1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code: S1375

Product Name: SODIUM PERBORATE, TETRAHYDRATE, GRANULAR, PURIFIED

Chemical Name: Perboric acid, sodium salt, tetrahydrate

Synonyms: No information available


CAS #: 10486-00-7

Formula: NaBO3.4H2O

RTECS #: SC7350000

CI#: Not available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Emergency Telephone Number: CHEMTREC: 1-800-424-9300

Contact Person: Martin LaBenz (West Coast)
Contact Person: Chris Terpak (East Coast)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! IRRITANT. Irritating to eyes. Irritating to skin. Irritating to respiratory system.


OSHA Regulatory Status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
2. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Potential Health Effects:

Skin Contact:
Contact causes skin irritation. It may be absorbed through the skin.

Eye Contact:
Causes eye irritation. Moderately irritating to the eyes.

Inhalation:
Irritating to respiratory system.

Ingestion:
May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea. May cause central nervous system effects.

Chronic Potential Health Effects:

Target Organs:  No information available
Carcinogen Status:  No information available
Mutagenic Effects:  May affect genetic material
Experiments with bacteria have shown mutagenic effects
Teratogenic Effects:  Showed teratogenic effects in animal experiments
May cause birth defects (teratogenic effects) based on animal test data
Aggravated Medical Conditions:  No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Perborate, Tetrahydrate</td>
<td>10486-00-7</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General Advice:
Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). First aider needs to protect himself. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Notes to Physician: Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flashpoint (°C/°F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Tested according to</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower Explosion Limit (%)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper Explosion Limit (%)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition Temperature (°C/°F)</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Suitable Extinguishing Media: Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.


Hazardous Combustion Products: Sodium oxides; Oxides of Boron; Oxygen

Specific hazards: Mild oxidant. Keep away from combustible materials (wood, paper, oil, clothing, etc.). The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Specific Methods: Water mist may be used to cool closed containers. For large fires, flood fire area with water from a distance. Apply water from as far a distance as possible. For fires involving tanks or car/trailer loads, cool containers with flooding quantities of water until well after the fire is out. DO NOT use combustible materials such as sawdust.

6. ACCIDENTAL RELEASE MEASURES

Product code: S1375  Product name: SODIUM PERBORATE, TETRAHYDRATE, GRANULAR, PURIFIED
Personal Precautions:
Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition. Do not get water inside containers.

Environmental Precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for Cleaning Up:
Use appropriate tools to put the spilled solid in a suitable waste disposal container. Shovel into suitable container for disposal. Use a suitable vacuum cleaner. Do not use combustible materials such as paper towels, sawdust, clothing, etc. to clean up spill. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from combustible material. Do not breathe vapours/dust. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:
Moisture sensitive. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Do not store near combustible materials. Store away from incompatible materials.

Incompatible Products:

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:
Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protective Equipment

Eye protection: Goggles.

Skin and body protection: Chemical resistant apron. Long sleeved clothing. Gloves.

Respiratory protection: Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

National occupational exposure limits

United States


### U.S Occupational Exposure Limits:
Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<td>Sodium Perborate, Tetrahydrate - 10486-00-7</td>
<td>None</td>
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### Canada

**Canada Occupational Exposure Limits:** Not determined

<table>
<thead>
<tr>
<th>Components</th>
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<th>British Columbia</th>
<th>Quebec</th>
<th>Ontario</th>
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### Australia and Mexico

**Occupational Exposure Limits for Australia and Mexico:** Not determined

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<thead>
<tr>
<th>Components</th>
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<th>Mexico</th>
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</thead>
<tbody>
<tr>
<td>Sodium Perborate, Tetrahydrate 10486-00-7</td>
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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Crystalline powder. Granular.</td>
<td>White</td>
</tr>
</tbody>
</table>

**Odor:**

None.

**Flash point (°C):**

Not applicable

**Autoignition Temperature (°C/°F):**

No information available

**Melting point/range (°C/°F):**

63 °C/145.4 °F

**Density (g/cm³):**

No information available

**Vapor density:**

No information available

**Odor threshold (ppm):**

No information available

**Solubility:**

Soluble in Water

Solubility in Water: 21.5 g/l @18 °C

### 10. STABILITY AND REACTIVITY

**Stability:**

Stable at normal conditions

**Conditions to avoid:**

Stable at normal conditions


Possibility of Hazardous Reactions: It is a mild oxidant. Decomposes with liberation of oxygen in warm moist air. Sodium Perborate undergoes hydrolysis (reacts or decomposes) in contact with water, producing hydrogen peroxide sodium borate. This action is aided by the alkaline solution also produced by the reaction. Sodium perborate reacts with acids to form hydrogen peroxide. May react with water to evolve heat. Contact with combustible materials (wood, paper, oil, clothing, etc.) may cause fire.

