1. IDENTIFICATION

Product identifier
Product Name  PhosVer® 3 Phosphate Reagent

Other means of identification
Product Code(s)  2106069

Safety data sheet number  M00035

Recommended use of the chemical and restrictions on use
Recommended Use  Laboratory Use. Phosphate determination.
Uses advised against  None.
Restrictions on use  None.

Details of the supplier of the safety data sheet
Manufacturer Address  Hach Company  P.O.Box 389  Loveland, CO 80539 USA  (970) 669-3050

Emergency telephone number  (303) 623-5716  - 24 Hour Service  (515)232-2533  - 8am - 4pm CST

2. HAZARDS IDENTIFICATION

Classification
Regulatory Status  This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| Serious eye damage/eye irritation | Category 2A |

Hazards not otherwise classified (HNOC)
Not applicable

Label elements
Signal word  - Warning

Hazard statements
H319 - Causes serious eye irritation

Precautionary statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
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

Other Information
May be harmful if swallowed

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Percent Range</th>
<th>HMRIC #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium pyrosulfate</td>
<td>7790-62-7</td>
<td>80 - 90%</td>
<td>-</td>
</tr>
<tr>
<td>Sodium molybdate</td>
<td>7631-95-0</td>
<td>1 - 5%</td>
<td>-</td>
</tr>
<tr>
<td>Tetrasodium EDTA</td>
<td>64-02-8</td>
<td>0.1 - 1%</td>
<td>-</td>
</tr>
<tr>
<td>Antimonate(2-), bis[mu-(2,3-dihydroxybutanedioato(4-)-O1,O2,O3,O4)]di-, dipotassium, trihydrate, stereoisomer</td>
<td>28300-74-5</td>
<td>0.1 - 1%</td>
<td>-</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

Description of first aid measures

General advice

IF IN EYES: Flush eyes for at least 15 minutes.

Eye contact

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

Skin contact

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician.

Inhalation

Aspiration into lungs can produce severe lung damage.

Ingestion

Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Remove from exposure, lie down. Call a POISON CENTER or doctor/physician if you feel unwell. Do not induce vomiting without medical advice.

Self-protection of the first aider

Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms

See Section 11: TOXICOLOGICAL INFORMATION.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable extinguishing media

Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

Can burn in fire, releasing toxic vapors.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products


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.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice

Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(vi)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
EC Notice
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

WHMIS Notice
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Personal precautions, protective equipment and emergency procedures

Personal precautions
Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

For emergency responders
Use personal protection recommended in Section 8.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading.

Methods for cleaning up
Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

Emergency Response Guide Number
Not applicable

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Flammability class
Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 5 mg/m³ (vacated) TWA: 5 mg/m³</td>
<td>IDLH: 1000 mg/m³ Mo</td>
</tr>
<tr>
<td>Antimonate(3-), bis[mu.-[[2,3-dihydroxybutanedioato(4-)-O1,O2,O3,O4]]di-, dipotassium, trihydrate, stereoisomer 0.1 - 1%</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 0.5 mg/m³ (vacated) TWA: 0.5 mg/m³</td>
<td>IDLH: 50 mg/m³ Sb TWA: 0.5 mg/m³ Sb</td>
</tr>
<tr>
<td>Chemical Name</td>
<td>Northwest Territories OEL</td>
<td>Nova Scotia OEL</td>
<td>Nunavut OEL</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Sodium molybdate 1 - 5%</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
</tr>
<tr>
<td>Antimonate(2-), bis[mu.-{(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)}di-, dipotassium, trihydrate, stereoisomer 0.1 - 1%]</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Quebec OEL</th>
<th>Saskatchewan OEL</th>
<th>Yukon OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate 1 - 5%</td>
<td>TWA: 5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
<td>STEL: 10 mg/m³</td>
</tr>
<tr>
<td>Antimonate(2-), bis[mu.-{(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)}di-, dipotassium, trihydrate, stereoisomer 0.1 - 1%]</td>
<td>TWA: 0.5 mg/m³</td>
<td>TWA: 0.5 mg/m³</td>
<td>STEL: 0.75 mg/m³</td>
</tr>
</tbody>
</table>

Other Information
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Legend
See section 16 for terms and abbreviations

Appropriate engineering controls

Engineering Controls
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear tight sealing safety goggles and/or face protection shield. Avoid contact with eyes.

