<td>· Exempted quantities (EQ)</td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
</tbody>
</table>
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture

- Labelling according to EU guidelines:

  - Code letter and hazard designation of product:
    
    ![Xn Harmful](image)

  - Hazard-determining components of labelling:
    4-iodophenylboronic acid

- Risk phrases:
  22 Harmful if swallowed.
  36/37/38 Irritating to eyes, respiratory system and skin.

- Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  36/37 Wear suitable protective clothing and gloves.
  60 This material and its container must be disposed of as hazardous waste.

- Directive 2012/18/EU

- Named dangerous substances - ANNEX I None of the ingredients is listed.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

- Relevant phrases
  R22 Harmful if swallowed.
  R36/37/38 Irritating to eyes, respiratory system and skin.
1 Identification of the substance/mixture and of the company/undertaking

- Product identifier
  - Trade name: Opal 570 Reagent
  - Product number: FP1488A

- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.

- Application of the substance / the mixture
  - Laboratory chemicals

- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    PerkinElmer Inc
    549 Albany st
    Boston, MA 02118

- Further information obtainable from:
  - US Technical Support
  - 800-762-4000

- Emergency telephone number:
  - If inside USA, call CHEMTREC at 1-800-424-9300
  - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- Classification of the substance or mixture
  - Classification according to Directive 67/548/EEC or Directive 1999/45/EC
    Xn; Harmful
    - R22: Harmful if swallowed.
    Xi; Irritant
    - R36/37/38: Irritating to eyes, respiratory system and skin.

- Additional information:
  - For the wording of the relevant risk phrases refer to section 16.

- Label elements
  - Code letter and hazard designation of product:
    Xn Harmful

- Hazard-determining components of labelling:
  - 4-IODOPHENYLBORONIC ACID

- Risk phrases:
  - 22 Harmful if swallowed.
  - 36/37/38 Irritating to eyes, respiratory system and skin.

- Safety phrases:
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - 36/37 Wear suitable protective clothing and gloves.
  - 60 This material and its container must be disposed of as hazardous waste.

- Other hazards
  - Results of PBT and vPvB assessment
  - PBT: Not applicable.
Trade name: Opal 570 Reagent

· vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterisation: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

- Dangerous components:
  - 5122-99-6 4-IODOPHENYLBORONIC ACID Xn R22; Xi R36/37/38 75-100%

- Additional information: For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

- Description of first aid measures
  - General information: Immediately remove any clothing soiled by the product.
  - In case of irregular breathing or respiratory arrest provide artificial respiration.
  - After inhalation: In case of unconsciousness place patient stably in side position for transportation.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing: Do not induce vomiting; call for medical help immediately.
  - Information for doctor:
    - Most important symptoms and effects, both acute and delayed
    - Indication of any immediate medical attention and special treatment needed

  No further relevant information available.

5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- Special hazards arising from the substance or mixture
  - No further relevant information available.

- Advice for firefighters

- Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Not required.

- Environmental precautions:
  - Dilute with plenty of water.
  - Do not allow to enter sewers/ surface or ground water.

- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.

- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
7 Handling and storage
· Handling:
· Precautions for safe handling: Store in cool, dry place in tightly closed receptacles.
· Information about fire - and explosion protection: No special measures required.
· Conditions for safe storage, including any incompatibilities
· Storage:
· Requirements to be met by storerooms and containers: No special requirements.
· Information about storage in one common storage facility: Not required.
· Further information about storage conditions: Keep container tightly sealed.
· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection
· Additional information about design of technical facilities: No further data; see item 7.
· Control parameters
· Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· Exposure controls
· Personal protective equipment:
· General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.
· Respiratory protection:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
  Suitable respiratory protective device recommended.
· Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.


9 Physical and chemical properties

· Information on basic physical and chemical properties
  · General Information
    · Appearance:
      · Form: Fluid
      · Colour: According to product specification
    · Odour:
      · Odour: Characteristic
    · Odour threshold:
      · Odour threshold: Not determined.
  · pH-value:
    · pH-value: Not determined.
· Change in condition
  · Melting point/freezing point:
    · Melting point/freezing point: Undetermined.
  · Initial boiling point and boiling range:
    · Initial boiling point and boiling range: 189 °C
· Flash point:
  · Flash point: 95 °C
· Flammability (solid, gas):
  · Flammability (solid, gas): Not applicable.
· Ignition temperature:
  · Decomposition temperature:
    · Decomposition temperature: Not determined.
  · Auto-ignition temperature:
    · Auto-ignition temperature: Product is not selfigniting.
· Explosive properties:
  · Explosive properties: Product does not present an explosion hazard.
  · Explosion limits:
    · Lower: Not determined.
    · Upper: Not determined.
· Vapour pressure:
  · Vapour pressure: Not determined.
· Density:
  · Density: Not determined.
  · Relative density:
    · Relative density: Not determined.
  · Vapour density:
    · Vapour density: Not determined.
· Evaporation rate:
  · Evaporation rate: Not determined.
· Solubility in / Miscibility with water:
  · Solubility in / Miscibility with water: Fully miscible.
· Partition coefficient: n-octanol/water:
  · Partition coefficient: n-octanol/water: Not determined.
· Viscosity:
  · Viscosity:
    · Dynamic: Not determined.
    · Kinematic: Not determined.
· Other information:
  · Other information: No further relevant information available.

10 Stability and reactivity

· Reactivity:
  · Reactivity: No further relevant information available.
45.3

· Chemical stability
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· Possibility of hazardous reactions: No dangerous reactions known.
· Conditions to avoid: No further relevant information available.
· Incompatible materials: No further relevant information available.
· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects
· Acute toxicity
· Primary irritant effect:
  · Skin corrosion/irritation: Irritant to skin and mucous membranes.
  · Serious eye damage/irritation: Irritating effect.
  · Respiratory or skin sensitisation: No sensitising effects known.
· Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Toxic
  Irritant

12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.
· Persistence and degradability: No further relevant information available.
· Behaviour in environmental systems:
  · Bioaccumulative potential: No further relevant information available.
  · Mobility in soil: No further relevant information available.
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.
· Other adverse effects: No further relevant information available.

