SAFETY DATA SHEET

PAK 27 Algaecide

Section 1. Identification

GHS product identifier: PAK 27 algaecide

Other means of identification: Not available.

EPA Registration No.: 68660-9-67690

Relevant identified uses of the substance or mixture: Algaecide

Supplier's details: SePRO Corporation
11550 North Meridian Street
Suite 600
Carmel, IN 46032 U.S.A.
Tel: 317-580-8282
Toll free: 1-800-419-7779
Fax: 317-580-8290
Monday - Friday, 8am to 5pm E.S.T.
www.sepro.com

Emergency telephone number (with hours of operation): INFOTRAC - 24-hour service 1-800-535-5053

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation and packaging of this product. For applications and/or use, consult the product label. The label directions supersede the text of this Safety Data Sheet for application and/or use.

Section 2. Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th>4</th>
<th>Harmful if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage</td>
<td>1</td>
<td>Causes serious eye damage.</td>
</tr>
</tbody>
</table>
Label elements

Pictogram

Signal Word
DANGER

Hazards
Harmful if swallowed. Causes serious eye damage.

Precautionary Statements

Prevention
Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection

Response
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

Other hazards which do not result in classification
Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Section 3. Composition/information on ingredients

Substance
Not applicable, this product is a mixture.

Mixture
Chemical nature; Multi constituent substance; Stabilized product

Hazardous Ingredients and Impurities

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identification Number CAS-NO</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate peroxyhydrate</td>
<td>15630-89-4</td>
<td>&gt; = 85</td>
</tr>
<tr>
<td>Carbonic acid sodium salt</td>
<td>497-19-8</td>
<td>&lt;= 13</td>
</tr>
<tr>
<td>Sodium silicate SiO2/Na2O</td>
<td>1344-09-8</td>
<td>&lt;= 1.5</td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Section 4. First aid measures

Description of first-aid measures

In case of inhalation
Move to fresh air. If symptoms persist, call a physician.

In case of skin contact
Remove and wash contaminated clothing before re-use. Wash off with plenty of water. If symptoms persist, call a physician.
In case of eye contact

Call a physician or poison control center immediately. In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).

In case of ingestion

If victim is conscious: If swallowed, rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.
If victim is unconscious: Artificial respiration and/or oxygen may be necessary.

Rinse mouth with water. Do NOT induce vomiting. If accidentally swallowed obtain immediate medical attention. Oxygen or artificial respiration if needed.

Most important symptoms and effects, both acute and delayed

Effects In case of inhalation

May cause nose, throat, and lung irritation.

Effects In case of skin contact

Prolonged skin contact may cause skin irritation.

Effects In case of eye contact

Symptoms: Redness; Lachrymation; Swelling of tissue
Effects: Severe eye irritation; Risk of serious damage to eyes.

Effects In case of ingestion

Symptoms: Severe irritation; Nausea; Abdominal pain; Vomiting; Diarrhea

Indication of any immediate medical attention and special treatment needed

No data available

Section 5. Fire-fighting measures

Flash point

Not applicable

Autoignition temperature

No data available

Flammability / Explosive limit

No data available

Suitable extinguishing media

Water; Water spray

Unsuitable extinguishing media

None.

Special hazards arising from the substance or mixture

Specific hazards during fire fighting

Oxidizing
Oxygen released in thermal decomposition may support combustion
Contact with combustible material may cause fire.
Contact with flammables may cause fire or explosions.
Risk of explosion if heated under confinement.

Hazardous combustion products:

Oxygen
Advice for firefighters

**Special protective equipment for fire-fighters**

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Cool containers/tanks with water spray.

**Further information**

Keep product and empty container away from heat and sources of ignition.

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**Section 6. Accidental release measures**

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

**Advice for non-emergency personnel**

Keep away from incompatible products

**Advice for emergency responders**

Sweep up to prevent slipping hazard.

**Environmental precautions**

Should not be released into the environment.

Limited quantity: Flush into sewer with plenty of water.

Large quantities: If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods and materials for containment and cleaning up:**

Sweep up and shovel into suitable containers for disposal. Do not mix waste streams during collection. Avoid dust formation. Treat recovered material as described in the section "Disposal considerations". All receiving equipment should be clean, vented, dry, labeled and made of material that is compatible with the product. Never return spills in original containers for re-use.

