# Kit Summary

**Product Code(s)**  
AB150675

**Product name**  
Luxol Fast Blue Stain (Myelin Stain)

## Cresyl Echt Violet Solution

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>200-580-7</td>
<td>64-19-7</td>
<td>0.5</td>
<td>Skin Corr. 1A (H314) Flam Liq. 3 (H226)</td>
<td>-</td>
</tr>
</tbody>
</table>

### Alcohol reagent (70%)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>200-578-6</td>
<td>64-17-5</td>
<td>66</td>
<td>Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
<td>-</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>200-661-7</td>
<td>67-63-0</td>
<td>4</td>
<td>STOT SE 3 (H336) Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
<td>-</td>
</tr>
</tbody>
</table>

## Lithium carbonate Solution

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium carbonate</td>
<td>209-062-5</td>
<td>554-13-2</td>
<td>0.05</td>
<td>STOT SE 3 (H335) STOT RE 1 (H372) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Eye Irrit. 2 (H319) Repr. 1A (H360F) Acute Tox. 4 (H302)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

## Luxol Fast Blue Solution

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC-No</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
<th>REACH Registration Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>200-578-6</td>
<td>64-17-5</td>
<td>84.9</td>
<td>Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
<td>-</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>200-661-7</td>
<td>67-63-0</td>
<td>5</td>
<td>STOT SE 3 (H336) Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
<td>-</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>200-580-7</td>
<td>64-19-7</td>
<td>1</td>
<td>Skin Corr. 1A (H314) Flam Liq. 3 (H226)</td>
<td>-</td>
</tr>
</tbody>
</table>

## GHS / CLP - GHS - Classification

- Skin Corr. 1A (H314)
- Flam Liq. 3 (H226)
- Eye Irrit. 2 (H319)
- Flam Liq. 2 (H225)
- Skin Irrit. 2 (H315)
- Eye Dam. 1 (H318)
- Eye Irrit. 2 (H319)
- Repr. 1A (H360F)
- Acute Tox. 4 (H302)
Signal Word
Danger

Hazard statements
H319 - Causes serious eye irritation
H225 - Highly flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P370 + P378 - In case of fire: Use foam for extinction
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P264 - Wash face, hands and any exposed skin thoroughly after handling
P233 - Keep container tightly closed
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/ container to an approved waste disposal plant

2.3 Other information

A safety datasheet follows for all potentially hazardous components – all other components are non-hazardous.

TRANSPORT INFORMATION

DOT

<table>
<thead>
<tr>
<th>Proper shipping name</th>
<th>Limited Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol Solution</td>
<td></td>
</tr>
<tr>
<td>Hazard class</td>
<td>3</td>
</tr>
<tr>
<td>UN/ID No</td>
<td>1170</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Limited Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1170</td>
<td></td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>Ethanol Solution</td>
</tr>
<tr>
<td>Hazard class</td>
<td>3</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
</tbody>
</table>

ADR

<table>
<thead>
<tr>
<th>Proper shipping name</th>
<th>Limited Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol Solution</td>
<td></td>
</tr>
<tr>
<td>Hazard class</td>
<td>3</td>
</tr>
<tr>
<td>UN/ID No</td>
<td>1170</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
</tbody>
</table>
1. PRODUCT AND COMPANY IDENTIFICATION

Product name          Cresyl Echt Violet Solution
Recommended use       For research use only

Supplier Address      Abcam Inc
                      1 Kendall Square, Ste 341
                      Cambridge, MA 02139-1517
                      USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address        technical@abcam.com
Emergency telephone   Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

| Ozone                                      | Not applicable |

GHS Label elements, including precautionary statements

Not dangerous

Other information

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cresyl Violet</td>
<td>10510-54-0</td>
<td>1-5</td>
<td>STOT SE 3 (H335)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irr. 2 (H315)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>64-19-7</td>
<td>0.1-1</td>
<td>Skin Corr. 1A (H314)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Flam Liq. 3 (H226)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

Eye contact  
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.

Skin contact  
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation  
Move to fresh air.

Ingestion  
Clean mouth with water. Drink plenty of water.

Notes to physician  
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties  
Not flammable.

Flash point  
not determined

Suitable extinguishing media  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data

Sensitivity to Mechanical Impact  
None.

Sensitivity to Static Discharge  
None.

Protective equipment and precautions for firefighters  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions  
Ensure adequate ventilation.

Environmental precautions  
Try to prevent the material from entering drains or water courses.

Methods for containment  
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up  
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Advice on safe handling  
Handle in accordance with good industrial hygiene and safety practice.

