

## SAFETY DATA SHEET

Preparation Date: 11/22/2016

Revision Date: 11/22/2016

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** DI139  
**Product Name:** 1,2-DIMETHOXYETHANE, REAGENT

#### Other means of identification

**Synonyms:** Ethylene Glycol Dimethyl Ether  
 Glycol Dimethyl Ether  
 Monoethylene glycol dimethyl ether  
 Dimethoxyethane  
 2,5-Dioxahexane  
 Dimethylcellosolve  
 Ethylene dimethyl ether  
 alpha, beta-Dimethoxyethane

**CAS #:** 110-71-4  
**RTECS #** KI1451000  
**CI#:** Not available

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

**Recommended use:** Solvent.  
**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
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Reproductive toxicity	Category 1B
Flammable liquids	Category 2

#### Label elements

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## Danger

### Hazard statements

Harmful if swallowed  
Harmful in contact with skin  
Causes skin irritation  
Causes eye irritation  
May damage fertility or the unborn child  
Highly flammable liquid and vapor



### Hazards not otherwise classified (HNOC)

Not Applicable

### Other hazards

Not available

### Precautionary Statements - Prevention

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
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  
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/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Avoid breathing dust/fume/gas/mist/vapors/spray

### 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.  
Call a POISON CENTER or doctor/physician if you feel unwell  
If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

### Precautionary Statements - Storage

Store locked up  
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 %
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1,2-Dimethoxyethane	110-71-4	100
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#### 4. FIRST AID MEASURES

##### First aid measures

<b>General Advice:</b>	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.
<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
<b>Eye Contact:</b>	Flush eyes with water for 15 minutes. Get medical attention.
<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

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

<b>Symptoms</b>	Causes skin irritation. Central nervous system effects. Central nervous system depression. Somnolence. Drowsiness. Fainting. Ataxia. Dyspnea (Shortness of breath and difficulty breathing). Causes eye irritation. Mild eye irritation. May cause nausea and vomiting.
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##### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician:</b>	Treat symptomatically.
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##### 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

<b>Suitable Extinguishing Media:</b>	Carbon dioxide (CO2). Dry chemical. Alcohol-resistant foam. Water spray.
<b>Unsuitable Extinguishing Media:</b>	Do not use a solid (straight) water stream as it may scatter and spread fire.

##### Specific hazards arising from the chemical

<b>Hazardous Combustion Products:</b>	Carbon Dioxide, Carbon Monoxide.
<b>Specific hazards:</b>	Highly flammable May be ignited by heat, sparks or flames 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) Container explosion may occur under fire conditions or when heated 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. Do not touch damaged containers or spilled material unless wearing appropriate protective 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 product from entering drains. Do not let this chemical enter the environment. 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**

Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

#### **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. When using do not smoke. Do not breathe vapors or spray mist. Do not ingest. Handle in accordance with good industrial hygiene and safety practice.

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

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

Keep containers tightly closed in a cool, well-ventilated place. Keep refrigerated. Keep at temperatures between 2 and 8 °C. Store in a segregated and approved area. Store away from incompatible materials.

#### **Incompatible Materials:**

Oxidizing agents

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WHEEL
1,2-Dimethoxyethane	110-71-4	None	None	None	None

##### Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
1,2-Dimethoxyethane	110-71-4	None	None	5 ppm TWA 18 mg/m <sup>3</sup> TWA	None

##### Australia and Mexico

Components	CAS-No.	Australia	Mexico
1,2-Dimethoxyethane	110-71-4	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

<b>Eye protection:</b>	Goggles
<b>Skin and body protection:</b>	Chemical resistant apron. Long sleeved clothing. Gloves.
<b>Respiratory protection:</b>	Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
<b>Hygiene measures:</b>	Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available.	<b>Color:</b> Colorless.
<b>Odor:</b> Sharp. Ether-like.	<b>Taste</b> No information available.	<b>Formula:</b> C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>
<b>Molecular/Formula weight:</b> 90.12 g/mole	<b>Flammability:</b> Highly flammable	<b>Flashpoint (°C/°F):</b> -3 to -2 °C/26.6-29 °F
<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> 202°C/395 °F	<b>Lower Explosion Limit (%):</b> No information available

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**Upper Explosion Limit (%):**  
No information available

**Boiling point/range(°C/°F):**  
82-83 °C/179.6-181.4 °F

**Specific gravity:**  
0.86285

**Evaporation rate:**  
No information available

**Odor threshold (ppm):**  
No information available

**Miscibility:**  
Miscible with water  
Miscible with alcohol

**Melting point/range(°C/°F):**  
-58 °C/-72.4 °F

**Bulk density:**  
No information available

**pH:**  
No information available

**Vapor density:**  
3.1

**Partition coefficient  
(n-octanol/water):**  
log Kow = -0.2

**Solubility:**  
Soluble in Chloroform  
Soluble in Ether  
Soluble in Acetone  
Solubility in Water: 1000 g/l @ 25 °C  
Soluble in Benzene