**Reference to other sections**

No data available

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**Section 7. Handling and storage**

**Precautions for safe handling**

Avoid dust formation. Ensure adequate ventilation. Keep away from heat and sources of ignition. Use only clean and dry utensils. Never return unused material to storage receptacle. Keep away from water. Keep away from incompatible products

**Hygiene measures**

Use only in an area equipped with a safety shower. Eye wash bottle with pure water

Handle in accordance with good industrial hygiene and safety practice for diagnostics.

**Conditions for safe storage, including any incompatibilities**

**Technical measures/Storage conditions**

Keep in a dry place. Keep in a cool, well-ventilated place. Keep only in the original container. Keep away from direct sunlight. Store in a receptacle equipped with a vent. Keep away from heat. The container must be used exclusively for the product. Keep in container fitted with safety valve or vent.

Avoid dust formation. Refer to protective measures listed in sections 7 and 8. In industrial installations, apply the rules for the prevention of major accidents (consult an expert). Keep away from heat/sparks/open flames/hot surfaces. No smoking. To avoid thermal decomposition, do not overheat.

Keep away from: Incompatible products
Packaging material

Suitable material

Stainless steel
Polyethylene
Paper + PE coating.

Specific end use(s)
Contact your supplier for additional information

Section 8. Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Control parameters

Components with workplace occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Value Type</th>
<th>Value</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate peroxyhydrate</td>
<td>TWA</td>
<td>5 mg/m³</td>
<td>Solvay Acceptable Exposure Limit</td>
</tr>
<tr>
<td>Carbonic acid sodium salt (1:2)</td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Solvay Acceptable Exposure Limit</td>
</tr>
</tbody>
</table>

Exposure controls

Control measures

Engineering measures
Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection
Use only respiratory protection that conforms to international/national standards.
Use NIOSH approved respiratory protection. Respirator with a dust filter

Hand protection
Wear suitable gloves.
Non-recommended materials: Leather, cotton
Suitable material: PVC; Neoprene; Natural Rubber

Eye protection
Chemical resistant goggles must be worn.

Skin and body protection
Protective suit

Hygiene measures
Use only in an area equipped with a safety shower. Eye wash bottle with pure water
Handle in accordance with good industrial hygiene and safety practice for diagnostics.

Section 9. Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.
### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Form:</strong></td>
<td>powder</td>
</tr>
<tr>
<td><strong>Physical state:</strong></td>
<td>solid</td>
</tr>
<tr>
<td><strong>Color:</strong></td>
<td>white</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>odorless</td>
</tr>
<tr>
<td><strong>Odor Threshold:</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>10.4 - 10.6 (10.1 g/l)</td>
</tr>
<tr>
<td><strong>Evaporation rate (Butylacetate = 1)</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>The product is not flammable.</td>
</tr>
<tr>
<td><strong>Flammability / Explosive limit</strong></td>
<td>Not explosive</td>
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<tr>
<td><strong>Autoignition temperature</strong></td>
<td>no data available</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>150 g/l (68 °F (20 °C))</td>
</tr>
<tr>
<td><strong>n-octanol/water Partition coefficient:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Thermal decomposition</strong></td>
<td>Self-Accelerating decomposition temperature (SADT)</td>
</tr>
<tr>
<td></td>
<td>&gt; 131 °F (&gt; 55 °C)</td>
</tr>
<tr>
<td><strong>Bulk Density</strong></td>
<td>900 - 1,200 kg/m3</td>
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<tr>
<td><strong>Viscosity, Dynamic</strong></td>
<td>Not applicable</td>
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<tr>
<td><strong>Explosive properties</strong></td>
<td>no data available</td>
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<tr>
<td><strong>Oxidizing properties</strong></td>
<td>Oxidizing</td>
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<tr>
<td><strong>Henry's Constant</strong></td>
<td>Air</td>
</tr>
<tr>
<td><strong>Molecular weight</strong></td>
<td>314.06 g/mol</td>
</tr>
</tbody>
</table>

### Section 10. Stability and reactivity

**Reactivity**
Decomposes when moist. Decomposes on heating. Potential for exothermic hazard
Chemical stability
Potential for exothermic hazard. Stable under recommended storage conditions.

Possibility of hazardous reactions
Contact with combustible material may cause fire. Contact with flammables may cause fire or explosions. Risk of explosion if heated under confinement. Fire or intense heat may cause violent rupture of packages.

Conditions to avoid
Exposure to moisture. To avoid thermal decomposition, do not overheat.

