

## SAFETY DATA SHEET

Preparation Date: 3/12/2018

Revision Date: 3/12/2018

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** P1022  
**Product Name:** PARALDEHYDE, PRACTICAL

#### Other means of identification

**Synonyms:** 2,4,6-Trimethyl-s-trioxane  
 Paraacetaldehyde  
 Paracetaldehyde  
 Paraldehyd (German)  
 Paraldehyde (Italian)  
 Triacetaldehyde (French)  
 2,4,6-Trimethyl-1,3,5-trioxane  
 s-Trimethyltrioxymethylene  
 2,4,6-Trimetil-1,3,5-trioossano (Italian)

**CAS #:** 123-63-7  
**RTECS #** YK0525000  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** For use by qualified personnel for research and development or other authorized use only.

**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300

**Contact Person:** Martin LaBenz (West Coast)

**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2A
Flammable liquids	Category 3

#### Label elements

## Warning

### Hazard statements

Harmful if swallowed  
Causes serious eye irritation  
Flammable liquid and vapor



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep container tightly closed  
Ground/bond container and receiving equipment  
Use explosion-proof electrical/ventilating/lighting/.../equipment  
Use only non-sparking tools  
Take precautionary measures against static discharge  
Wear protective gloves  
Wear eye/face protection

### Precautionary Statements - Response

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam to extinguish.

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.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

### Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

### Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Paraldehyde	123-63-7	100

## 4. FIRST AID MEASURES

### First aid measures

#### General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call

1-800-222-1222.

- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention. If symptoms persist, call a physician.
- 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.

**Most important symptoms and effects, both acute and delayed**

- Symptoms**
- Causes serious eye irritation
  - Moderate to severe eye irritation
  - May cause skin irritation
  - Mild skin irritation
  - Abdominal discomfort, nausea, vomiting, cramping
  - Excessive sweating
  - May cause hypotension
  - Central nervous system effects
  - May cause drowsiness or dizziness
  - Ataxia
  - Fatigue
  - May cause personality and mood changes
  - Tremors
  - Nervousness
  - Irritability
  - May affect the liver
  - It may affect the kidneys
  - Decrease in urine volume
  - Dyspnea (Shortness of breath and difficulty breathing)
  - Rapid breathing
  - May cause muscle weakness

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Carbon dioxide (CO<sub>2</sub>). Dry chemical. Alcohol-resistant foam. Water spray.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon Monoxide, Carbon Dioxide.

**Specific hazards:** Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or

when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

### **Special Protective Actions for Firefighters**

#### **Specific Methods:**

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

#### **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

## **6. ACCIDENTAL RELEASE MEASURES**

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

#### **Personal Precautions:**

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

### **Methods and material for containment and cleaning up**

#### **Methods for containment**

Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

#### **Methods for cleaning up**

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

#### **Safe Handling Advice**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

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

#### **Technical Measures/Storage Conditions:**

Air sensitive. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Protect from light. Sensitive to light. Store in light-resistant containers. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**

- Oxidizing agents
- Acids
- Strong bases
- iodides
- Ammonia
- Amines

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**National occupational exposure limits**

**United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Paraldehyde	123-63-7	None	None	None	None

**Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Paraldehyde	123-63-7	None	None	None	None

**Australia and Mexico**

Components	CAS-No.	Australia	Mexico
Paraldehyde	123-63-7	None	None

**Appropriate engineering controls**

**Engineering measures to reduce exposure:**

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

**Individual protection measures, such as personal protective equipment**

**Personal Protective Equipment**

**Eye protection:** Goggles

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

**Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> Clear.	<b>Color:</b> Colorless.
<b>Odor:</b> Agreeable. Aromatic.	<b>Taste</b> Disagreeable. Burning.	<b>Formula:</b> C6H12O3
<b>Molecular/Formula weight:</b> 132.16	<b>Flammability:</b> Flammable	<b>Flashpoint (°C/°F):</b> 35.5 °C/96 °F 17 °C/62.6 °F
<b>Flash Point Tested according to:</b> Open cup Closed cup	<b>Autoignition Temperature (°C/°F):</b> 238°C/460.4 °F	<b>Lower Explosion Limit (%):</b> 1.3 %
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 12 °C/53.6 °F	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 124 °C/255.2 °F	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 0.9923-0.9943@ 20 °C	<b>pH:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> 3.37
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 4.5	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> log Kow = 0.67	<b>Viscosity:</b> No information available
<b>Miscibility:</b> Miscible with Ether Miscible with Chloroform	<b>Solubility:</b> Solubility in Water: Soluble in 8 parts water at 25 deg. C; soluble in 17 parts boiling water; soluble in 1 in 9 parts at 20 deg C; 1 in 10 parts at 30 deg C; 1 in 11.5 parts at 37 deg C.; 12g/100 g water at 13 deg C. Solubility in sodium chloride solution: 1 in 9.5 parts at 20 deg C, 1 in 11 parts at 30 deg C, & 1 in 12.5 parts at 37 deg C.	