Technical measures/Storage conditions  
Keep containers tightly closed in a dry, cool and well-ventilated place.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid 64-19-7</td>
<td>STEL: 15 ppm TWA: 10 ppm (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m³</td>
<td>IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m³ STEL: 15 ppm STEL: 37 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Engineering measures
Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection
No special protective equipment required.

Skin and body protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: No information available.
Odor: No information available.
Physical State @20°C: No information available.
Autoignition temperature: No information available.
Boiling point/boiling range: No information available.
Flammability Limits in Air: No information available.

Flash point: No information available.
Decomposition temperature: No information available.
Melting point/range: No information available.
Explosion limits: No information available.

Specific Gravity: No data available.
solubility: No information available.
Vapor Pressure @20°C (kPa): No information available.
VOC Content(%): 0.5

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information

Chronic toxicity

Target Organ Effects
None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td></td>
<td>79: 96 h Pimephales promelas mg/L LC50 static</td>
<td>75: 96 h Lepomis macrochirus mg/L LC50 static</td>
<td>47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>-0.31</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>Toxic Corrosive Ignitable</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

ADR
Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ RQ 2270 kg final RQ</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td></td>
<td>Mexico: TWA 10 ppm Mexico: TWA 25 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mexico: STEL 15 ppm Mexico: STEL 37 mg/m³</td>
</tr>
</tbody>
</table>

WHMIS Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H226 - Flammable liquid and vapor H335 - May cause respiratory irritation H314 - Causes severe skin burns and eye damage
H315 - Causes skin irritation H319 - Causes serious eye irritation

Revision Date 05-Jun-2017
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of MSDS
Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Alcohol reagent (70%)
UN/ID No: UN1170
Recommended use: For research use only

Supplier Address: Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)
E-mail address: technical@abcam.com
Emergency telephone: Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

<table>
<thead>
<tr>
<th>Serious eye damage/eye irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word
Danger

Hazard statements
H319 - Causes serious eye irritation
H225 - Highly flammable liquid and vapor
Precautionary Statements - EU (§28, 1272/2008)
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P370 + P378 - In case of fire: Use foam for extinction
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P233 - Keep container tightly closed
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>40-70</td>
<td>Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>1-5</td>
<td>STOT SE 3 (H336) Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16

### 4. FIRST AID MEASURES

<table>
<thead>
<tr>
<th>General advice</th>
<th>If symptoms persist, call a physician.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye contact</td>
<td>Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Move to fresh air. If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Rinse mouth. If symptoms persist, call a physician.</td>
</tr>
<tr>
<td>Notes to physician</td>
<td>Treat symptomatically.</td>
</tr>
</tbody>
</table>

### 5. FIRE-FIGHTING MEASURES

<table>
<thead>
<tr>
<th>Flammable properties</th>
<th>Not flammable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>not determined</td>
</tr>
</tbody>
</table>
**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Explosion Data**

<table>
<thead>
<tr>
<th>Sensitivity to Mechanical Impact</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity to Static Discharge</td>
<td>None</td>
</tr>
</tbody>
</table>

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Environmental precautions**

Try to prevent the material from entering drains or water courses.

**Methods for containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

### 7. HANDLING AND STORAGE

**Advice on safe handling**

Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.

**Technical measures/Storage conditions**

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol 64-17-5</td>
<td>STEL: 1000 ppm</td>
<td>TWA: 1000 ppm TWA: 1900 mg/m³</td>
<td>IDLH: 3300 ppm TWA: 1900 mg/m³</td>
</tr>
<tr>
<td>Isopropanol 67-63-0</td>
<td>STEL: 400 ppm</td>
<td>TWA: 400 ppm TWA: 800 mg/m³</td>
<td>IDLH: 2000 ppm TWA: 800 mg/m³</td>
</tr>
</tbody>
</table>

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering measures
- Showers
- Eyewash stations
- Ventilation systems

Personal protective equipment

Eye/face protection
- Tightly fitting safety goggles. Face-shield.

Skin and body protection
- No special protective equipment required.
  - If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
- When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available.</td>
</tr>
<tr>
<td>Physical State @20°C</td>
<td>No information available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>No information available.</td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No information available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor Pressure @20°C (kPa)</td>
<td>No information available.</td>
</tr>
<tr>
<td>VOC Content(%)</td>
<td>70.0</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
- Stable under recommended storage conditions.

Incompatible products
- None known based on information supplied.

Conditions to avoid
- None known based on information supplied.

Hazardous decomposition products
- None known based on information supplied.

Hazardous polymerization
- Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information: Irritating to skin, eyes and/or respiratory tract.

