

## SAFETY DATA SHEET

Preparation Date: 2/4/2019

Revision date 2/4/2019

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** D1090  
**Product Name:** N-DIBUTYLAMINE

#### Other means of identification

**Synonyms:** 1-Butanamine, N-butyl-  
 N-Butyl-1-butanamine  
 n-Dibutylamine  
**CAS #:** 111-92-2  
**RTECS #** HR7780000  
**CI#:** Not available

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

**Recommended use:** Corrosion inhibitor. Rubber accelerators.  
**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:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous by 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 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Gases)	Category 4
Acute toxicity - Inhalation (Vapors)	Category 2
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Flammable liquids	Category 3

#### Label elements

**Danger**

**Hazard statements**

Toxic if swallowed or in contact with skin  
Fatal if inhaled  
Causes severe skin burns and eye damage  
Flammable liquid and vapor



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Harmful to aquatic life with long lasting effects

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Use only outdoors or in a well-ventilated area  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wear respiratory protection  
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  
Keep cool

**Precautionary Statements - Response**

*Immediately call a POISON CENTER or doctor/physician*  
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.  
Immediately call a POISON CENTER or doctor/physician.  
Call a POISON CENTER or doctor/physician if you feel unwell  
Wash contaminated clothing before reuse  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth  
Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up  
Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS No	Weight-%
n-Dibutylamine	111-92-2	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. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
- Skin Contact:** Toxic in contact with skin. Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Continue flushing with plenty of water for at least 15 minutes. Immediate medical attention is required.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
- Ingestion:** Toxic if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

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

- Symptoms**
- Severe skin and eye irritation or burns
  - Irritating to respiratory system
  - Lacrimation
  - Causes conjunctivitis
  - May cause nausea
  - Dyspnea (Shortness of breath and difficulty breathing)
  - May cause pulmonary edema

##### 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. Water spray mist or foam.
- 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. Nitrogen oxides (NOx). Ammonia.

### **Specific hazards**

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. Dike fire-control water for later disposal; do not scatter the material.

### **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. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

### 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). 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. Keep away from sources of ignition - no smoking. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

#### Technical Measures/Storage Conditions:

Hygroscopic. Keep container tightly closed. Keep in a well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

#### Incompatible Materials:

Strong acids  
Oxidizing agents  
halogenated hydrocarbons

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
n-Dibutylamine	111-92-2	None	None	None	5 ppm Ceiling

##### Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
n-Dibutylamine	111-92-2	None	None	None	None

##### Australia and Mexico

Component	CAS No	Australia	Mexico
n-Dibutylamine	111-92-2	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 or Face-shield.

**Skin and body protection:** Long sleeved clothing  
Chemical resistant apron  
Gloves  
If working with large quantities:  
Chemical resistant protective suit  
Boots

**Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** 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> Ammoniacal.	<b>Taste</b> No information available.	<b>Formula</b> C8H19N
<b>Molecular/Formula weight (g/mole):</b> 129.25	<b>Flammability (solid, gas)</b> Flammable	<b>Flashpoint (°C/°F):</b> 51.6-57 °C/124.88-134.6 °F
<b>Flash Point Tested according to:</b> Open cup	<b>Autoignition Temperature (°C/°F):</b> 255 °C/491 °F	<b>Lower Explosion Limit (%):</b> 1.1%
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available
<b>Boiling point/range(°C/°F):</b> 159-160 °C/318.2-320 °F	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 0.7577-0.7601	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> 0.22 @ 20 deg. C 0.345 @ 25 deg. C
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 4.46	<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 = 2.83	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Soluble in Alcohol Very soluble in Ether Very soluble in Ethanol Soluble in Acetone Slightly soluble in water Solubility in Water: 3.5 g/l @ 25 deg. C	

## 10. STABILITY AND REACTIVITY

**Reactivity**  
No information available

### Chemical stability

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

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

**Conditions to avoid:** Heat. Ignition sources. Exposure to moisture. Exposure to moist air. Incompatible materials.

**Incompatible Materials:** Strong acids

Oxidizing agents  
halogenated hydrocarbons

**Hazardous decomposition products:**

Carbon monoxide. Carbon dioxide. Nitrogen oxides (NOx). Ammonia.

**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:**

Skin. Ingestion. Inhalation.

**Acute Toxicity**

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

**Component Information**

n-Dibutylamine	
CAS No	111-92-2

**LD50/oral/rat** = 189 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 290 mg/kg  
**LD50/dermal/rabbit** = 768 mg/kg Dermal LD50Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 1.15 mg/L Inhalation LC50 Rat 4 h  
2 mg/L Inhalation LC50 Rat 1 h  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

**Product Information**

**LD50/oral/rat** =  
**Value - Acute Tox** = 189 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = 290 mg/kg

**LD50/dermal/rabbit**  
**Value - Acute Tox** = 768 mg/kg

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

**LC50/inhalation/rat**  
**VALUE-Vapor** = 1.15 mg/l (4-hr)  
**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:** Toxic in contact with skin. Corrosive. Causes severe irritation and burns.

**Eye Contact:** Corrosive. Causes severe irritation and burns.

**Inhalation** Fatal if inhaled. Irritating to respiratory system. Can cause lung irritation and coughing. Can cause dyspnea (shortness of breath and difficulty breathing). It may cause pulmonary edema. Exposure to vapor or mist causes eye irritation. Causes lacrimation. Causes conjunctivitis. May cause nausea.