13 Disposal considerations

· Waste treatment methods
· Recommendation: Must be specially treated adhering to official regulations.
· Uncleaned packaging:
· Recommendation: Disposal must be made according to official regulations.
· Recommended cleansing agents: Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number
· ADR, IMDG, IATA: UN2810

(Contd. on page 6)
Trade name: Opal 570 Reagent

<table>
<thead>
<tr>
<th>UN proper shipping name</th>
<th>2810 TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</td>
</tr>
<tr>
<td>IMDG, IATA</td>
<td></td>
</tr>
</tbody>
</table>

### Transport hazard class(es)
- ADR, IMDG, IATA

#### Class
- 6.1 Toxic substances.

#### Packing group
- ADR, IMDG, IATA
- III

#### Environmental hazards:
- Not applicable.

#### Special precautions for user
- Warning: Toxic substances.

#### Danger code (Kemler):
- 60

#### EMS Number:
- F-A,S-A

#### Stowage Category
- A

#### Stowage Code
- SW2 Clear of living quarters.

#### Transport in bulk according to Annex II of Marpol
and the IBC Code
- Not applicable.

### Transport/Additional information:

#### ADR
- Limited quantities (LQ): 5L
- Excepted quantities (EQ): Code: E1
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 1000 ml

#### Transport category
- 2

#### Tunnel restriction code
- E

#### IMDG
- Limited quantities (LQ): 5L
- Excepted quantities (EQ): Code: E1
  - Maximum net quantity per inner packaging: 30 ml
  - Maximum net quantity per outer packaging: 1000 ml

(Contd. of page 7)
15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Labelling according to EU guidelines:
· Code letter and hazard designation of product:

![Xn Harmful]

· Hazard-determining components of labelling:
  4-IODOPHENYLBORONIC ACID
· Risk phrases:
  22 Harmful if swallowed.
  36/37/38 Irritating to eyes, respiratory system and skin.
· Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  36/37 Wear suitable protective clothing and gloves.
  60 This material and its container must be disposed of as hazardous waste.
· Directive 2012/18/EU
· Named dangerous substances - ANNEX I None of the ingredients is listed.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

· Relevant phrases
  R22 Harmful if swallowed.
  R36/37/38 Irritating to eyes, respiratory system and skin.
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** Opal 690 Reagent
  - **Product number:** FP1497A
- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.
- **Application of the substance / the mixture**
  - Laboratory chemicals
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** PerkinElmer Inc
    - 549 Albany st
    - Boston, MA 02118
  - **Further information obtainable from:**
    - US Technical Support
      - 800-762-4000
  - **Emergency telephone number:**
    - If inside USA, call CHEMTREC at 1-800-424-9300
    - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  - **Xn; Harmful**
    - R22: Harmful if swallowed.
  - **Xi; Irritant**
    - R36/37/38: Irritating to eyes, respiratory system and skin.
- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

- **Label elements**
- **Code letter and hazard designation of product:**
  - ![Xn Harmful]
- **Hazard-determining components of labelling:**
  - 4-IODOPHENYLBORONIC ACID
- **Risk phrases:**
  - 22  Harmful if swallowed.
  - 36/37/38 Irritating to eyes, respiratory system and skin.
- **Safety phrases:**
  - 23  Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 26  In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - 36/37 Wear suitable protective clothing and gloves.
  - 60  This material and its container must be disposed of as hazardous waste.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)
Trade name: Opal 690 Reagent

· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterisation: Mixtures
· Description: Mixture of substances listed below with nonhazardous additions.
· Dangerous components:

| 5122-99-6 4-IODOPHENYLBORONIC ACID | Xn R22; Xi R36/37/38 | 75-100% |
· Additional information: For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

· Description of first aid measures
· General information:
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· After inhalation: In case of unconsciousness place patient stably in side position for transportation.
· After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: Do not induce vomiting; call for medical help immediately.
· Information for doctor:
· Most important symptoms and effects, both acute and delayed No further relevant information available.
· Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Firefighting measures

· Extinguishing media
· Suitable extinguishing agents:
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· Special hazards arising from the substance or mixture No further relevant information available.
· Advice for firefighters
· Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.
· Environmental precautions: Do not allow to enter sewers/ surface or ground water.
· Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
7 Handling and storage

- Handling:
  - Precautions for safe handling: Store in cool, dry place in tightly closed receptacles.
  - Information about fire - and explosion protection: No special measures required.

- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep container tightly sealed.
  - Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.

- Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing.
      Wash hands before breaks and at the end of work.
      Avoid contact with the eyes and skin.
    - Respiratory protection:
      In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
      Suitable respiratory protective device recommended.

- Protection of hands:
  - Protective gloves

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
**Safety data sheet**

*according to 1907/2006/EC, Article 31*

**Trade name:** Opal 690 Reagent

---

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Fluid
      - **Colour:** According to product specification
    - **Odour:** Characteristic
    - **Odour threshold:** Not determined.
  - **pH-value:** Not determined.
  - **Change in condition**
    - **Melting point/freezing point:** Undetermined.
    - **Initial boiling point and boiling range:** 189 °C
  - **Flash point:** 95 °C
  - **Flammability (solid, gas):** Not applicable.
  - **Ignition temperature:**
    - **Decomposition temperature:** Not determined.
    - **Auto-ignition temperature:** Product is not selfigniting.
  - **Explosive properties:** Product does not present an explosion hazard.
  - **Explosion limits:**
    - **Lower:** Not determined.
    - **Upper:** Not determined.
  - **Vapour pressure:** Not determined.
  - **Density:** Not determined.
  - **Relative density**
    - **Not determined.**
  - **Vapour density**
    - **Not determined.**
  - **Evaporation rate**
    - **Not determined.**
  - **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
  - **Partition coefficient: n-octanol/water:** Not determined.
  - **Viscosity:**
    - **Dynamic:** Not determined.
    - **Kinematic:** Not determined.
  - **Other information**
    - **No further relevant information available.**

---

**10 Stability and reactivity**

- **Reactivity:** No further relevant information available.

---

(Contd. of page 3)
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity
  - Primary irritant effect:
    - Skin corrosion/irritation: Irritant to skin and mucous membranes.
    - Serious eye damage/irritation: Irritating effect.
  - Respiratory or skin sensitisation: No sensitising effects known.
  - Additional toxicological information:
    The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
    Toxic
    Irritant

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
- Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation: Must be specially treated adhering to official regulations.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
- ADR, IMDG, IATA: UN2810
<table>
<thead>
<tr>
<th><strong>UN proper shipping name</strong></th>
<th>2810 TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR</strong></td>
<td></td>
</tr>
<tr>
<td><strong>IMDG, IATA</strong></td>
<td>TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</td>
</tr>
</tbody>
</table>

**Transport hazard class(es)**
- **ADR, IMDG, IATA**

**Class**
- 6.1 Toxic substances

**Label**
- 61

**Packing group**
- **ADR, IMDG, IATA**
- III

**Environmental hazards:**
- Not applicable.

**Special precautions for user**
- Warning: Toxic substances.
- Danger code (Kemler): 60
- EMS Number: F-A,S-A
- Stowage Category: A
- Stowage Code: SW2 Clear of living quarters.

**Transport in bulk according to Annex II of Marpol and the IBC Code**
- Not applicable.

**Transport/Additional information:**
- **ADR**
  - Limited quantities (LQ): 5L
  - Excepted quantities (EQ) Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
  - Transport category: 2
  - Tunnel restriction code: E
- **IMDG**
  - Limited quantities (LQ): 5L
  - Excepted quantities (EQ) Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

(Contd. on page 7)
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to EU guidelines:
  - Code letter and hazard designation of product:
    - Xn Harmful

- Hazard-determining components of labelling:
  - 4-IODOPHENYLBORONIC ACID

- Risk phrases:
  - 22 Harmful if swallowed.
  - 36/37/38 Irritating to eyes, respiratory system and skin.

