SECTION 1: Identification

1.1. Identification
Product form: Substance
Substance name: Potassium Dichromate
Chemical name: potassium dichromate
CAS-No.: 7778-50-9
Product code: LC18940
Formula: K2Cr2O7

1.2. Recommended use and restrictions on use
Use of the substance/mixture: For laboratory and manufacturing use only.
Recommended use: Laboratory chemicals
Restrictions on use: Not for food, drug or household use

1.3. Supplier
LabChem Inc
Jackson’s Pointe Commerce Park Building 1000, 1010 Jackson’s Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number
Emergency number: CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>GHS-US classification</th>
<th>H-number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing solids Category 2</td>
<td>H272</td>
<td>May intensify fire; oxidizer</td>
</tr>
<tr>
<td>Acute toxicity (oral) Category 3</td>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>Acute toxicity (dermal) Category 4</td>
<td>H312</td>
<td>Harmful in contact with skin</td>
</tr>
<tr>
<td>Acute toxicity (inhalation) Category 2</td>
<td>H330</td>
<td>Fatal if inhaled</td>
</tr>
<tr>
<td>Skin corrosion/irritation Category 1B</td>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>Respiratory sensitization, Category 1</td>
<td>H334</td>
<td>May cause an allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
<tr>
<td>Skin sensitization, Category 1</td>
<td>H317</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>Germ cell mutagenicity Category 1B</td>
<td>H340</td>
<td>May cause genetic defects</td>
</tr>
<tr>
<td>Carcinogenicity Category 1B</td>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>Reproductive toxicity Category 1B</td>
<td>H360</td>
<td>May damage fertility or the unborn child</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure) Category 1</td>
<td>H372</td>
<td>Causes damage to organs (kidneys, liver, Skin) through prolonged or repeated exposure</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment - Acute Hazard Category 1</td>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment - Chronic Hazard Category 1</td>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

Full text of H statements: see section 16
Potassium Dichromate
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2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US):

- GHS03
- GHS05
- GHS06
- GHS08
- GHS09

Signal word (GHS-US): Danger

Hazard statements (GHS-US):
- H272 - May intensify fire; oxidizer
- H301 - Toxic if swallowed
- H312 - Harmful in contact with skin
- H314 - Causes severe skin burns and eye damage
- H317 - May cause an allergic skin reaction
- H330 - Fatal if inhaled
- H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled
- H340 - May cause genetic defects
- H350 - May cause cancer
- H360 - May damage fertility or the unborn child
- H372 - Causes damage to organs (kidneys, liver, Skin) through prolonged or repeated exposure
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US):
- P201 - Obtain special instructions before use.
- P202 - Do not handle until all safety precautions have been read and understood.
- P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
- P220 - Keep/Store away from clothing, combustible materials
- P221 - Take any precaution to avoid mixing with combustibles
- P260 - Do not breathe dust.
- P264 - Wash exposed skin thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing should not be allowed out of the workplace.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection.
- P284 - Wear respiratory protection.
- P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P308+P313 - IF exposed or concerned: Get medical advice/attention.
- P310 - Immediately call a poison center or doctor/physician.
- P363 - Wash contaminated clothing before reuse.
- P391 - Collect spillage.
- P403+P405 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents/container to comply with local, state and federal regulations

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification: None under normal conditions.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type: Mono-constituent
Potassium Dichromate
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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
</table>
| Potassium Dichromate (Main constituent) | (CAS-No.) 7778-50-9 | 100 | Ox. Sol. 2, H272
Acute Tox. 3 (Oral), H301
Acute Tox. 4 (Dermal), H312
Acute Tox. 2 (Inhalation), H330
Skin Corr. 1B, H314
Resp. Sens. 1, H334
Skin Sens. 1, H317
Muta. 1B, H340
Carc. 1B, H350
Repr. 1B, H360
STOT RE 1, H372
Aquatic Acute 1, H400
Aquatic Chronic 1, H410 |

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures
Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact: Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

First-aid measures after eye contact: 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.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects: Causes severe skin burns and eye damage. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Symptoms/effects after inhalation: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Symptoms/effects after skin contact: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.