Polymerization: Hazardous polymerisation does not occur

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Sodium Perborate, Tetrahydrate - 10486-00-7

LD50/oral/rat = 1200 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = > 2000 (FMC)
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 information =
No information available

Product Information

LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
LD50/dermal/rabbit = > 2000 (FMC)
LD50/dermal/rat = No information available
LD50/oral/rat = 1200 mg/kg
LD50/oral/mouse = No information available

Local Effects

Skin irritation: Causes skin irritation. Moderate skin irritation.
Eye irritation: Causes eye irritation.
Inhalation: Irritating to respiratory system.
Ingestion: May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May affect behavior/central nervous system (muscle weakness, convulsions).
Sensitization: No information available

Product code: S1375
Product name: SODIUM PERBORATE, TETRAHYDRATE, GRANULAR, PURIFIED
Chronic Toxicity

Chronic Toxicity
No information available

Carcinogenic effects:
Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA</th>
<th>ACGIH - Carcinogens</th>
<th>Australia Prohibited Carcinogenic Substances</th>
<th>Australia Notifiable Carcinogenic Substances</th>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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</table>

Mutagenic Effects:
May affect genetic material
Experiments with bacteria have shown mutagenic effects

Reproductive Effects:
Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse reproductive effects based on animal test data.

Teratogenic Effects:
Showed teratogenic effects in animal experiments
May cause birth defects (teratogenic effects) based on animal test data

Target Organs:
No information available

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals:
No information available

Ecotoxicity effects:
No data available

Aquatic toxicity:
No information available

Mobility:
No information available

Persistence and degradability:
No information available

Bioaccumulative potential:
No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

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<thead>
<tr>
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</tr>
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<tbody>
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</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated. Testing determined that this material cannot be classified as an oxidizer for transport purposes

Proper Shipping Name: No information available

Product code: S1375
Product name: SODIUM PERBORATE, TETRAHYDRATE, GRANULAR, PURIFIED
<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td><strong>Hazard Class:</strong></td>
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<tr>
<td><strong>Packing Group:</strong></td>
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<tr>
<td><strong>Subsidiary Risk:</strong></td>
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<td><strong>Marine Pollutant:</strong></td>
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<td><strong>TDG (Canada):</strong></td>
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<td><strong>Packing Group:</strong></td>
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<td><strong>Subsidiary Risk:</strong></td>
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<td><strong>Description:</strong></td>
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<td><strong>ADR</strong></td>
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<td><strong>Subsidiary Risk:</strong></td>
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**Product code:** S1375  
**Product name:** SODIUM PERBORATE, TETRAHYDRATE, GRANULAR, PURIFIED
UN-No: Not regulated. Testing (IATA test method 3.5.1.2.2) determined that this material cannot be classified as an oxidizer for transport purposes

Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

15. REGULATORY INFORMATION

### International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>Philippines (PICCS)</th>
<th>KOREA KECL</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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</thead>
<tbody>
<tr>
<td>Sodium Perborate, Tetrahydrate</td>
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<td>Not present</td>
<td>Not present</td>
<td>(1)-826</td>
<td>Present</td>
<td>Present</td>
<td>Not present</td>
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</table>

### U.S. Regulations


**Chemicals Known to the State of California to Cause Cancer:**
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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### CERCLA/SARA

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<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
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<td>Sodium Perborate, Tetrahydrate</td>
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### U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
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<tr>
<td>Sodium Perborate, Tetrahydrate</td>
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<td>Not Applicable</td>
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### Canada

**WHMIS hazard class:**
D2B  Toxic materials
C   Oxidizing materials

| Components                  | |
|-----------------------------| |
| Sodium Perborate, Tetrahydrate | C  D2B |

**Canada Controlled Products Regulation:**
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.
Sodium Perborate, Tetrahydrate

Components

<table>
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<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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<tbody>
<tr>
<td>Sodium Perborate, Tetrahydrate</td>
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</tr>
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</table>

EU Classification

**R-phrase(s)**
- R37 - Irritating to respiratory system.
- R41 - Risk of serious damage to eyes.
- R61 - May cause harm to the unborn child.
- R62 - Possible risk of impaired fertility.
- R36/37/38 - Irritating to eyes, respiratory system and skin.

**S-phrase(s)**
- S53 - Avoid exposure - obtain special instructions before use.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S47 - Keep at temperature not exceeding .?°C.

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**
- Xi - Irritant.

**16. OTHER INFORMATION**

The MSDS format complies with ANSI Z400.1-2004 standards.

**Preparation Date**
30-Mar-2011

**Reason for revision:**
Not applicable

**Prepared by:**
Sonia Owen

**Literature reference:**
No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user’s responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**Product code:** S1375

**Product name:** SODIUM PERBORATE, TETRAHYDRATE, GRANULAR, PURIFIED

10 / 10