- Safety phrases:
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - 36/37 Wear suitable protective clothing and gloves.
  - 60 This material and its container must be disposed of as hazardous waste.

- Directive 2012/18/EU
  - Named dangerous substances - ANNEX I None of the ingredients is listed.
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

- Relevant phrases
  - R22 Harmful if swallowed.
  - R36/37/38 Irritating to eyes, respiratory system and skin.
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** Opal 540 Reagent
  - **Product number:** FP1494A
  - **Relevant identified uses of the substance or mixture and uses advised against**
    No further relevant information available.
  - **Application of the substance / the mixture**
    Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:**
    PerkinElmer Inc
    549 Albany st
    Boston, MA 02118

- **Further information obtainable from:**
  - **US Technical Support**
    800-762-4000
  - **Emergency telephone number:**
    If inside USA, call CHEMTREC at 1-800-424-9300
    If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
    Xn; Harmful
    R22: Harmful if swallowed.
    Xi; Irritant
    R36/37/38: Irritating to eyes, respiratory system and skin.

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

- **Label elements**
  - **Code letter and hazard designation of product:**
    ![Xn Harmful](image)

- **Hazard-determining components of labelling:**
  - 4-IODOPHENYLBORONIC ACID

- **Risk phrases:**
  - 22 Harmful if swallowed.
  - 36/37/38 Irritating to eyes, respiratory system and skin.

- **Safety phrases:**
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - 36/37 Wear suitable protective clothing and gloves.
  - 60 This material and its container must be disposed of as hazardous waste.

- **Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
Trade name: Opal 540 Reagent

· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterisation: Mixtures
· Description: Mixture of substances listed below with nonhazardous additions.
· Dangerous components:

  5122-99-6 4-IODOPHENYLBORONIC ACID Xn R22; Xi R36/37/38 75-100%

· Additional information: For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

· Description of first aid measures
· General information:
  Immediately remove any clothing soiled by the product.
  In case of irregular breathing or respiratory arrest provide artificial respiration.
· After inhalation: In case of unconsciousness place patient stably in side position for transportation.
· After eye contact:
  Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: Do not induce vomiting; call for medical help immediately.
· Information for doctor:
  · Most important symptoms and effects, both acute and delayed No further relevant information available.
  · Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Firefighting measures

· Extinguishing media
· Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· Special hazards arising from the substance or mixture No further relevant information available.
· Advice for firefighters
· Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.
· Environmental precautions: Do not allow to enter sewers/ surface or ground water.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Dispose contaminated material as waste according to item 13.
  Ensure adequate ventilation.
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.
7 Handling and storage

· Handling:
  · Precautions for safe handling: Store in cool, dry place in tightly closed receptacles.
  · Information about fire - and explosion protection: No special measures required.
  · Conditions for safe storage, including any incompatibilities
  · Storage:
    · Requirements to be met by storerooms and containers: No special requirements.
    · Information about storage in one common storage facility: Not required.
    · Further information about storage conditions: Keep container tightly sealed.
  · Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical facilities: No further data; see item 7.
  · Control parameters
  · Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  · Exposure controls
  · Personal protective equipment:
    · General protective and hygienic measures:
      Keep away from foodstuffs, beverages and feed.
      Immediately remove all soiled and contaminated clothing
      Wash hands before breaks and at the end of work.
      Avoid contact with the eyes and skin.
    · Respiratory protection:
      In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
      Suitable respiratory protective device recommended.
    · Protection of hands:

      Protective gloves

      The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
      Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

      · Material of gloves
        The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

      · Penetration time of glove material
        The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td>Appearance</td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td>Colour: According to product specification</td>
</tr>
<tr>
<td>Odour: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td>pH-value: Not determined.</td>
</tr>
<tr>
<td>Change in condition</td>
</tr>
<tr>
<td>Melting point/freezing point: Undetermined.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range: 189 °C</td>
</tr>
<tr>
<td>Flash point: 95 °C</td>
</tr>
<tr>
<td>Flammability (solid, gas):</td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature:</td>
</tr>
<tr>
<td>Decomposition temperature:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature:</td>
</tr>
<tr>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Explosive properties:</td>
</tr>
<tr>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits:</td>
</tr>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
</tr>
<tr>
<td>Vapour pressure:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate:</td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water: Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water: Not determined.</td>
</tr>
<tr>
<td>Viscosity:</td>
</tr>
<tr>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
</tr>
<tr>
<td>Other information No further relevant information available.</td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

| Reactivity | No further relevant information available. |
· Chemical stability
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· Possibility of hazardous reactions: No dangerous reactions known.
· Conditions to avoid: No further relevant information available.
· Incompatible materials: No further relevant information available.
· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information
· Information on toxicological effects
· Acute toxicity
· Primary irritant effect:
  · Skin corrosion/irritation: Irritant to skin and mucous membranes.
  · Serious eye damage/irritation: Irritating effect.
· Respiratory or skin sensitisation: No sensitising effects known.
· Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Toxic
  Irritant

12 Ecological information
· Toxicity
  · Aquatic toxicity: No further relevant information available.
  · Persistence and degradability: No further relevant information available.
· Behaviour in environmental systems:
  · Bioaccumulative potential: No further relevant information available.
  · Mobility in soil: No further relevant information available.
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.
· Other adverse effects: No further relevant information available.

13 Disposal considerations
· Waste treatment methods
  · Recommendation: Must be specially treated adhering to official regulations.
· Uncleaned packaging:
  · Recommendation: Disposal must be made according to official regulations.

14 Transport information
· UN-Number: UN2810
· ADR, IMDG, IATA: UN2810
**Safety data sheet**  
according to 1907/2006/EC, Article 31

**Trade name:** Opal 540 Reagent

<table>
<thead>
<tr>
<th><strong>UN proper shipping name</strong></th>
<th><strong>ADR</strong> 2810 TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IMDG, IATA</strong></td>
<td>TOXIC LIQUID, ORGANIC, N.O.S. (4-IODOPHENYLBORONIC ACID)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Transport hazard class(es)</strong></th>
<th>ADR, IMDG, IATA</th>
</tr>
</thead>
</table>

| **Class** | 6.1 Toxic substances. |
| **Label** | 6.1 |

| **Packing group** | ADR, IMDG, IATA III |
| **Stowage Category** | A |
| **Stowage Code** | SW2 Clear of living quarters. |

| **Environmental hazards:** | Not applicable. |
| **Special precautions for user** | Warning: Toxic substances. |
| **Danger code (Kemler):** | 60 |
| **EMS Number:** | F-A,S-A |

| **Transport in bulk according to Annex II of Marpol and the IBC Code** | Not applicable. |

<table>
<thead>
<tr>
<th><strong>Transport/Additional information:</strong></th>
<th>ADR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limited quantities (LQ)</strong></td>
<td>5L</td>
</tr>
</tbody>
</table>
| **Excepted quantities (EQ)** | Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |

| **Transport category** | 2 |
| **Tunnel restriction code** | E |

<table>
<thead>
<tr>
<th><strong>IMDG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limited quantities (LQ)</strong></td>
</tr>
</tbody>
</table>
| **Excepted quantities (EQ)** | Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to EU guidelines:
  - Code letter and hazard designation of product:
    
    Xn Harmful

- Hazard-determining components of labelling:
  4-IODOPHENYLBORONIC ACID

- Risk phrases:
  22 Harmful if swallowed.
  36/37/38 Irritating to eyes, respiratory system and skin.

- Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  36/37 Wear suitable protective clothing and gloves.
  60 This material and its container must be disposed of as hazardous waste.

- Directive 2012/18/EU
  - Named dangerous substances - ANNEX I None of the ingredients is listed.
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

- Relevant phrases
  R22 Harmful if swallowed.
  R36/37/38 Irritating to eyes, respiratory system and skin.
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** Spectral DAPI
  - **Product number:** FP1490A
- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.
- **Application of the substance / the mixture**
  - Laboratory chemicals
- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** PerkinElmer Inc
    - 549 Albany st
    - Boston, MA 02118
  - **Further information obtainable from:**
    - US Technical Support
      - 800-762-4000
  - **Emergency telephone number:**
    - If inside USA, call CHEMTREC at 1-800-424-9300
    - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Label elements**
  - **Labelling according to EU guidelines:**
    - Observe the general safety regulations when handling chemicals.
    - The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).
- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterisation:** Mixtures
  - **Description:** Mixture of substances listed below with nonhazardous additions.
  - **Dangerous components:** Void
  - **Additional information:** For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
  - **General information:** No special measures required.
  - **After inhalation:** Supply fresh air; consult doctor in case of complaints.
  - **After skin contact:** If skin irritation continues, consult a doctor.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** If symptoms persist consult doctor.
  - **Information for doctor:**
    - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

- Handling:
  - Precautions for safe handling: No special measures required.
  - Information about fire - and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
- Ingredients with limit values that require monitoring at the workplace:
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:
  The usual precautionary measures are to be adhered to when handling chemicals.
- Respiratory protection: Not required.
- Protection of hands:
  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Safety data sheet  
according to 1907/2006/EC, Article 31  

Printing date 15.11.2017  
Revision: 15.11.2017  

Trade name: Spectral DAPI  

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.  
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.  
- **Eye protection**: Goggles recommended during refilling  

<table>
<thead>
<tr>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Information on basic physical and chemical properties</strong></td>
</tr>
<tr>
<td><strong>General Information</strong></td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td>Colour: According to product specification</td>
</tr>
<tr>
<td>Odour: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td><strong>pH-value:</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
</tr>
<tr>
<td>Melting point/freezing point: Undetermined.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range: 100 °C</td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas):</strong></td>
</tr>
<tr>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong></td>
</tr>
<tr>
<td>Decomposition temperature: Not determined.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature:</strong></td>
</tr>
<tr>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td><strong>Explosive properties:</strong></td>
</tr>
<tr>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
</tr>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
</tr>
<tr>
<td><strong>Vapour pressure at 20 °C:</strong></td>
</tr>
<tr>
<td>23 hPa</td>
</tr>
<tr>
<td><strong>Density:</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with water:</strong></td>
</tr>
<tr>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water:</strong></td>
</tr>
<tr>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
</tr>
<tr>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
</tr>
<tr>
<td><strong>Solvent content:</strong></td>
</tr>
<tr>
<td>Water: 98.6 %</td>
</tr>
</tbody>
</table>
Safety data sheet  
according to 1907/2006/EC, Article 31  

Printing date 15.11.2017  
Revision: 15.11.2017  

Trade name: Spectral DAPI  

(Contd. of page 3)  

10 Stability and reactivity  

- Reactivity: No further relevant information available.  
- Chemical stability: 
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.  
  - Possibility of hazardous reactions: No dangerous reactions known.  
  - Conditions to avoid: No further relevant information available.  
  - Incompatible materials: No further relevant information available.  
  - Hazardous decomposition products: No dangerous decomposition products known.  

11 Toxicological information  

- Information on toxicological effects  
  - Acute toxicity: 
    - Primary irritant effect: No irritant effect.  
    - Skin corrosion/irritation: No irritant effect.  
    - Serious eye damage/irritation: No irritating effect.  
    - Respiratory or skin sensitisation: No sensitising effects known.  
  - Additional toxicological information: 
     The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version.  
     When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.  

12 Ecological information  

- Toxicity  
  - Aquatic toxicity: No further relevant information available.  
  - Persistence and degradability: No further relevant information available.  
  - Behaviour in environmental systems: 
    - Bioaccumulative potential: No further relevant information available.  
    - Mobility in soil: No further relevant information available.  
  - Results of PBT and vPvB assessment  
    - PBT: Not applicable.  
    - vPvB: Not applicable.  
    - Other adverse effects: No further relevant information available.  

13 Disposal considerations  

- Waste treatment methods  
  - Recommendation: Must be specially treated adhering to official regulations.  
- Uncleaned packaging:  
  - Recommendation: Disposal must be made according to official regulations.  

(Contd. on page 5)
14 Transport information

- **UN-Number**
  - ADR, ADN, IMDG, IATA: Void
- **UN proper shipping name**
  - ADR, ADN, IMDG, IATA: Void
- **Transport hazard class(es)**
  - ADR, ADN, IMDG, IATA: Void
  - Class: Void

- **Packing group**
  - ADR, IMDG, IATA: Void

- **Environmental hazards:** Not applicable.

- **Special precautions for user:** Not applicable.

- **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Labelling according to EU guidelines:**
    Observe the general safety regulations when handling chemicals.
    The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (German GefStoffV).

- **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.
1 Identification of the substance/mixture and of the company/undertaking

- Product identifier
  - Trade name: Opal 650 Reagent
  - Product number: FP1496A
  - Relevant identified uses of the substance or mixture and uses advised against
    No further relevant information available.
  - Application of the substance / the mixture Laboratory chemicals

- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    PerkinElmer Inc
    549 Albany st
    Boston, MA 02118

- Further information obtainable from:
  - US Technical Support
    800-762-4000
  - Emergency telephone number:
    If inside USA, call CHEMTREC at 1-800-424-9300
    If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- Classification of the substance or mixture
  - Classification according to Directive 67/548/EEC or Directive 1999/45/EC
    Xn; Harmful
    R22: Harmful if swallowed.
    Xi; Irritant
    R36/37/38: Irritating to eyes, respiratory system and skin.

- Additional information:
  For the wording of the relevant risk phrases refer to section 16.

- Label elements
  - Code letter and hazard designation of product:
    ![Xn Harmful]

- Hazard-determining components of labelling:
  4-IODOPHENYLBORONIC ACID

- Risk phrases:
  22 Harmful if swallowed.
  36/37/38 Irritating to eyes, respiratory system and skin.

- Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  36/37 Wear suitable protective clothing and gloves.
  60 This material and its container must be disposed of as hazardous waste.

- Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
Trade name: Opal 650 Reagent

- vPvB: Not applicable.

3 Composition/information on ingredients

- Chemical characterisation: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.
- Dangerous components:
  - 5122-99-6 4-IODOPHENYLBORONIC ACID Xn R22; Xi R36/37/38 75-100%
- Additional information: For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

- Description of first aid measures
- General information:
  - Immediately remove any clothing soiled by the product.
  - In case of irregular breathing or respiratory arrest provide artificial respiration.
- After inhalation:
  - In case of unconsciousness place patient stably in side position for transportation.
- After eye contact:
  - Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:
  - Do not induce vomiting; call for medical help immediately.
- Information for doctor:
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents:
  - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up:
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Dispose contaminated material as waste according to item 13.
  - Ensure adequate ventilation.
- Reference to other sections
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.
7 Handling and storage

- Handling:
- Precautions for safe handling: Store in cool, dry place in tightly closed receptacles.
- Information about fire - and explosion protection: No special measures required.
- Conditions for safe storage, including any incompatibilities
- Storage:
- Requirements to be met by storerooms and containers: No special requirements.
- Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
- Ingredients with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- Exposure controls
- Personal protective equipment:
- General protective and hygienic measures:
  Keep away from foodstuffs, beverages and feed.
  Immediately remove all soiled and contaminated clothing
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.
- Respiratory protection:
  In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
  Suitable respiratory protective device recommended.
- Protection of hands:

  Protective gloves

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
### 9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form: Fluid</td>
</tr>
<tr>
<td>Colour: According to product specification</td>
</tr>
<tr>
<td>Odour: Characteristic</td>
</tr>
<tr>
<td>Odour threshold: Not determined.</td>
</tr>
<tr>
<td>pH-value: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Change in condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/freezing point: Undetermined.</td>
</tr>
<tr>
<td>Initial boiling point and boiling range: 189 °C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash point: 95 °C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Flammability (solid, gas):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ignition temperature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition temperature: Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature: Product is not selfigniting.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Explosive properties:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product does not present an explosion hazard.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Explosion limits:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower: Not determined.</td>
</tr>
<tr>
<td>Upper: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vapour pressure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Density:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relative density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vapour density</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaporation rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility in / Miscibility with water:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not miscible or difficult to mix.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partition coefficient: n-octanol/water:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Viscosity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic: Not determined.</td>
</tr>
<tr>
<td>Kinematic: Not determined.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

<table>
<thead>
<tr>
<th>Reactivity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name: Opal 650 Reagent

(Contd. of page 4)

· Chemical stability
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· Possibility of hazardous reactions: No dangerous reactions known.
· Conditions to avoid: No further relevant information available.
· Incompatible materials: No further relevant information available.
· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

· Information on toxicological effects
· Acute toxicity
· Primary irritant effect:
  · Skin corrosion/irritation: Irritant to skin and mucous membranes.
  · Serious eye damage/irritation: Irritating effect.
  · Respiratory or skin sensitisation: No sensitising effects known.
· Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Toxic
  Irritant

12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.
· Persistence and degradability: No further relevant information available.
· Behaviour in environmental systems:
  · Bioaccumulative potential: No further relevant information available.
  · Mobility in soil: No further relevant information available.
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.
· Other adverse effects: No further relevant information available.

13 Disposal considerations

· Waste treatment methods
· Recommendation: Must be specially treated adhering to official regulations.
· Uncleaned packaging:
  · Recommendation: Disposal must be made according to official regulations.

14 Transport information

· UN-Number
· ADR, IMDG, IATA: UN2810

(Contd. on page 6)
**Trade name: Opal 650 Reagent**

### UN proper shipping name
- **ADR**
- **IMDG, IATA**

### Transport hazard class(es)
- **ADR, IMDG, IATA**

### Class
- **6.1** Toxic substances.

### Label
- **6.1**

### Packing group
- **ADR, IMDG, IATA**

### Transport in bulk according to Annex II of Marpol and the IBC Code
- **Not applicable.**

### Special precautions for user
- **Warning:** Toxic substances.

### Danger code (Kemler):
- **60**

### EMS Number:
- **F-A,S-A**

### Stowage Category
- **A**

### Stowage Code
- **SW2** Clear of living quarters.

### Transport/Additional information:

#### ADR
- **Limited quantities (LQ)**: 5L
- **Excepted quantities (EQ)**: Code: E1

#### IMDG
- **Limited quantities (LQ)**: 5L
- **Excepted quantities (EQ)**: Code: E1

### Environmental hazards:
- **Not applicable.**

### Stowage Code
- **SW2** Clear of living quarters.

### Transport/Additional information:

#### ADR
- **Limited quantities (LQ)**: 5L
- **Excepted quantities (EQ)**: Code: E1

#### IMDG
- **Limited quantities (LQ)**: 5L
- **Excepted quantities (EQ)**: Code: E1

---

(Contd. on page 7)
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to EU guidelines:
  - Code letter and hazard designation of product:
    - Xn Harmful
- Hazard-determining components of labelling:
  - 4-IODOPHENYLBORONIC ACID
- Risk phrases:
  - 22 Harmful if swallowed.
  - 36/37/38 Irritating to eyes, respiratory system and skin.
- Safety phrases:
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  - 36/37 Wear suitable protective clothing and gloves.
  - 60 This material and its container must be disposed of as hazardous waste.
- Directive 2012/18/EU
  - Named dangerous substances - ANNEX I: None of the ingredients is listed.
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

- Relevant phrases
  - R22 Harmful if swallowed.
  - R36/37/38 Irritating to eyes, respiratory system and skin.
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** Antibody Diluent, 1X, 100mL
  - **Product number:** ARD1001EA

- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** PerkinElmer Inc
    - 549 Albany st
    - Boston, MA 02118

- **Further information obtainable from:**
  - **US Technical Support**
    - 800-762-4000
  - **Emergency telephone number:**
    - If inside USA, call CHEMTREC at 1-800-424-9300
    - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
    - Xi: Sensitising
    - R43: May cause sensitisation by skin contact.

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

- **Label elements**
  - **Code letter and hazard designation of product:**
    - Xi Irritant

- **Hazard-determining components of labelling:**
  - Proclin-300

- **Risk phrases:**
  - 43 May cause sensitisation by skin contact.

- **Safety phrases:**
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 24 Avoid contact with skin.
  - 37 Wear suitable gloves.
  - 60 This material and its container must be disposed of as hazardous waste.