Inhalation: May cause irritation of respiratory tract

Eye contact: May cause irritation

Skin contact: May cause irritation

Ingestion: Ingestion may cause irritation to mucous membranes

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>7060 mg/kg (Rat)</td>
<td></td>
<td>124.7 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>4396 mg/kg (Rat)</td>
<td>12800 mg/kg (Rat)</td>
<td>12870 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

Chronic toxicity

Chronic toxicity: Avoid repeated exposure. May cause adverse liver effects. Contains a known or suspected reproductive toxin.

carcinogenicity: This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>A3</td>
<td>Known</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Isopropanol</td>
<td></td>
<td>Group 1</td>
<td>Group 3</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP: (National Toxicity Program)
Known - Known Carcinogen

OSHA: (Occupational Safety & Health Administration)
X - Present

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>12.0 - 16.0: 96 h</td>
<td>Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td>9268 - 14221: 48 h Daphnia magna mg/L EC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
<tr>
<td>Isopropanol</td>
<td>1000: 96 h Desmodesmus subspicatus mg/L EC50 1000: 72 h Desmodesmus subspicatus mg/L EC50</td>
<td>9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50</td>
<td>13299: 48 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>-0.32</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>0.05</td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>Toxic Ignitable</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>Toxic Ignitable</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>DOT</th>
<th>Proper shipping name</th>
<th>Limited Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ethanol or Ethanol solution</td>
<td></td>
</tr>
<tr>
<td>Hazard class</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>UN/ID No</td>
<td>UN1170</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IATA</th>
<th>UN/ID No</th>
<th>UN1170</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Proper shipping name</td>
<td>Ethanol or Ethanol solution</td>
</tr>
<tr>
<td>Hazard class</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ADR</th>
<th>Proper shipping name</th>
<th>Ethanol or Ethanol solution</th>
</tr>
</thead>
</table>
15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

- Acute Health Hazard: yes
- Chronic Health Hazard: no
- Fire Hazard: no
- Sudden Release of Pressure Hazard: no
- Reactive Hazard: no

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>Carcinogen</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Developmental</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

International Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td></td>
<td>Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m³</td>
</tr>
<tr>
<td>Isopropanol</td>
<td></td>
<td>Mexico: TWA 400 ppm Mexico: TWA 980 mg/m³ Mexico: STEL 500 ppm Mexico: STEL 1225 mg/m³</td>
</tr>
</tbody>
</table>

WHMIS Note:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H224 - Extremely flammable liquid and vapor
H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Hazard statements
H319 - Causes serious eye irritation
H225 - Highly flammable liquid and vapor

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of MSDS
# Safety Data Sheet

<table>
<thead>
<tr>
<th>Issuing date</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision Date</td>
<td>05-Jun-2017</td>
</tr>
<tr>
<td>Version</td>
<td>2</td>
</tr>
</tbody>
</table>

## 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Lithium carbonate Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended use</td>
<td>For research use only</td>
</tr>
</tbody>
</table>

### Supplier Address

Abcam Inc  
1 Kendall Square, Ste 341  
Cambridge, MA 02139-1517  
USA  
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)  
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

### E-mail address

technical@abcam.com

### Emergency telephone

Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

## 2. HAZARDS IDENTIFICATION

### GHS - Classification

| Ozone               | Not applicable |

### GHS Label elements, including precautionary statements

Not dangerous

### Other information

No information available
3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium carbonate</td>
<td>554-13-2</td>
<td>&lt;0.1</td>
<td>STOT SE 3 (H335)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT RE 1 (H372)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Skin Irrit. 2 (H315)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1 (H318)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Irrit. 2 (H319)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Repr. 1A (H360F)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 4 (H302)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Eye contact          Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin contact          Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
Inhalation            Move to fresh air.
Ingestion             Clean mouth with water. Drink plenty of water.
Notes to physician    Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties  Not flammable.
Flash point           not determined
Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.
Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions  Ensure adequate ventilation.
Environmental precautions Try to prevent the material from entering drains or water courses.
Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up Pick up and transfer to properly labeled containers.
7. HANDLING AND STORAGE

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice.

Technical measures/Storage conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering measures
Showers
Eyewash stations
Ventilation systems

Personal protective equipment

Eye/face protection
No special protective equipment required.

Skin and body protection
No special protective equipment required.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
No information available.

Odor Threshold
No information available

pH
No information available

Flash point
No information available

Decomposition temperature
No information available

Melting point/range
No information available

Explosion limits
No information available

Specific Gravity
No data available

Evaporation rate
No information available

Vapor density
No data available

Odor
No information available.