**Ingestion** Toxic if swallowed.

**Aspiration hazard** No information available.

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

**Chronic Toxicity** Repeated exposure may cause bronchitis to develop with cough, phlegm, and /or shortness of breath.

**Sensitization:** No information available.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
n-Dibutylamine	111-92-2	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:** Lungs.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.



*n*-Dibutylamine - 111-92-2

**Algae/aquatic plants**

EC50: =1.16mg/L (96h, *Desmodesmus subspicatus*) EC50: =16.4mg/L (72h, *Desmodesmus subspicatus*) EC50: =19mg/L (96h, *Pseudokirchneriella subcapitata*)

**Fish**

LC50: =5.5mg/L (96h, *Oncorhynchus mykiss*)

**Crustacea**

EC50: =66mg/L (48h, *Daphnia magna*)

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility in soil** No information available

**Other adverse effects** 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

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
n-Dibutylamine	111-92-2	None	None	None	None

### 14. TRANSPORT INFORMATION

**DOT**

**UN-No:** UN2248  
**Proper Shipping Name:** Di-n-butylamine  
**Hazard Class** 8  
**Subsidiary Class** 3  
**Packing group:** II  
**Emergency Response Guide Number** 132  
**Marine Pollutant** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions** IB2, T7, TP2  
**Symbol(s):** No information available  
**Description:** UN2248, Di-n-butylamine, 8 (3), II

**TDG (Canada)**

**UN-No:** UN2248  
**Proper Shipping Name:** Di-n-butylamine  
**Hazard Class** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No Information available  
**Description:** UN2248, Di-n-butylamine, 8 (3), II

**ADR**

**UN Number** UN2248  
**Proper Shipping Name:** Di-n-butylamine

**Transport hazard class(es)** 8  
**Packing group** II  
**Subsidiary Risk:** No information available  
**Description:** UN2248, Di-n-butylamine, 8 (3), II

**IMDG**

**UN-No:** UN2248  
**Proper Shipping Name:** Di-n-butylamine  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Marine Pollutant** No information available  
**EMS:** F-E  
**Description** UN2248, Di-n-butylamine, 8 (3), II

**RID**

**UN Number** UN2248  
**Proper Shipping Name:** Di-n-butylamine  
**Transport hazard class(es)** 8  
**Subsidiary Risk:** No information available  
**Packing group** II  
**Description:** UN2248, Di-n-butylamine, 8 (3), II

**ICAO (air)**

**UN-No:** UN2248  
**Proper Shipping Name:** Di-n-butylamine  
**Hazard Class** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**Description:** UN2248, Di-n-butylamine, 8 (3), II

**IATA**

**UN Number** UN2248  
**Proper Shipping Name:** Di-n-butylamine  
**Transport hazard class(es)** 8  
**Subsidiary Risk:** No information available  
**Packing group** II  
**Precautionary Statements - Response** 8F  
**Special Provisions** No information available  
**Description:** UN2248, Di-n-butylamine, 8 (3), II

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
<i>n-Dibutylamine</i>	111-92-2	PresentACTIVE	Present KE-04223	Present	Present (2)-137	Present	Present	Present 203-921-8

**U.S. Regulations**

*n-Dibutylamine*

Massachusetts RTK: Present  
 New Jersey RTK Hazardous Substance List: 0632  
 Pennsylvania RTK: Present

**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)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
n-Dibutylamine	111-92-2	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Component	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
n-Dibutylamine	111-92-2	None	None	None	None	None

**U.S. TSCA**

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
n-Dibutylamine	111-92-2	Not Applicable	Not Applicable

**Canada****WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

Component  
n-Dibutylamine  
111-92-2 ( 100 )

WHMIS 2015 Hazard Classification  
Flammable liquids - Category 3 Flammable liquid and vapor(H226); Acute toxicity - oral - Category 3 Toxic if swallowed(H301); Acute toxicity - dermal - Category 3 Toxic in contact with skin(H311); Skin corrosion/irritation - Category 1 - Causes severe skin burns and eye damage(H314); Serious eye damage/eye irritation - Category 1 - Causes serious eye damage(H318); Health hazards not otherwise classified (corrosion) - Category 1 Causes severe damage to respiratory tract

**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

**DSL/NDL**

Component	CAS No	Canada (DSL)	Canada (NDL)
n-Dibutylamine	111-92-2	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
n-Dibutylamine	111-92-2	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
n-Dibutylamine	111-92-2	Not listed

**EU Classification**

Product code: D1090

Product name: N-DIBUTYLAMINE

Page

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
n-Dibutylamine	111-92-2	Flammable liquids - Flam. Liq. 3: H226 Flammable liquid and vapour.; Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Acute toxicity - Dermal - Acute Tox. 4: H312 Harmful in contact with skin. (Minimum classification); Acute toxicity - Inhalation - Acute Tox. 4: H332 Harmful if inhaled. (Minimum classification)612-049-00-0

EU - CLP (1272/2008)

**R-phrase(s)**

R10 - Flammable

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

**S -phrase(s)**

S 2 - Keep out of the reach of children.

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
n-Dibutylamine	111-92-2	R10 Xn; R20/21/22	No information	S2

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

**Indication of danger:**

Xn - Harmful

Flammable

**16. OTHER INFORMATION**

Preparation Date: 2/4/2019  
Revision date 2/4/2019  
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 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**