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - PBT: Not applicable.
    - vPvB: Not applicable.
3 Composition/information on ingredients

- **Chemical characterisation:** Mixtures
- **Description:** Mixture of substances listed below with nonhazardous additions.

| Substance                                      | Concentration
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2-amino-2-(hydroxymethyl)propane-1,3-diolhydrochloride</td>
<td>1-2.5%</td>
</tr>
<tr>
<td>Proclin-300</td>
<td>&lt;0.1%</td>
</tr>
</tbody>
</table>

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
- **After inhalation:**
  - Supply fresh air and be sure to call a doctor.
  - In case of unconsciousness place patient stably in side position for transportation.
- **After eye contact:**
  - Rinse opened eye for several minutes under running water.
- **After swallowing:**
  - If symptoms persist consult doctor.
- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed: No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters:**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:** Not required.
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling:** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
Trade name: Antibody Diluent, 1X, 100mL

- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and containers: No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: None.
    - Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      Immediately remove all soiled and contaminated clothing
      Wash hands before breaks and at the end of work.
    - Respiratory protection: Suitable respiratory protective device recommended.
    - Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
  - Penetration time of glove material
    The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - Eye protection: Goggles recommended during refilling

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Fluid
      - Colour: According to product specification
      - Odour: Characteristic
      - Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition
  - Melting point/freezing point: Undetermined.

(Contd. on page 4)
Trade name: Antibody Diluent, 1X, 100mL

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial boiling point and boiling range</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C</td>
<td>23 hPa</td>
</tr>
<tr>
<td>Density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water</td>
<td>Not miscible or difficult to mix.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Solvent content</td>
<td>97.8 %</td>
</tr>
<tr>
<td>Water</td>
<td></td>
</tr>
<tr>
<td>Solids content</td>
<td>1.7 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
- Acute toxicity
- Primary irritant effect:
- Skin corrosion/irritation: No irritant effect.
- Serious eye damage/irritation: No irritating effect.
- Respiratory or skin sensitisation: Sensitisation possible through skin contact.
Trade name: Antibody Diluent, 1X, 100mL

- Additional toxicological information:
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
  Irritant

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation: Must be specially treated adhering to official regulations.
- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - ADR, ADN, IMDG, IATA: Void
- UN proper shipping name
  - ADR, ADN, IMDG, IATA: Void
- Transport hazard class(es)
  - ADR, ADN, IMDG, IATA: Void
  - Class: Void
- Packing group
  - ADR, IMDG, IATA: Void
- Environmental hazards:
  - Not applicable.
- Special precautions for user
  - Not applicable.
- Transport in bulk according to Annex II of Marpol and the IBC Code
  - Not applicable.

(Contd. on page 6)
15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to EU guidelines:
  - Code letter and hazard designation of product:
    
    Xi Irritant

- Hazard-determining components of labelling:
  Proclin-300

- Risk phrases:
  43 May cause sensitisation by skin contact.

- Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  24 Avoid contact with skin.
  37 Wear suitable gloves.
  60 This material and its container must be disposed of as hazardous waste.

- Directive 2012/18/EU
  - Named dangerous substances - ANNEX I None of the ingredients is listed.

- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

- Relevant phrases
  R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
  R34 Causes burns.
  R36/37/38 Irritating to eyes, respiratory system and skin.
  R43 May cause sensitisation by skin contact.
  R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
1 Identification of the substance/mixture and of the company/undertaking

· Product identifier
  · Trade name: PolyHRP Broad Spectrum
  · Product number: ARH1001EA, ARH1A01EA
  · Relevant identified uses of the substance or mixture and uses advised against
    No further relevant information available.
  · Application of the substance / the mixture Laboratory chemicals
  · Details of the supplier of the safety data sheet
    · Manufacturer/Supplier:
      PerkinElmer Inc
      549 Albany st
      Boston, MA 02118
    · Further information obtainable from:
      US Technical Support
      800-762-4000
    · Emergency telephone number:
      If inside USA, call CHEMTREC at 1-800-424-9300
      If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

· Classification of the substance or mixture
  · Classification according to Directive 67/548/EEC or Directive 1999/45/EC
    Xi: Sensitising
    R43: May cause sensitisation by skin contact.
  · Additional information: For the wording of the relevant risk phrases refer to section 16.

· Label elements
  · Code letter and hazard designation of product:
    Xi Irritant

· Hazard-determining components of labelling:
  Proclin-300

· Risk phrases:
  43 May cause sensitisation by skin contact.

· Safety phrases:
  23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  24 Avoid contact with skin.
  37 Wear suitable gloves.
  60 This material and its container must be disposed of as hazardous waste.

· Other hazards
  · Results of PBT and vPvB assessment
    · PBT: Not applicable.
    · vPvB: Not applicable.
3 Composition/information on ingredients

- **Chemical characterisation:** Mixtures
- **Description:** Mixture of substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Trade name</th>
<th>R23/24/25</th>
<th>C R34</th>
<th>Xi R43</th>
<th>N R50/53</th>
</tr>
</thead>
<tbody>
<tr>
<td>55965-84-9 Proclin-300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.1%</td>
</tr>
</tbody>
</table>

- **Dangerous components:**

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**
  - **After inhalation:** Supply fresh air and to be sure call for a doctor.
  - **After eye contact:** Rinse opened eye for several minutes under running water.
  - **After swallowing:** If symptoms persist consult doctor.

- **Information for doctor:**
  - Most important symptoms and effects, both acute and delayed No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and containers:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
Trade name: PolyHRP Broad Spectrum

- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Control parameters**
  - **Ingredients with limit values that require monitoring at the workplace:**
    The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- **Exposure controls**
  - **Personal protective equipment:**
    - **General protective and hygienic measures:**
      Immediately remove all soiled and contaminated clothing
      Wash hands before breaks and at the end of work.
    - **Respiratory protection:** Suitable respiratory protective device recommended.
    - **Protection of hands:**

      ![Protective gloves]

      The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
      Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
      **Material of gloves**
      The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
      **Penetration time of glove material**
      The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
    - **Eye protection:** Goggles recommended during refilling

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
    - **Appearance:**
      - **Form:** Fluid
      - **Colour:** According to product specification
    - **Odour:** Characteristic
    - **Odour threshold:** Not determined.
    - **pH-value:** Not determined.
    - **Change in condition**
      - **Melting point/freezing point:** Undetermined.
      - **Initial boiling point and boiling range:** 100 °C
    - **Flash point:** Not applicable.
    - **Flammability (solid, gas):** Not applicable.

(Contd. on page 4)
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 15.11.2017
Revision: 15.11.2017

Trade name: PolyHRP Broad Spectrum

10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
  - Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity
    - Primary irritant effect: No irritant effect.
    - Skin corrosion/irritation: No irritant effect.
    - Serious eye damage/irritation: No irritating effect.
    - Respiratory or skin sensitisation: Sensitisation possible through skin contact.
  - Additional toxicological information:
    The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

(Contd. of page 3)
12 Ecological information

- **Toxicity**
- **Aquatic toxicity**: No further relevant information available.
- **Persistence and degradability**: No further relevant information available.
- **Behaviour in environmental systems**:
  - **Bioaccumulative potential**: No further relevant information available.
  - **Mobility in soil**: No further relevant information available.
- **Results of PBT and vPvB assessment**
  - **PBT**: Not applicable.
  - **vPvB**: Not applicable.
- **Other adverse effects**: No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**: Must be specially treated adhering to official regulations.
- **Uncleaned packaging**:
  - **Recommendation**: Disposal must be made according to official regulations.