Physical State @20°C
No information available

Autoignition temperature
No information available

Boiling point/boiling range
No information available

Flammability Limits in Air
No information available

VOC Content(%)
Not applicable

10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Product does not present an acute toxicity hazard based on known or supplied information.

Chronic toxicity

Target Organ Effects
None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Do not re-use empty containers.

14. TRANSPORT INFORMATION

DOT
Not dangerous goods

IATA
Not dangerous goods

ADR
Not dangerous goods

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>SARA 311</th>
<th>SARA 312</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
<td></td>
</tr>
</tbody>
</table>

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).
CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium carbonate</td>
<td>554-13-2</td>
<td>Developmental</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium carbonate</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

International Regulations

WHMIS Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed H315 - Causes skin irritation H318 - Causes serious eye damage H319 - Causes serious eye irritation H335 - May cause respiratory irritation H360FD - May damage fertility. May damage the unborn child H372 - Causes damage to the kidneys/ liver/ eyes/ brain/ respiratory system/ central nervous system through prolonged or repeated exposure

Revision Date 05-Jun-2017
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of MSDS
1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Luxol Fast Blue Solution

UN/ID No: UN1170

Recommended use: For research use only

Supplier Address: Abcam Inc
1 Kendall Square, Ste 341
Cambridge, MA 02139-1517
USA
Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free)
Fax: (866) 739-9884 or (866) 457-9616 (both US toll free)

E-mail address: technical@abcam.com

Emergency telephone: Tel: (617)225-2272 or 888-77-ABCAM (22226) (US toll free) - Monday-Friday 8am-9pm EST

2. HAZARDS IDENTIFICATION

GHS - Classification

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

GHS Label elements, including precautionary statements

Signal Word: Danger
Hazard statements
H319 - Causes serious eye irritation
H225 - Highly flammable liquid and vapor

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P264 - Wash face, hands and any exposed skin thoroughly after handling
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P370 + P378 - In case of fire: Use foam for extinction
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P233 - Keep container tightly closed
P403 + P235 - Store in a well-ventilated place. Keep cool
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information
No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>Classification (Reg. 1272/2008)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>60-99</td>
<td>Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>3-7</td>
<td>STOT SE 3 (H336) Eye Irrit. 2 (H319) Flam Liq. 2 (H225)</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>64-19-7</td>
<td>1-5</td>
<td>Skin Corr. 1A (H314) Flam Liq. 3 (H226)</td>
</tr>
<tr>
<td>Luxol Fast Blue</td>
<td>1328-51-4</td>
<td>0.1-1</td>
<td>STOT SE 3 (H335) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Acute Tox. 4 (H332) Aquatic Chronic 4 (H413)</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16
4. FIRST AID MEASURES

General advice
If symptoms persist, call a physician.

Eye contact
Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Inhalation
Move to fresh air. If symptoms persist, call a physician.

Ingestion
Rinse mouth. If symptoms persist, call a physician.

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties
Not flammable.

Flash point
not determined

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Explosion Data
Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid contact with the skin and the eyes. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions
Try to prevent the material from entering drains or water courses.

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains. Dam up.

7. HANDLING AND STORAGE

Advice on safe handling
Ensure adequate ventilation. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist.

Technical measures/Storage conditions
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>STEL: 1000 ppm</td>
<td>TWA: 1000 ppm TWA: 1900 mg/m³ (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m³</td>
<td>IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m³</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>STEL: 400 ppm TWA: 200 ppm</td>
<td>TWA: 400 ppm TWA: 980 mg/m³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m³</td>
<td>IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m³ STEL: 500 ppm STEL: 1225 mg/m³</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>STEL: 15 ppm TWA: 10 ppm</td>
<td>TWA: 10 ppm TWA: 25 mg/m³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m³</td>
<td>IDLH: 50 ppm TWA: 10 ppm TWA: 25 mg/m³ STEL: 15 ppm STEL: 37 mg/m³</td>
</tr>
</tbody>
</table>

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering measures
Shower
Eyewash stations
Ventilation systems

Personal protective equipment
Eye/face protection
Tightly fitting safety goggles. Face-shield.

Skin and body protection
No special protective equipment required.

Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene measures
When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>No information available.</td>
<td>Odor</td>
<td>No information available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
<td>Physical State @20°C</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
<td>Autoignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
<td>Boiling point/boiling range</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
<td>Flammability Limits in Air</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No data available</td>
<td>solubility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td>Vapor Pressure @20°C (kPa)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
<td>VOC Content(%)</td>
<td>90.9000015258789</td>
</tr>
</tbody>
</table>

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10. STABILITY AND REACTIVITY

Stability
Stable under recommended storage conditions.