**Decomposition temperature(°C/°F):**  
No information available

**Density (g/cm3):**  
No information available

**Vapor pressure @ 20°C (kPa):**  
6.4 @ 20 °C

**VOC content (g/L):**  
No information available

**Viscosity:**  
No information available

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactive with oxidizing agents

### 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

**Hazardous decomposition products:** carbon oxides.

### 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

### Component Information

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1,2-Dimethoxyethane	
CAS-No.	110-71-4

**LD50/oral/rat** = 775 mg/kg  
**LD50/oral/mouse** = 3200 mg/kg  
**LD50/dermal/rabbit** = 2000 mg/kg (RTECS)  
 1000-2000 mg/kg (LOLI)  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 20-63 mg/l 6hr.  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

## Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = 775 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = 3200 mg/kg

**LD50/dermal/rabbit**  
**VALUE-Acute Tox Dermal** = 2000 mg/kg

**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:** Causes skin irritation. It may be absorbed through the skin. Harmful if absorbed through skin.

**Eye Contact:** Causes eye irritation. Mild eye irritation.

**Inhalation** May cause respiratory tract irritation. May cause dyspnea (difficulty breathing or shortness of breath). May affect behavior and cause irritability. Inhalation of vapors may cause drowsiness and dizziness. It may affect behavior/central nervous system (ataxia).

**Ingestion** Harmful if swallowed. Ingestion may cause nausea, vomiting. May cause central nervous system effects (affect behavior). May cause fainting.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** No information available.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not classifiable as to its carcinogenicity to humans.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
1,2-Dimethoxyethane	110-71-4	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)  
Group 3 - Not classifiable as to its carcinogenicity to humans  
NTP (National Toxicology Program)

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

**Reproductive toxicity** May damage fertility or the unborn child

**Reproductive Effects:** May cause adverse reproductive effects  
May impair fertility

**Developmental Effects:** May cause adverse developmental effects

**Teratogenic Effects:** No information available

#### **Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

## **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
1,2-Dimethoxyethane	110-71-4	None	None	None	None

## **14. TRANSPORT INFORMATION**

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**DOT**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Subsidiary Class:** No information available  
**Packing group:** II  
**Emergency Response Guide Number:** 127  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** 1000  
**Special Provisions:** IB2, T4, TP1  
**Symbol(s):** [DOT]: (R4) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 1000 pounds (454 Kilograms).  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

**TDG (Canada)**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant:** No Information available  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

**ADR**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

**IMO / IMDG**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant:** No information available  
**EMS:** F-E  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

**RID**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Subsidiary Risk:** 3  
**Packing Group:** II  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

**ICAO**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

**IATA**

**UN-No:** UN2252  
**Proper Shipping Name:** 1,2-Dimethoxyethane  
**Hazard Class:** 3  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 3L  
**Special Provisions** No information available  
**Description:** UN2252, 1,2-Dimethoxyethane, 3, II

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
1,2-Dimethoxyethane	110-71-4	Present S	Present KE-13665	Present	Present (7)-1321 (2)-421	Present	Present	Present 203-794-9

**U.S. Regulations***1,2-Dimethoxyethane*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 3279  
 3138 (as glycol ethers)  
**New Jersey (EHS) List:** Present (as glycol ethers) SN3138 500 lb.TPQ  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present (as Glycol ethers)  
**Pennsylvania RTK:** Present  
**Pennsylvania RTK - Environmental Hazard List** Present (as glycol ethers)  
**Louisiana Reportable Quantity List for Pollutants:** Present (as Glycol ethers)100 lb. RQ

**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:
1,2-Dimethoxyethane	110-71-4	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
1,2-Dimethoxyethane	110-71-4	None	None	None	Glycol Ethers	1%

**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
1,2-Dimethoxyethane	110-71-4	Not Applicable	Not Applicable

**Canada****Product code:** DI139

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**WHMIS 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.

**Inventory**

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
1,2-Dimethoxyethane	110-71-4	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
1,2-Dimethoxyethane	110-71-4	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
1,2-Dimethoxyethane	110-71-4	Not listed

**EU Classification**

**R-phrases(s)**

R11 - Highly flammable.  
R19 - May form explosive peroxides.  
R20 - Harmful by inhalation.  
R60 - May impair fertility.  
R61 - May cause harm to the unborn child.

**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).

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
1,2-Dimethoxyethane	110-71-4	F; R11 R19 Xn; R20 Repr.Cat.2; R60 Repr.Cat.2; R61	No information	S53 S45

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

**Indication of danger:**

Xn - Harmful.  
Flammable

Xn



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**16. OTHER INFORMATION**

Preparation Date: 11/22/2016  
Revision Date: 11/22/2016  
Prepared by: Sonia Owen

Product code: DI139

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**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 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**