14 Transport information

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN-Number</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>UN proper shipping name</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Transport hazard class(es)</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, ADN, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>ADR, IMDG, IATA</strong></td>
<td>Void</td>
</tr>
<tr>
<td><strong>Environmental hazards</strong>:</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of Marpol and the IBC Code</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 15.11.2017
Revision: 15.11.2017

Trade name: PolyHRP Broad Spectrum

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Labelling according to EU guidelines:
· Code letter and hazard designation of product:

![Xi Irritant]

· Hazard-determining components of labelling:
Proclin-300

· Risk phrases:
43 May cause sensitisation by skin contact.

· Safety phrases:
23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
24 Avoid contact with skin.
37 Wear suitable gloves.
60 This material and its container must be disposed of as hazardous waste.

· Directive 2012/18/EU
· Named dangerous substances - ANNEX I None of the ingredients is listed.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

· Relevant phrases
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R34 Causes burns.
R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** DMSO
  - **Product number:** DMSO0500UL
  - **CAS Number:** 67-68-5
  - **EC number:** 200-664-3

- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** PerkinElmer Inc
  - 549 Albany st
  - Boston, MA 02118

- **Further information obtainable from:**
  - US Technical Support
  - 800-762-4000

- **Emergency telephone number:**
  - If inside USA, call CHEMTREC at 1-800-424-9300
  - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
    - Xi; Irritant
    - R36/38: Irritating to eyes and skin.

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

- **Label elements**
  - **Labelling according to EU guidelines:**
  - **Code letter and hazard designation of product:**
    - Xi Irritant

- **Risk phrases:**
  - 36/38 Irritating to eyes and skin.

- **Safety phrases:**
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

- **Other hazards**

- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

(Contd. on page 2)
3 Composition/information on ingredients

· Chemical characterisation: Substances
· CAS No. Description
  67-68-5 dimethyl sulfoxide
· Identification number(s)
· EC number: 200-664-3

4 First aid measures

· Description of first aid measures
· General information: Immediately remove any clothing soiled by the product.
· After inhalation: In case of unconsciousness place patient stably in side position for transportation.
· After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· After swallowing: If symptoms persist consult doctor.
· Information for doctor:
  · Most important symptoms and effects, both acute and delayed No further relevant information available.
  · Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Firefighting measures

· Extinguishing media
· Suitable extinguishing agents:
  CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· Special hazards arising from the substance or mixture No further relevant information available.
· Advice for firefighters
· Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Not required.
· Environmental precautions:
  Dilute with plenty of water.
  Do not allow to enter sewers/ surface or ground water.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.
  See Section 13 for disposal information.

7 Handling and storage

· Handling:
· Precautions for safe handling Store in cool, dry place in tightly closed receptacles.
· Information about fire - and explosion protection: No special measures required.
Safety data sheet
according to 1907/2006/EC, Article 31

Printing date: 15.11.2017
Revision: 15.11.2017
Trade name: DMSO

(Contd. of page 2)

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
- Ingredients with limit values that require monitoring at the workplace: Not required.
- Exposure controls
- General protective and hygienic measures:
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep container tightly sealed.
  - Specific end use(s) No further relevant information available.

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- Material of gloves
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and
  varies from manufacturer to manufacturer.
- Penetration time of glove material
  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be
  observed.
- Eye protection:

Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
- General Information
- Appearance:
  - Form: Fluid
  - Colour: Colourless
- Odour:
  - Odour: Odourless
- Odour threshold:
  - Odour threshold: Not determined.

(Contd. on page 4)
### pH-value
- Not determined.

### Change in condition
- **Melting point/freezing point:** 18.45 °C
- **Initial boiling point and boiling range:** 189 °C

### Flash point
- 95 °C

### Flammability (solid, gas)
- Not applicable.

### Ignition temperature
- 270 °C

### Decomposition temperature
- Not determined.

### Auto-ignition temperature
- Not determined.

### Explosive properties
- Product does not present an explosion hazard.

### Explosion limits
- **Lower:** 1.8 Vol %
- **Upper:** 63 Vol %

### Vapour pressure at 20 °C
- 2.5 hPa

### Density at 20 °C
- 1.1 g/cm³

### Relative density
- Not determined.

### Vapour density
- Not determined.

### Evaporation rate
- Not determined.

### Solubility in / Miscibility with water
- Fully miscible.

### Partition coefficient: n-octanol/water
- Not determined.

### Viscosity
- **Dynamic at 20 °C:** 198 mPas
- **Kinematic:** Not determined.
- **Organic solvents:** 100.0 %
- **Other information**
  - No further relevant information available.

## 10 Stability and reactivity

### Reactivity
- No further relevant information available.

### Chemical stability
- No decomposition if used according to specifications.

### Possibility of hazardous reactions
- No dangerous reactions known.

### Conditions to avoid
- No further relevant information available.

### Incompatible materials
- No further relevant information available.

### Hazardous decomposition products
- No dangerous decomposition products known.
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity

- LD/LC50 values relevant for classification:
  - 67-68-5 dimethyl sulfoxide
  - Oral LD50 14,500 mg/kg (rat)
  - Primary irritant effect:
    - Skin corrosion/irritation Irritant to skin and mucous membranes.
    - Serious eye damage/irritation Irritating effect.
    - Respiratory or skin sensitisation No sensitising effects known.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behaviour in environmental systems:

- Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.
  - Other adverse effects: No further relevant information available.

13 Disposal considerations

- Waste treatment methods
  - Recommendation Must be specially treated adhering to official regulations.

- Uncleaned packaging:
  - Recommendation: Disposal must be made according to official regulations.
  - Recommended cleansing agents: Water, if necessary together with cleansing agents.

14 Transport information

- UN-Number
  - ADR, ADN, IMDG, IATA: Void

- UN proper shipping name
  - ADR, ADN, IMDG, IATA: Void

- Transport hazard class(es)
  - ADR, ADN, IMDG, IATA: Void

- Packing group
  - ADR, IMDG, IATA: Void

- Environmental hazards: Not applicable.
Trade name: DMSO

<table>
<thead>
<tr>
<th>Special precautions for user</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport in bulk according to Annex II of Marpol and the IBC Code</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to EU guidelines:
  - Code letter and hazard designation of product:
    - Xi Irritant
- Risk phrases:
  - 36/38 Irritating to eyes and skin.
- Safety phrases:
  - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- Directive 2012/18/EU
  - Named dangerous substances - ANNEX I Substance is not listed.
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.
1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
  - **Trade name:** AR6 Buffer
  - **Product number:** AR600125ML, AR600250ML, AR6001KT

- **Relevant identified uses of the substance or mixture and uses advised against**
  - No further relevant information available.