Incompatible materials
Water; Acids; Bases; Heavy metal salts; Reducing agents; Organic materials; Flammable materials; Combustible material

Hazardous decomposition products
Oxygen

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

- **Acute oral toxicity**
  - LD50 : 1,034 mg/kg - Rat

- **Acute inhalation toxicity**
  - LC0 - 1 h > 4,580 mg/m3 - Rat

- **Acute dermal toxicity**
  - LD 10 > 2,000 mg/kg - Rabbit

- **Acute toxicity (other routes of administration)**
  - no data available

Skin corrosion/irritation
Rabbit
- slight irritation

Serious eye damage/eye irritation
Rabbit
- Risk of serious damage to eyes.

Respiratory or skin sensitization
no data available

Mutagenicity

Genotoxicity in vitro
Carbonic acid sodium salt (1:2)
- By analogy
- Ames test with metabolic activation
- Product is not considered to be genotoxic
- Published data

- Strain: Escherichia coli
- without metabolic activation
  - negative
  - Product is not considered to be genotoxic
  - Published data

Genotoxicity in vivo
no data available
Carcinogenicity  
no data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
NTP
IARC
OSHA
ACGIH

Toxicity for reproduction and development

Toxicity to reproduction / fertility

Sodium silicate SiO2/Na2O  
Repeated exposure - Rat  
NOEL parent: > 159 mg/kg

Developmental Toxicity/Teratogenicity  

Carbonic acid sodium salt (1:2)  
Mouse , female  
Application Route: Oral  
NOAEL teratogenicity: >= 580 mg/kg  
NOAEL maternal: >= 580 mg/kg  
Method: according to a standardized method  
no embryotoxic or teratogenic effects have been observed  
Unpublished reports

STOT

STOT-single exposure  

Carbonic acid sodium salt (1:2)  
The substance or mixture is not classified as specific target organ toxicant, single exposure.  
internal evaluation

Sodium silicate SiO2/Na2O  
Routes of exposure: Inhalation  
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT-repeated exposure  

Carbonic acid sodium salt (1:2)  
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.  
internal evaluation

Aspiration toxicity  

no data available

Further information  

Harmful if swallowed.  
Risk of serious damage to eyes.  
Irritating to respiratory system and skin.

Section 12. Ecological information

Toxicity

Aquatic Compartment  

Acute toxicity to fish  
LC50 : 71 mg/l - Pimephales promelas (fathead minnow)  
NOEC - 96 h : 7.4 mg/l - Pimephales promelas (fathead minnow)

Acute toxicity to daphnia and other aquatic invertebrates.  
EC50 : 4.9 mg/l - Daphnia pulex (Water flea)  
NOEC - 48 h : 2 mg/l - Daphnia pulex (Water flea)
Toxicity to aquatic plants
Sodium silicate SiO2/Na2O
EC50 - 72 h : 345.4 mg/l - Algae : Desmodesmus subspicatus (Scenedesmus subspicatus)
EbC50 - 72 h : 207 mg/l - Algae : Desmodesmus subspicatus (Scenedesmus subspicatus)

Persistence and degradability

Abiotic degradation
Stability in water Medium, Water, Soil, Hydrolyzis
Photodegradation Not applicable

Biodegradation
Biodegradability The methods for determining biodegradability are not applicable to inorganic substances.

Degradability assessment
Carbonic acid sodium salt (1:2) The product is not considered to be rapidly degradable in the environment

Bioaccumulative potential

Bioconcentration factor (BCF) Not applicable

Mobility in soil
Adsorption potential (Koc) Air
Not applicable

Water considerable solubility and mobility

Soil/sediments non-significant adsorption

Results of PBT and vPvB assessment
Carbonic acid sodium salt (1:2) Not applicable, inorganic substance

Other adverse effects
no data available

Ecotoxicity assessment

Acute aquatic toxicity
Carbonic acid sodium salt (1:2) Not harmful to aquatic life (LC/EC50 > 100 mg/L)

Chronic aquatic toxicity
Carbonic acid sodium salt (1:2) Not classified due to data which are conclusive although insufficient for classification.

Remarks
Contains a(many) hazardous substance(s) for the environment. Under massive form, product is biologically inert and non-degradable. Ingestion of solids may cause harm to wildlife due to intestinal mechanical blockage or starvation from false feeling of satiation.
Section 13. Disposal considerations

Waste treatment methods

Product Disposal
Dilute with plenty of water. Dispose of wastes in an approved waste disposal facility. Can be landfilled, when in compliance with local regulations. In accordance with local and national regulations.