Skin and body protection
Wear protective gloves and protective clothing.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations
Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
**Product Code(s)** 2106069

**Product Name** PhosVer® 3 Phosphate Reagent

**Issue Date** 27-Sep-2016

**Revision Date** 27-Sep-2016

**Version** 5

**Page** 6 / 18

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**Physical state** Solid

**Gas Under Pressure** Not classified according to GHS criteria

**Appearance** powder

**Color** white

**Odor** Odorless

**Odor threshold** No data available

---

### Property | Values | Remarks • Method
--- | --- | ---
Molecular weight | No data available | 
**pH** | No data available | 
Melting point/freezing point | 105 °C / 221 °F | 
Boiling point / boiling range | No data available | 
Evaporation rate | Not applicable | 
Vapor pressure | Not applicable | 
Vapor density (air = 1) | Not applicable | 
Specific gravity (water = 1 / air = 1) | 2.22 | 
Partition Coefficient (n-octanol/water) | No data available | 
Soil Organic Carbon-Water Partition Coefficient | No data available | 
Autoignition temperature | No data available | 
Decomposition temperature | No data available | 
Dynamic viscosity | Not applicable | 
Kinematic viscosity | Not applicable | 

---

### Solubility(ies)

**Water solubility**

<table>
<thead>
<tr>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

**Solubility in other solvents**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Solubility classification</th>
<th>Solubility</th>
<th>Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid</td>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

---

### Other Information

**Metal Corrosivity** Not classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate** Not applicable

**Aluminum Corrosion Rate** Not applicable

**Volatile Organic Compounds (VOC) Content** Not applicable.
10. STABILITY AND REACTIVITY

Reactivity properties
Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

Chemical stability
Stable under recommended storage conditions.

Special dangers of the product
None reported.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Extremes of temperature and direct sunlight. Incompatible materials.

Incompatible materials

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosive properties
Not classified according to GHS criteria. Can burn in fire, releasing toxic vapors.
Upper explosion limit  No data available
Lower explosion limit  No data available

Autoignition temperature  No data available

Sensitivity to Static Discharge  None reported

Sensitivity to Mechanical Impact  None reported

11. TOXICOLOGICAL INFORMATION

NIOSH (RTECS) Number  None reported

Information on Likely Routes of Exposure

<table>
<thead>
<tr>
<th>Product Information</th>
<th>Causes serious eye irritation. May be harmful if swallowed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No known effect based on information supplied.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Contact with eyes may cause irritation. Severely irritating to eyes.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>No known effect based on information supplied.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>May be harmful if swallowed.</td>
</tr>
<tr>
<td>Aggravated Medical Conditions</td>
<td>Eye disorders.</td>
</tr>
<tr>
<td>Toxicologically synergistic products</td>
<td>None known.</td>
</tr>
<tr>
<td>Toxicokinetics, metabolism and distribution</td>
<td>See ingredients information below.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicokinetics, metabolism and distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimonate(2-), bis[.mu.-((2,3-dihydroxybutanedicato(4-)-O1,O2,O3,O4))di-, dipotassium, trihydrate, stereoisomer (0.1 - 1%) CAS#: 28300-74-5</td>
<td>Antimony compounds can cause dermatitis, conjunctivitis, nasal-septum ulceration through direct contact or by inhalation of dust or fumes. Antimony is also connected with kidney and liver degeneration and adverse reproductive effects.</td>
</tr>
</tbody>
</table>

Product Acute Toxicity Data

<table>
<thead>
<tr>
<th>Oral Exposure Route</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal Exposure Route</td>
<td>No data available</td>
</tr>
<tr>
<td>Inhalation (Dust/Mist) Exposure Route</td>
<td>No data available</td>
</tr>
<tr>
<td>Inhalation (Vapor) Exposure Route</td>
<td>No data available</td>
</tr>
<tr>
<td>Inhalation (Gas) Exposure Route</td>
<td>No data available</td>
</tr>
</tbody>
</table>

The following values are calculated based on chapter 3.1 of the GHS document

<table>
<thead>
<tr>
<th>ATEmix (oral)</th>
<th>2,670.00 mg/kg</th>
</tr>
</thead>
</table>

Ingredient Acute Toxicity Data
### Oral Exposure Route

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium pyrosulfate (80 - 90%) CAS#: 7790-62-7</td>
<td>Rat LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>2340 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>Vendor SDS</td>
</tr>
<tr>
<td>Sodium molybdate (1 - 5%) CAS#: 7631-95-0</td>
<td>Rat LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>4000 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>Tetrasodium EDTA (0.1 - 1%) CAS#: 64-02-8</td>
<td>Rat LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>1658 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>ERMA (New Zealand's Environmental Risk Management Authority)</td>
</tr>
<tr>
<td>Antimonate&lt;sup&gt;(2-)&lt;/sup&gt;, bis&lt;sup&gt;[mu-(2,3-dihydroxybutanedioato(4-)O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (0.1 - 1%) CAS#: 28300-74-5</td>
<td>Rat LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>115 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%) CAS#: 7631-95-0</td>
<td>Guinea pig LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>310 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>Antimonate&lt;sup&gt;(2-)&lt;/sup&gt;, bis&lt;sup&gt;[mu-(2,3-dihydroxybutanedioato(4-)O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (0.1 - 1%) CAS#: 28300-74-5</td>
<td>Mouse LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>600 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>HSDB (Hazardous Substances Data Bank)</td>
</tr>
</tbody>
</table>