Symptoms/effects after eye contact: Causes serious eye damage.

Symptoms/effects after ingestion: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard: May intensify fire; oxidizer.

Explosion hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Thermal decomposition generates: Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Fight fire remotely due to the risk of explosion.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: No naked lights. No smoking.
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6.1. For non-emergency personnel
Emergency procedures: Evacuate unnecessary personnel.

6.1.2. For emergency responders
Protective equipment: Equip cleanup crew with proper protection.
Emergency procedures: Ventilate area.

6.2. Environmental precautions
Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Additional hazards when processed: Hazardous waste due to potential risk of explosion.
Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Take any precaution to avoid mixing with Combustibles. Do not breathe dust. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Eliminate all ignition sources if safe to do so.
Hygiene measures: Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures: Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.
Storage conditions: Keep only in the original container in a cool, well ventilated place away from: combustible materials, Heat sources, Ignition sources, incompatible materials. Keep container closed when not in use. Keep in fireproof place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Potassium Dichromate (7778-50-9) |  
|----------------------------------|----------------------------------|
| ACGIH ACGIH TWA (mg/m³)          | 0.05 mg/m³ as Cr                 |
| OSHA OSHA PEL (TWA) (mg/m³)      | 0.005 mg/m³ as Cr(VI)            |
| IDLH US IDLH (mg/m³)             | 15 mg/m³ as Cr(VI)               |
| NIOSH NIOSH REL (TWA) (mg/m³)    | 0.001 mg/m³ as Cr                |

8.2. Appropriate engineering controls
Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation. Material should be handled in a laboratory hood whenever possible.
8.3. Individual protection measures / Personal protective equipment

Personal protective equipment:

Hand protection:
Wear protective gloves.

Eye protection:
Chemical goggles or face shield

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Gas mask

Other information:
Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Solid
- Appearance: Crystalline powder.
- Color: Orange
- Odor: None.
- Odor threshold: No data available
- pH: 4.5% solution
- Melting point: 398 °C
- Freezing point: No data available
- Boiling point: 500 °C
- Flash point: No data available
- Relative evaporation rate (butyl acetate=1): No data available
- Flammability (solid, gas): Non flammable.
- Vapor pressure: No data available
- Relative vapor density at 20 °C: No data available
- Relative density: 2.676
- Molecular mass: 294.19 g/mol
- Solubility: Soluble in water.
- Log Pow: No data available
- Auto-ignition temperature: No data available
- Decomposition temperature: > 500 °C
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
- Explosion limits: No data available
- Explosive properties: No data available
- Oxidizing properties: May intensify fire; oxidizer.

9.2. Other information

No additional information available
Potassium Dichromate
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SECTION 10: Stability and reactivity

10.1 Reactivity
Thermal decomposition generates: Corrosive vapors.

10.2 Chemical stability
May intensify fire; oxidizer.

10.3 Possibility of hazardous reactions
Not established.

10.4 Conditions to avoid

10.5 Incompatible materials

10.6 Hazardous decomposition products
Contains hexavalent chromium.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure: Inhalation; Skin and eye contact

<table>
<thead>
<tr>
<th>Potassium Dichromate (7778-50-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
</tr>
<tr>
<td>ATE US (gases)</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
</tr>
<tr>
<td>Carcinogenicity</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
</tr>
<tr>
<td>Specific target organ toxicity – single exposure</td>
</tr>
<tr>
<td>Specific target organ toxicity – repeated exposure</td>
</tr>
<tr>
<td>Aspiration hazard</td>
</tr>
<tr>
<td>Potential Adverse human health effects and symptoms</td>
</tr>
<tr>
<td>Symptoms/effects after inhalation</td>
</tr>
<tr>
<td>Symptoms/effects after skin contact</td>
</tr>
<tr>
<td>Symptoms/effects after eye contact</td>
</tr>
<tr>
<td>Symptoms/effects after ingestion</td>
</tr>
</tbody>
</table>
SECTION 12: Ecological information

12.1. Toxicity
Ecology - water: Very toxic to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Potassium Dichromate (7778-50-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>12.3 mg/l 96 hr.</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
<td>1.4 mg/l 24 hr.</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Potassium Dichromate (7778-50-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Potassium Dichromate (7778-50-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Other information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Additional information: Hazardous waste due to potential risk of explosion.