Waste Code
Environmental Protection Agency
Hazardous Waste – YES
RCRA Hazardous Waste (40 CFR 302)
D001 - Ignitable waste – (I)

Advice on cleaning and disposal of packaging
Clean container with water. Empty containers should be taken to an approved waste handling site for recycling or disposal. Uncleaned empty packaging: Dispose of as unused product in accordance with local and national regulations.

Section 14. Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification. The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN 3378</th>
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<tr>
<td>Proper shipping name</td>
<td>SODIUM CARBONATE PEROXYHYDRATE</td>
</tr>
<tr>
<td>Transport hazard class</td>
<td>5.1</td>
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<tr>
<td>Label(s)</td>
<td>5.1</td>
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<table>
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<th>Packing group</th>
<th>Packing group III</th>
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<td>ERG No</td>
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<table>
<thead>
<tr>
<th>Environmental hazards</th>
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<tbody>
<tr>
<td>Marine pollutant</td>
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TDG

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<th>UN 3378</th>
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<tbody>
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<table>
<thead>
<tr>
<th>Environmental hazards</th>
<th>NO</th>
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<tbody>
<tr>
<td>Marine pollutant</td>
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NOM

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN 3378</th>
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</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>SODIUM CARBONATE PEROXYHYDRATE</td>
</tr>
</tbody>
</table>

Page 10 of 13
Transport hazard class: 5.1  
Label(s): 5.1

**Packing group**
- Packing group: III
- ERG No: 140

**Environmental hazards**
- Marine pollutant:

**IMDG**

**UN number**: UN 3378
**Proper shipping name**: SODIUM CARBONATE PEROXYHYDRATE
**Transport hazard class**: 5.1  
Label(s): 5.1

**Packing group**
- Packing group: III

**Environmental hazards**
- Marine pollutant:

**Special precautions for user**
- EmS: F-A , S-Q
- For personal protection see section 8.

**IATA**

**UN number**: UN 3378
**Proper shipping name**: SODIUM CARBONATE PEROXYHYDRATE

**Transport hazard class**: 5.1  
Label(s): 5.1

**Packing group**
- Packing group: III
- Packing instruction (cargo aircraft): 563
- Max net qty / pkg: 100.00 kg
- Packing instruction (passenger aircraft): 559
- Max net qty / pkg: 25.00 kg

**Environmental hazards**
- Marine pollutant:

**Special precautions for user**
- For personal protection see section 8.

*Note*: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

**Section 15. Regulatory information**

**Notification status**

<table>
<thead>
<tr>
<th>Inventory Status</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States TSCA Inventory</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemical Substances</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>Australia Inventory of Chemical Substances (AICS)</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>Japan. CSCL - Inventory of Existing and New Chemical Substances</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>Korea. Korean Existing Chemicals Inventory (KECI)</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>In compliance with the inventory</td>
</tr>
</tbody>
</table>
Philippines Inventory of Chemicals and Chemical Substances (PICCS)  In compliance with the inventory

Federal Regulations

US EPA EPCRS SARA Title III

SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Reactivity Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure</td>
<td>No</td>
</tr>
<tr>
<td>Acute Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Section 313 Toxic Chemicals (40 CFR 372.65)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)
This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)
This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)
This material does not contain any components with a CERCLA RQ.

State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Section 16. Other information

NFPA (National Fire Protection Association) - Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2 moderate</td>
</tr>
<tr>
<td>Flammability</td>
<td>0 minimal</td>
</tr>
<tr>
<td>Instability or Reactivity</td>
<td>1 slight</td>
</tr>
<tr>
<td>Special Notices</td>
<td>OX Oxidizer</td>
</tr>
</tbody>
</table>

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>2 moderate</td>
</tr>
<tr>
<td>Flammability</td>
<td>0 minimal</td>
</tr>
<tr>
<td>Reactivity</td>
<td>1 slight</td>
</tr>
<tr>
<td>PPE</td>
<td>Determined by User; dependent on local conditions</td>
</tr>
</tbody>
</table>
Further information
Product evaluated under the US GHS format.

Date Prepared: 05/21/15
ACGIH American Conference of Governmental Industrial Hygienists
OSHA Occupational Safety and Health Administration
NTP National Toxicology Program
IARC International Agency for Research on Cancer
NIOSH National Institute for Occupational Safety and Health

Notice to reader
To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.