- **Application of the substance / the mixture**
  - Laboratory chemicals

- **Details of the supplier of the safety data sheet**
  - **Manufacturer/Supplier:** PerkinElmer Inc
    - 549 Albany st
    - Boston, MA 02118

- **Further information obtainable from:**
  - US Technical Support
    - 800-762-4000
  - **Emergency telephone number:**
    - If inside USA, call CHEMTREC at 1-800-424-9300
    - If outside USA, call CHEMTREC at 1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**
  - **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
    - Xi; Irritant
      - R36/38: Irritating to eyes and skin.
    - Xi; Sensitising
      - R43: May cause sensitisation by skin contact.

- **Additional information:** For the wording of the relevant risk phrases refer to section 16.

- **Label elements**
  - **Code letter and hazard designation of product:**
    - Xi Irritant

- **Hazard-determining components of labelling:**
  - Proclin-300

- **Risk phrases:**
  - 36/38 Irritating to eyes and skin.
  - 43 May cause sensitisation by skin contact.

- **Safety phrases:**
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 24 Avoid contact with skin.
  - 37 Wear suitable gloves.
  - 60 This material and its container must be disposed of as hazardous waste.

- **Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.

(Contd. on page 2)
Trade name: AR6 Buffer

3 Composition/information on ingredients

- Chemical characterisation: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

- 55965-84-9 Proclin-300

Additional information: For the wording of the relevant risk phrases refer to section 16.

4 First aid measures

- Description of first aid measures
  - After inhalation: Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
  - After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing: If symptoms persist consult doctor.

Information for doctor:

- Most important symptoms and effects, both acute and delayed
  No further relevant information available.

- Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
  - Special hazards arising from the substance or mixture
  - Advice for firefighters
  - Protective equipment: Wear self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Environmental precautions: No special measures required.
  - Methods and material for containment and cleaning up:
    Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  - Reference to other sections
    See Section 7 for information on safe handling.
    See Section 8 for information on personal protection equipment.
    See Section 13 for disposal information.

7 Handling and storage

- Handling:
  - Precautions for safe handling: Store in cool, dry place in tightly closed receptacles.
  - Information about fire - and explosion protection: No special measures required.

(Contd. of page 1)
Trade name: AR6 Buffer

- Conditions for safe storage, including any incompatibilities
  - Storage:
  - Requirements to be met by storerooms and containers: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Keep container tightly sealed.
  - Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical facilities: No further data; see item 7.
- Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures:
      - Keep away from foodstuffs, beverages and feed.
      - Immediately remove all soiled and contaminated clothing.
      - Wash hands before breaks and at the end of work.
      - Avoid contact with the eyes and skin.
    - Respiratory protection: Suitable respiratory protective device recommended.
    - Protection of hands:
      - Protective gloves
      - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
      - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
    - Material of gloves
      - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
    - Penetration time of glove material
      - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
    - Eye protection:
      - Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Fluid
      - Colour: According to product specification
### 45.3

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined</td>
</tr>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Undetermined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Product is not selfigniting</td>
</tr>
<tr>
<td>Explosion properties</td>
<td>Product does not present an explosion hazard</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour pressure at 20 °C</td>
<td>23 kPa</td>
</tr>
<tr>
<td>Density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with water</td>
<td>Not miscible or difficult to mix</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solvent content</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>97.0 %</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available</td>
</tr>
</tbody>
</table>

### 10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**: No decomposition if used according to specifications.
- **Thermal decomposition / conditions to be avoided**: No dangerous reactions known.
- **Possibility of hazardous reactions**: No further relevant information available.
- **Conditions to avoid**: No further relevant information available.
- **Incompatible materials**: No further relevant information available.
- **Hazardous decomposition products**: No dangerous decomposition products known.
11 Toxicological information

11.1 Information on toxicological effects

11.1.1 Acute toxicity

11.1.2 Primary irritant effect:

11.1.2.1 Skin corrosion/irritation Irritant to skin and mucous membranes.

11.1.2.2 Serious eye damage/irritation Irritating effect.

11.1.3 Respiratory or skin sensitisation Sensitisation possible through skin contact.

11.1.4 Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

12 Ecological information

12.1 Toxicity

12.1.1 Aquatic toxicity: No further relevant information available.

12.1.2 Persistence and degradability No further relevant information available.

12.1.3 Behaviour in environmental systems:

12.1.3.1 Bioaccumulative potential No further relevant information available.

12.1.3.2 Mobility in soil No further relevant information available.

12.1.4 Results of PBT and vPvB assessment

12.1.4.1 PBT: Not applicable.

12.1.4.2 vPvB: Not applicable.

12.1.5 Other adverse effects No further relevant information available.

13 Disposal considerations

13.1 Waste treatment methods

13.1.1 Recommendation Must be specially treated adhering to official regulations.

13.2 Uncleaned packaging:

13.2.1 Recommendation: Disposal must be made according to official regulations.

14 Transport information

14.1 UN-Number

14.1.1 ADR, IMDG, IATA UN1760

14.1.2 UN proper shipping name

14.1.2.1 ADR 1760 CORROSIVE LIQUID, N.O.S. (Proclin-300)

14.1.2.2 IMDG, IATA CORROSIVE LIQUID, N.O.S. (Proclin-300)

14.2 Transport hazard class(es)

14.2.1 ADR, IMDG, IATA

14.2.2 Class 8 Corrosive substances.
Trade name: AR6 Buffer

- Label
  - Packing group
  - ADR, IMDG, IATA
  - III
- Environmental hazards: Not applicable.
- Special precautions for user
  - Warning: Corrosive substances.
  - 80
- EMS Number: F-A,S-B
- Stowage Category: A
- Stowage Code: SW2 Clear of living quarters.
- Transport in bulk according to Annex II of Marpol and the IBC Code: Not applicable.

Transport/Additional information:

- ADR
  - Limited quantities (LQ): 5L
  - Excepted quantities (EQ): Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml
- Transport category: 3
- Tunnel restriction code: E
- IMDG
  - Limited quantities (LQ): 5L
  - Excepted quantities (EQ): Code: E1
    - Maximum net quantity per inner packaging: 30 ml
    - Maximum net quantity per outer packaging: 1000 ml

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to EU guidelines:
- Code letter and hazard designation of product:
  - Xi Irritant
- Hazard-determining components of labelling:
  - Proclin-300
- Risk phrases:
  - 36/38 Irritating to eyes and skin.
  - 43 May cause sensitisation by skin contact.
- Safety phrases:
  - 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
  - 24 Avoid contact with skin.
  - 37 Wear suitable gloves.
  - 60 This material and its container must be disposed of as hazardous waste.
Trade name: AR6 Buffer

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that these are the only hazards which exist. PerkinElmer, Inc. shall not be held liable for any damage resulting from handling or from contact with the product.

- Relevant phrases
  R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
  R34 Causes burns.
  R43 May cause sensitisation by skin contact.
  R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.