Ecology - waste materials: Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Transport document description: UN3087 Oxidizing solid, toxic, n.o.s., 5.1, II

UN-No.(DOT): UN3087

Proper Shipping Name (DOT): Oxidizing solid, toxic, n.o.s.

Transport hazard class(es) (DOT): 5.1 - Class 5.1 - Oxidizer 49 CFR 173.128

Packing group (DOT): II - Medium Danger

Hazard labels (DOT): 5.1 - Oxidizer
6.1 - Poison inhalation hazard

Dangerous for the environment: Yes

Marine pollutant: Yes

DOT Packaging Non Bulk (49 CFR 173.xxx): 212

DOT Packaging Bulk (49 CFR 173.xxx): 242

DOT Symbols: G - Identifies PSN requiring a technical name
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DOT Special Provisions (49 CFR 172.102):
- 62 - Oxygen generators (see §171.8 of this subchapter) are not authorized for transportation under this entry.
- IB6 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2). Additional Requirement: Composite IBCs 11HZ2 and 21HZ2 may not be used when the hazardous materials being transported may become liquid during transport.
- IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.
- T3 - 2.65 178.274(d)(2) Normal............. 178.275(d)(2) TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx):
- 152

DOT Quantity Limitations:
- Passenger aircraft/rail (49 CFR 173.27):
  - 5 kg
- Cargo aircraft only (49 CFR 175.75):
  - 25 kg

DOT Vessel Stowage Location:
- (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Stowage Other:
- 56 - Stow “separated from” ammonium compounds
- 58 - Stow “separated from” cyanides
- 95 - Stow “separated from” foodstuffs
- 106 - Stow “separated from” powdered metal

Other information:
- No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

Potassium Dichromate (7778-50-9)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory
- Subject to reporting requirements of United States SARA Section 313
- RQ (Reportable quantity, section 304 of EPA’s List of Lists): 10 lb
- SARA Section 311/312 Hazard Classes:
  - Immediate (acute) health hazard
  - Delayed (chronic) health hazard
  - Reactive hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Potassium Dichromate
- CAS-No. 7778-50-9
- 100%

15.2. International regulations

CANADA

Potassium Dichromate (7778-50-9)
- Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations
No additional information available

National regulations
Potassium Dichromate
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15.3. US State regulations

<table>
<thead>
<tr>
<th>Potassium Dichromate (7778-50-9)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>Yes</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
<td>Yes</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>Yes</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>Yes</td>
</tr>
</tbody>
</table>

This product can expose you to Potassium Dichromate, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

<table>
<thead>
<tr>
<th>Revision date</th>
<th>01/31/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other information</td>
<td>None.</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H272</th>
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<td>H314</td>
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<td>May cause an allergic skin reaction</td>
</tr>
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<td>H330</td>
<td>Fatal if inhaled</td>
</tr>
<tr>
<td>H334</td>
<td>May cause an allergy or asthma symptoms or breathing difficulties if inhaled</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
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<td>H360</td>
<td>May damage fertility or the unborn child</td>
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<td>H400</td>
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<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

NFPA health hazard: 4 - Materials that, under emergency conditions, can be lethal.

NFPA fire hazard: 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity: 2 - Materials that readily undergo violent chemical change at elevated temperatures and pressures.

NFPA specific hazard: OX - Materials that posses oxidizing properties.
**Potassium Dichromate**

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according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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**Hazard Rating**

**Health**

: 4 Severe Hazard - Life-threatening, major or permanent damage may result from single or repeated overexposures

**Flammability**

: 0 Minimal Hazard - Materials that will not burn

**Physical**

: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

**Personal protection**

: F

  - Safety glasses, Gloves, Synthetic apron, Dust respirator

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**SDS US LabChem**

*Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.*