### Dermal Exposure Route

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%) CAS#: 7631-95-0</td>
<td>Rat LD&lt;sub&gt;50&lt;/sub&gt;</td>
<td>&gt; 2000 mg/kg</td>
<td>None reported</td>
<td>None reported</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

### Inhalation (Dust/Mist) Exposure Route

No data available

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Toxicological effects</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%) CAS#: 7631-95-0</td>
<td>Rat LC&lt;sub&gt;50&lt;/sub&gt;</td>
<td>.? mg/L</td>
<td>4 hours</td>
<td>None reported</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
</tbody>
</table>

### Inhalation (Vapor) Exposure Route

No data available

### Inhalation (Gas) Exposure Route

No data available

### Product Skin Corrosion/Irritation Data

No data available.
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test method</th>
<th>Species</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>Standard Draize Test</td>
<td>Rabbit</td>
<td>500 mg</td>
<td>4 hours</td>
<td>Not corrosive or irritating to skin</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>Patch test</td>
<td>None</td>
<td>200 mg</td>
<td>None reported</td>
<td>Not corrosive or irritating to skin</td>
<td>ECHA (The European Chemicals Agency)</td>
</tr>
<tr>
<td>Antimonate(2-), bis[mu-(2,3-dihydroxybutanedioato(4-)-O1,O2;O3;O4)]di-, dipotassium, trihydrate, stereoisomer (0.1 - 1%)</td>
<td>OECD Test No. 406: Skin Sensitization</td>
<td>Rabbit</td>
<td>100 mg</td>
<td>24 hours</td>
<td>Eye irritant</td>
<td>No information available</td>
</tr>
</tbody>
</table>

**Sensitization Information**

**Product Sensitization Data**

**Skin Sensitization Exposure Route**
No data available.

**Respiratory Sensitization Exposure Route**
No data available.

**Ingredient Sensitization Data**

**Skin Sensitization Exposure Route**
If available, see data below.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test method</th>
<th>Species</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>OECD Test No. 406: Skin Sensitization</td>
<td>Guinea pig</td>
<td>Not confirmed to be a skin sensitizer</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

**Respiratory Sensitization Exposure Route**
No data available.

**Chronic Toxicity Information**

**Product Repeat Dose Toxicity Data**
Oral Exposure Route
No data available.

Dermal Exposure Route
No data available.

Inhalation (Dust/Mist) Exposure Route
No data available.

Inhalation (Vapor) Exposure Route
No data available.

Inhalation (Gas) Exposure Route
No data available.

Ingredient Repeat Dose Toxicity Data

Oral Exposure Route
No data available

Dermal Exposure Route
No data available

Inhalation (Dust/Mist) Exposure Route
No data available

Inhalation (Vapor) Exposure Route
No data available

Inhalation (Gas) Exposure Route
No data available

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium pyrosulfate</td>
<td>7790-62-7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sodium molybdate</td>
<td>7631-95-0</td>
<td>A3</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tetrasodium EDTA</td>
<td>64-02-8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Antimonate(2-), bis[mu-(2,3-dihydroxybutanedioato(4-)-O1,O2,O3,O4)]di-, dipotassium, trihyrate, stereoisomer</td>
<td>28300-74-5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend

ACGIH (American Conference of Governmental Industrial Hygienists) A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer) Does not apply
NTP (National Toxicology Program) Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor) Does not apply

Product Carcinogenicity Data
No data available

Oral Exposure Route
No data available

Dermal Exposure Route
No data available

Inhalation (Dust/Mist) Exposure Route
No data available

Inhalation (Vapor) Exposure Route
No data available

Inhalation (Gas) Exposure Route
No data available

Ingredient Carcinogenicity Data

Oral Exposure Route
No data available

Dermal Exposure Route
No data available

Inhalation (Dust/Mist) Exposure Route
No data available
Inhalation (Vapor) Exposure Route
No data available