Incompatible products
None known based on information supplied.

Conditions to avoid
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product Information
Irritating to skin, eyes and/or respiratory tract.

Inhalation
May cause irritation of respiratory tract

Eye contact
May cause irritation

Skin contact
May cause irritation

Ingestion
Ingestion may cause irritation to mucous membranes

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (Rat)</th>
<th>LD50 Dermal (Rat)</th>
<th>LC50 Inhalation (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>7060 mg/kg</td>
<td>12800 mg/kg</td>
<td>124.7 mg/L</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>4396 mg/kg</td>
<td>12800 mg/kg</td>
<td>72.6 mg/L</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>3310 mg/kg</td>
<td>1060 mg/kg</td>
<td>11.4 mg/L</td>
</tr>
</tbody>
</table>

Chronic toxicity

Avoid repeated exposure May cause adverse liver effects Contains a known or suspected reproductive toxin

carcinogenicity

This product contains one or more substances which are classified by IARC as carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A) or possibly carcinogenic to humans (Group 2B)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>A3</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>Group 1</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH: (American Conference of Governmental Industrial Hygienists)
A3 - Animal Carcinogen
IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 3 - Not Classifiable as to Carcinogenicity in Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
OSHA: (Occupational Safety & Health Administration)
X - Present

Target Organ Effects
12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to algae</th>
<th>Toxicity to fish</th>
<th>Toxicity to microorganisms</th>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td></td>
<td>12.0 - 16.0: 96 h Oncorhynchus mykiss mL/L LC50 static 100: 96 h Pimephales promelas mg/L LC50 static 13400 - 15100: 96 h Pimephales promelas mg/L LC50 flow-through</td>
<td>9268 - 14221: 48 h Daphnia magna mg/L EC50 10800: 24 h Daphnia magna mg/L EC50 2: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
<tr>
<td>Isopropanol</td>
<td>1000: 96 h Desmodesmus subspicatus mg/L EC50 1000: 72 h Desmodesmus subspicatus mg/L EC50</td>
<td>9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 140000: 96 h Lepomis macrochirus µg/L LC50</td>
<td>13299: 48 h Daphnia magna mg/L EC50</td>
<td></td>
</tr>
<tr>
<td>Acetic acid</td>
<td></td>
<td>79: 96 h Pimephales promelas mg/L LC50 static 75: 96 h Lepomis macrochirus mg/L LC50 static</td>
<td>47: 24 h Daphnia magna mg/L EC50 65: 48 h Daphnia magna mg/L EC50 Static</td>
<td></td>
</tr>
</tbody>
</table>

13. DISPOSAL CONSIDERATIONS

Waste disposal methods
This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging
Do not re-use empty containers.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>Toxic Ignitable</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>Toxic Ignitable</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>Toxic Corrosive Ignitable</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

- Proper shipping name: Ethanol or Ethanol solution
- Hazard class: 3.0
- UN/ID No: UN1170
- Packing group: II
- IATA: Limited Quantity
15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropanol</td>
<td>67-63-0</td>
<td>5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories

Acute Health Hazard: yes
Chronic Health Hazard: no
Fire Hazard: no
Sudden Release of Pressure Hazard: no
Reactive Hazard: no

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic acid</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Isopropanol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
International Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Carcinogen Status</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td></td>
<td>Mexico: TWA 1000 ppm Mexico: TWA 1900 mg/m³</td>
</tr>
<tr>
<td>Isopropanol</td>
<td></td>
<td>Mexico: TWA 400 ppm Mexico: TWA 980 mg/m³ Mexico: STEL 500 ppm Mexico: STEL 1225 mg/m³</td>
</tr>
<tr>
<td>Acetic acid</td>
<td></td>
<td>Mexico: TWA 10 ppm Mexico: TWA 25 mg/m³ Mexico: STEL 15 ppm Mexico: STEL 37 mg/m³</td>
</tr>
</tbody>
</table>

WHMIS Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3
H224 - Extremely flammable liquid and vapor
H225 - Highly flammable liquid and vapor
H226 - Flammable liquid and vapor
H319 - Causes serious eye irritation
H302 + H332 - Harmful if swallowed or if inhaled
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H413 - May cause long lasting harmful effects to aquatic life

Hazard statements
H319 - Causes serious eye irritation
H225 - Highly flammable liquid and vapor

Revision Date 05-Jun-2017
Revision Note No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of MSDS