## 10. STABILITY AND REACTIVITY

### Reactivity

Paraldehyde is incompatible with many plastics  
Acids convert Paraldehyde into Acetaldehyde, which is prone to oxidation

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Oxidizing agents  
Acids  
Strong bases  
iodides  
Ammonia  
Amines

**Hazardous decomposition products:** Carbon monoxide.

**Other Information**  
**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Skin. Inhalation.

### Acute Toxicity

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

Paraldehyde	
CAS-No.	123-63-7

**LD50/oral/rat** = 1530 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 2750 mg/kg  
**LD50/dermal/rabbit** = 14100 µL/kg Dermal LD50 Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 3304 mg/kg oral LD50 Rabbit

### **Product Information**

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = 1530 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = 2750 mg/kg

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**  
**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

**Symptoms**

- Skin Contact:** May cause skin irritation. It may cause mild skin irritation.
- Eye Contact:** Causes serious eye irritation. Causes moderate to severe eye irritation.
- Inhalation** May cause irritation of respiratory tract. Symptoms may include coughing and shortness of breath. It may cause pulmonary edema.
- Ingestion** Harmful if swallowed. Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. May cause abdominal pain. May cause anorexia. May affect respiration (tachypnea (rapid breathing)). May affect respiration (difficult or labored breathing resulting in shortness of breath). May affect respiration (respiratory depression). May cause metabolic acidosis. May affect respiration (acute pulmonary edema). It may affect the kidneys and liver. May affect the cardiovascular system (hypotension). It may affect the blood (leukocytosis). May cause excessive sweating. May cause muscle cramps. May cause mydriasis (dilated pupils). May affect behavior/central nervous system (confusion). May cause headache. May affect behavior/central nervous system (fatigue, weakness). May affect behavior/central nervous system (weakness, ataxia, somnolence, convulsions). May affect behavior/central nervous system (tremors, muscle twitching). May affect behavior/central nervous system (dizziness, drowsiness). It may affect behavior/central nervous system (irritability).
- Ingestion:** May cause restlessness, nervousness. May cause unpleasant (bad) odor of the breath. May cause cloudy urine, decreased urination
- Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** It may be habit forming. Chronic exposure may affect the liver and kidneys. Prolonged or repeated ingestion may affect the liver (Hepatitis, jaundice). Prolonged or repeated ingestion may affect behavior/central nervous system. Repeated exposure may cause headache, fatigue, muscular weakness, tremors, poor coordination, unsteady gait, tremors, nervousness, restlessness, irritability, changes in speech and personality, and/or poor memory, visual and acoustic hallucinations. Repeated exposure may cause bronchitis to develop with cough, phlegm, and /or shortness of breath. Prolonged or repeated ingestion may cause metabolic acidosis. Prolonged or repeated ingestion may cause stomach pain, nausea, vomiting. May cause unpleasant (bad) odor of the breath.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Paraldehyde	123-63-7	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*



IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

**Reproductive toxicity** No data is available  
**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** Liver. Kidneys.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.  
**Persistence and degradability:** No information available  
**Bioaccumulative potential:** No information available.  
**Mobility:** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**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

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Paraldehyde	123-63-7	None	None	None	U182

**14. TRANSPORT INFORMATION**

**DOT**

**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Subsidiary Class** No information available  
**Packing group:** III  
**Emergency Response Guide Number** 129  
**Marine Pollutant** No data available

**DOT RQ (lbs):** No information available  
**Special Provisions** B1, IB3, T2, TP1  
**Symbol(s):** No information available  
**Description:** UN1264, Paraldehyde, 3, III

**TDG (Canada)**  
**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No Information available  
**Description:** UN1264, Paraldehyde, 3, III

**ADR**  
**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Description:** UN1264, Paraldehyde, 3, III

**IMO / IMDG**  
**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No information available  
**EMS:** F-E  
**Description** UN1264, Paraldehyde, 3, III

**RID**  
**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** UN1264, Paraldehyde, 3, III

**ICAO**  
**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** UN1264, Paraldehyde, 3, III

**IATA**  
**UN-No:** UN1264  
**Proper Shipping Name:** Paraldehyde  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 3L  
**Special Provisions** No information available  
**Description:** UN1264, Paraldehyde, 3, III

## 15. REGULATORY INFORMATION

## International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Paraldehyde	123-63-7	Present	Present KE-34698	Present	Present (2)-483	Present	Present	Present 204-639-8

## U.S. Regulations

### Paraldehyde

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: sn 1455

New Jersey (EHS) List: SN 1455 500 lb TPQ

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

Pennsylvania RTK: Environmental hazard

Pennsylvania RTK - Environmental Hazard List Present

New York Release Reporting - List of Hazardous Substances:

1000 lb RQ

100 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed

FDA - 21 CFR - Total Food Additives 177.2410

### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

#### 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)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Paraldehyde	123-63-7	Not Listed	Not Listed	Not Listed	Not Listed

## CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Paraldehyde	123-63-7	1000 lb final RQ 454 kg final RQ	None	None	None	1.0 % de minimis concentration

## U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Paraldehyde	123-63-7	Not Applicable	Not Applicable

## Canada

### WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

**WHMIS 1988 Hazard Class**

B2 Flammable liquid

**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.

Components	WHMIS Ingredient Disclosure List -
Paraldehyde	0.1 %

**Inventory**

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Paraldehyde	123-63-7	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Paraldehyde	123-63-7	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Paraldehyde	123-63-7	Not listed

**EU Classification****EU GHS - SV - CLP 1272/2008**

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Paraldehyde	123-63-7	Flammable liquids - Flam. Liq. 3: H226 Flammable liquid and vapour.605-004-00-1

**EU - CLP (1272/2008)****R-phras(e)s**

R10 - Flammable.

**S -phras(e)s**

S 2 - Keep out of the reach of children.

S29 - Do not empty into drains.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Paraldehyde	123-63-7	R10	No information	S: (2)-29

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

**Indication of danger:**

Flammable

**16. OTHER INFORMATION**

**Preparation Date:** 3/12/2018  
**Revision Date:** 3/12/2018  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product

**Product code:** P1022

**Product name:** PARALDEHYDE,  
PRACTICAL

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is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS 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 SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**