Inhalation (Gas) Exposure Route
No data available

**Product Germ Cell Mutagenicity \textit{invitro Data}**
No data available.

**Ingredient Germ Cell Mutagenicity \textit{invitro Data}**
If available, see data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Test</th>
<th>Cell Strain</th>
<th>Reported dose</th>
<th>Exposure time</th>
<th>Results</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>Phage inhibition capacity</td>
<td>Escherichia coli</td>
<td>16 mmol/L</td>
<td>None reported</td>
<td>Positive test result for mutagenicity</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 7631-95-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>Sex chromosome loss and nondisjunction</td>
<td>Saccharomyces cerevisiae</td>
<td>80 mmol/L</td>
<td>None reported</td>
<td>Positive test result for mutagenicity</td>
<td>RTECS (Registry of Toxic Effects of Chemical Substances)</td>
</tr>
<tr>
<td>CAS#: 7631-95-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Oral Exposure Route**
No data available

**Dermal Exposure Route**
No data available

**Inhalation (Dust/Mist) Exposure Route**
No data available

**Inhalation (Vapor) Exposure Route**
No data available

**Inhalation (Gas) Exposure Route**
No data available

**Ingredient Germ Cell Mutagenicity \textit{invivo Data}**
If available, see data below

<table>
<thead>
<tr>
<th>Oral Exposure Route</th>
<th>Dermal Exposure Route</th>
<th>Inhalation (Dust/Mist) Exposure Route</th>
<th>Inhalation (Vapor) Exposure Route</th>
<th>Inhalation (Gas) Exposure Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Ingredient Reproductive Toxicity Data**
If available, see data below

Oral Exposure Route
No data available

Dermal Exposure Route
No data available

Inhalation (Dust/Mist) Exposure Route
No data available

Inhalation (Vapor) Exposure Route
No data available

Inhalation (Gas) Exposure Route
No data available
12. ECOLOGICAL INFORMATION

Ecotoxicity

Based on the classification principles, not classified as hazardous to the environment.

**Product Ecological Data**

**Aquatic toxicity**

**Fish**

No data available

**Crustacea**

No data available

**Algae**

No data available

**Terrestrial toxicity**

**Soil**

No data available

**Vertebrates**

No data available

**Invertebrates**

No data available

**Ingredient Ecological Data**

**Aquatic toxicity**

If available, see ingredient data below

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium pyrosulfate (80 - 90%)</td>
<td>96 hours</td>
<td>Oncorhynchus mykiss</td>
<td>LC₉⁰</td>
<td>420 mg/L</td>
<td>ERMA (New Zealands Environmental Risk Management Authority)</td>
</tr>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>96 hours</td>
<td>Oncorhynchus mykiss</td>
<td>LC₉⁰</td>
<td>800 mg/L</td>
<td>GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)</td>
</tr>
<tr>
<td>Antimonate(2-), bis[.mu.- (2,3-dihydroxybutanedioato(4-)-O1 ,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (0.1 - 1%)</td>
<td>96 hours</td>
<td>None reported</td>
<td>LC₉⁰</td>
<td>12.5 mg/L</td>
<td>Vendor SDS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium molybdate (1 - 5%)</td>
<td>96 hours</td>
<td>None reported</td>
<td>LC₉⁰</td>
<td>1320 mg/L</td>
<td>GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)</td>
</tr>
</tbody>
</table>
Crustacea

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure time</th>
<th>Species</th>
<th>Endpoint type</th>
<th>Reported dose</th>
<th>Key literature references and sources for data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium pyrosulfate (80 - 90%) CAS#: 7790-62-7</td>
<td>48 Hours</td>
<td><em>Daphnia magna</em></td>
<td>EC₅₀</td>
<td>140 mg/L</td>
<td>ERMA (New Zealand's Environmental Risk Management Authority)</td>
</tr>
</tbody>
</table>

Algae

If available, see ingredient data below

Terrestrial toxicity

Soil

No data available

Vertebrates

No data available

Invertebrates

No data available

Other Information

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL): Environmentally Hazardous Substances Categorizations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Category</th>
<th>Persistent</th>
<th>Bioaccumulation</th>
<th>Inherently Toxic to Aquatic Organisms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimonate(2-), bis[μ-(2,3-dihydroxybutanedioato(4-)-O1,O2:O3,O4)]di-, dipotassium, trihydrate, stereoisomer (0.1 - 1%) CAS#: 28300-74-5</td>
<td>Organometallics</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Persistence and degradability

None known.

Product Biodegradability Data

If available, see ingredient data below.

Ingredient Biodegradability Data

Test data reported below

Bioaccumulation

None known.

Product Bioaccumulation Data

No data available.

Ingredient Bioaccumulation Data

No data available

Additional information

Product Information

No data available

Partition Coefficient (n-octanol/water)

No data available

Ingredient Information
Mobility
Mobility in soil: Moderate to high mobility. If available, see ingredient data below.

Product Information
No data available

Soil Organic Carbon-Water Partition Coefficient
No data available

Ingredient Information

Additional information
Water solubility

Product Information

<table>
<thead>
<tr>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water Solubility Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soluble</td>
<td>&gt; 1000 mg/L</td>
<td>25 °C / 77 °F</td>
</tr>
</tbody>
</table>

Ingredient Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Water solubility classification</th>
<th>Water solubility</th>
<th>Water solubility temperature °C</th>
<th>Water solubility temperature °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium pyrosulfate</td>
<td>Completely soluble</td>
<td>25000 mg/L</td>
<td>20 °C</td>
<td>68 °F</td>
</tr>
<tr>
<td>CAS#: 7790-62-7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium molybdate</td>
<td>Completely soluble</td>
<td>840000 mg/L</td>
<td>20 °C</td>
<td>68 °F</td>
</tr>
<tr>
<td>CAS#: 7631-95-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antimonate(2-), bis[.mu.-{2,3-dihydroxybutanedioato(4-)-O1,O2,O3, O4}]di-</td>
<td>Completely soluble</td>
<td>80000 mg/L</td>
<td>20 °C</td>
<td>68 °F</td>
</tr>
<tr>
<td>dipotassium, trihydrate, stereoisomer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAS#: 28300-74-5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other adverse effects
Contains a substance with an endocrine-disrupting potential.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes
Disposal should be in accordance with applicable regional, national, and local laws and regulations.

Contaminated packaging
Do not reuse container.

US EPA Waste Number
D002

Special instructions for disposal
Work in an approved fume hood. Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

14. TRANSPORT INFORMATION
U.S. DOT
TDG
IATA
IMDG
Note:

Additional information
There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies. If the item is part of a reagent set or kit the classification would change to the following: UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

National Inventories
TSCA Complies
DSL/NDSL Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Complies
PICCS Complies
TCSI Complies
AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US 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

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimonate(2-), bis[.mu.-{(2,3-dihydroxybutanedioato(4-)-O1,O2,O3,O4)}di-, dipotassium, trihydrate, stereoisomer (CAS #: 28300-74-5)</td>
<td>1.0</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazard Categories
Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard

No

CWA (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>Antimonate(2-), bis[.mu.-{(2,3-dihydroxybutanediolato(4-)-O1,O2:O3, O4)}]-, dipotassium, trihydrate, stereoisomer 28300-74-5</td>
<td>-</td>
<td>X</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>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimonate(2-), bis[.mu.-{(2,3-dihydroxybutanediolato(4-)-O1,O2:O3, O4)}]-, dipotassium, trihydrate, stereoisomer 28300-74-5</td>
<td>100 lb</td>
<td>-</td>
<td>RQ 100 lb final RQ RQ 45.4 kg final RQ</td>
</tr>
</tbody>
</table>

US 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>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimonate(2-), bis[.mu.-{(2,3-dihydroxybutanediolato(4-)-O1,O2:O3, O4)}]-, dipotassium, trihydrate, stereoisomer 28300-74-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments
None

Additional information
Global Automotive Declarable Substance List (GADSL) Not applicable

NFPA and HMIS Classifications
Key or legend to abbreviations and acronyms used in the safety data sheet

- NIOSH IDLH: Immediately Dangerous to Life or Health
- ACGIH: ACGIH (American Conference of Governmental Industrial Hygienists)
- NDF: no data

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TWA</td>
<td>TWA (time-weighted average)</td>
</tr>
<tr>
<td>MAC</td>
<td>Maximum Allowable Concentration</td>
</tr>
<tr>
<td>X</td>
<td>Listed</td>
</tr>
<tr>
<td>SKN*</td>
<td>Skin designation</td>
</tr>
<tr>
<td>RSP+</td>
<td>Respiratory sensitization</td>
</tr>
<tr>
<td>C</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>M</td>
<td>mutagen</td>
</tr>
<tr>
<td>SKN+</td>
<td>Skin sensitization</td>
</tr>
<tr>
<td>**</td>
<td>Hazard Designation</td>
</tr>
<tr>
<td>R</td>
<td>Reproductive toxicant</td>
</tr>
</tbody>
</table>

Prepared By: Hach Product Compliance Department

Issue Date: 27-Sep-2016
Revision Date: 27-Sep-2016
Revision Note: None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet