SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier

Product code: M1254
Product Name: N,N-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE

Other means of identification

Synonyms:
- 2-Propenamide, N,N'-methylenebis-
- Methylenedisacrylamide
- Methylenediacrylamide
- N,N'-Methylenebis(2-propenamide)
- N,N'-Methylenebis(acrylamide)
- N,N'-Methylenebisacrylamide
- N,N'-Methylenediacrylamide
- N,N'-Methylenebis-2-propenamide
- Acrylamide, N,N'-methylenebis-
- N,N'-Methylene-bis-acrylamide
- Bisacrylamide
- N,N'-Diacryloylmethylene diamine
- N,N'-Methylenebis-2-propenamide
- BACR
- BAC
- Methyleneacrylamide, N,N',bis

CAS #: 110-26-9
RTECS #: AS3678000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
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)
Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Acute toxicity - Oral Category 4
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2B
Specific target organ toxicity (single exposure) Category 3
Combustible dust

Label elements

Warning

Hazard statements
Harmful if swallowed
Causes skin irritation
Causes eye irritation
May cause respiratory irritation
May form combustible dust concentrations in air

Hazards not otherwise classified (HNOC)
Not Applicable

Other hazards
Not available

Precautionary Statements - Prevention
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container closed and grounded
Prevent dust accumulations to minimize explosion hazard
Do not eat, drink or smoke when using this product
Wear protective gloves
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
Specific treatment (see .? on this label)
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: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
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 container tightly closed
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Product code: M1254
Product name: N,N-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>110-26-9</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

### 4. FIRST AID MEASURES

**First aid measures**

**General Advice:** Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126).

**Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:** Flush eye with water for 15 minutes. Get medical attention if irritation occurs. 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** Harmful if swallowed. Causes eye irritation. Causes skin irritation. May cause respiratory irritation.

**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:** Dry chemical. Carbon dioxide (CO2). Water spray. Foam.

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:** Carbon oxides. Nitrogen oxides

**Specific hazards:** May be combustible at high temperatures. May form explosive mixtures with air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard

**Special Protective Actions for Firefighters**

**Specific Methods:** No information available.
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. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Evacuate personnel to safe areas. Avoid breathing dust. Avoid dust formation. Remove all sources of ignition. All equipment used when handling the product must be grounded. Avoid dispersal of dust in the air.

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. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Use appropriate tools to put the spilled solid in a suitable waste disposal container. 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. All equipment used when handling the product must be grounded. Avoid dust formation. Remove all sources of ignition. Keep away from incompatible materials.

Safe Handling Advice Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Avoid dust formation. Do not breathe vapours/dust. Do not ingest. Do not smoke. During processing, dust may form explosive mixture in air. Keep away from heat and sources of ignition. Use only in well-ventilated areas. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide 110-26-9</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Product code: M1254

Product name: N,N- METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
Appropriate engineering controls

Engineering measures to reduce exposure:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

<table>
<thead>
<tr>
<th>Protection Type</th>
<th>Canada</th>
<th>Australia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye protection:</td>
<td>Safety glasses with side-shields</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin and body protection:</td>
<td>Chemical resistant apron. Long sleeved clothing. Gloves.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory protection:</td>
<td>Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygiene measures:</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

Product code: M1254
Product name: N,N'-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Odor: Odorless.</td>
<td>Taste</td>
<td>No information available</td>
</tr>
<tr>
<td>Formula: C7H10N2O2</td>
<td>Flammability: May form combustible (explosive) dust concentrations in air. May be combustible at high temperatures.</td>
<td></td>
</tr>
<tr>
<td>Flashpoint (°C/°F): No information available.</td>
<td>Flash Point Tested according to: Not available</td>
<td></td>
</tr>
<tr>
<td>Lower Explosion Limit (%): No information available</td>
<td>Upper Explosion Limit (%): No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point/range(°C/°F): 300°C/ 572°F</td>
<td>Boiling point/range(°C/°F): No information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature(°C/°F): No information available</td>
<td>Density (g/cm³): No information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure @ 20°C (kPa): No information available</td>
<td>Evaporation rate: No information available</td>
<td></td>
</tr>
<tr>
<td>VOC content (g/L): No information available</td>
<td>Odor threshold (ppm): No information available</td>
<td></td>
</tr>
<tr>
<td>Viscosity: No information available</td>
<td>Miscibility: No information available</td>
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</tr>
<tr>
<td>Molecular/Formula weight: 154.17</td>
<td>Flash point (°C): No data available</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temperature (°C/°F): No information available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH: No information available</td>
<td>Specific gravity: 1.235</td>
<td></td>
</tr>
<tr>
<td>Vapor density: 5.31</td>
<td>Partition coefficient (n-octanol/water): No information available</td>
<td></td>
</tr>
<tr>
<td>Solubility: Solubility in Water: 3.0 g/l @ 20°C</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
React with oxidizing agents, reducing agents, and acids
React with bases
React with iron, iron salts, copper, aluminum, brass and free radicals initiators

Chemical stability
Stability: Stable under recommended storage conditions.
Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid:

Incompatible Materials:

Hazardous decomposition products: Carbon oxides. Nitrogen oxides (NOx).

Other Information
Corrosivity: No information available

Special Remarks on Corrosivity: No information available

Product code: M1254
Product name: N,N-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Inhalation. Ingestion.

Acute Toxicity

Component Information

\[ N,N'-\text{Methylenebisacrylamide} - 110-26-9 \]

\[
\begin{align*}
\text{LD50/oral/rat} &= 390 \text{ mg/kg} \quad \text{Oral LD50 Rat} \\
\text{LD50/oral/mouse} &= 380 \text{ mg/kg} \\
\text{LD50/dermal/rat} &= \text{No information available} \\
\text{LD50/dermal/rabbit} &= \text{No information available} \\
\text{LC50/inhalation/rat} &= > 41 \text{ ppm} 6 \text{ h} \\
\text{LC50/inhalation/mouse} &= > 41 \text{ ppm} 6 \text{ h} \\
\text{Other LD50 or LC50 information} &= \text{No information available}
\end{align*}
\]

Product Information

\[
\begin{align*}
\text{LD50/oral/rat} &= \\
\text{VALUE - Acute Tox Oral} &= 390\text{mg/kg} \\
\text{LD50/oral/mouse} &= \\
\text{Value - Acute Tox Oral} &= 380\text{mg/kg} \\
\text{LD50/dermal/rabbit} &= \\
\text{VALUE-Acute Tox Dermal} &= \text{No information available} \\
\text{LD50/dermal/rat} &= \\
\text{VALUE -Acute Tox Dermal} &= \text{No information available}
\end{align*}
\]

\[
\begin{align*}
\text{LC50/inhalation/rat} &= \\
\text{VALUE-Vapor} &= \text{No information available} \\
\text{VALUE-Gas} &= \text{No information available} \\
\text{VALUE-Dust/Mist} &= > 41 \text{ ppm} (6-\text{hr}) \\
\text{LC50/Inhalation/mouse} &= \\
\text{VALUE-Vapor} &= \text{No information available} \\
\text{VALUE - Gas} &= \text{No information available} \\
\text{VALUE - Dust/Mist} &= > 41 \text{ ppm} 6 \text{ h}
\end{align*}
\]

Symptoms

Skin Contact: Causes skin irritation. blistering. Causes desquamation of the palms and soles combined with blueness of the hands and feet.

Eye Contact: Causes eye irritation.

Inhalation May cause irritation of the respiratory tract and mucous membranes irritation. May affect the central, periperal, and autonomic nervous systems (behavior and sense organs).

Product code: M1254 Product name: \( N,N' \)-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
Ingestion
Harmful if swallowed. May cause irritation of the digestive (gastrointestinal) tract. May affect the central, peripheral, and autonomic nervous systems (behavior and sense organs) and blood.

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:
May affect genetic material based on animal test data
Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects:
Not considered carcinogenic

<table>
<thead>
<tr>
<th>Components</th>
<th>IARC</th>
<th>ACGIH - Carcinogens</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
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</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Reproductive toxicity
No data is available

Reproductive Effects:
May cause adverse reproductive effects based on animal data

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:
Nervous system. Central nervous system.

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

Product code: M1254
Product name: N,N'-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
13. DISPOSAL CONSIDERATIONS

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

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT
- UN-No: Not Regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Subsidiary Risk: No information available
- Packing Group: None
- ERG No: No information available
- Marine Pollutant: No data available
- DOT RQ (lbs): No information available

TDG (Canada)
- UN-No: Not Regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Subsidiary Risk: No information available
- Packing Group: No information available
- Description: No information available

ADR
- UN-No: Not Regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Packing Group: No information available
- Subsidiary Risk: No information available
- Classification Code: No information available
- Description: No information available
- CEFIC Tremcard No: No information available

IMO / IMDG
- UN-No: Not Regulated
- Proper Shipping Name: No information available
- Hazard Class: No information available
- Subsidiary Risk: No information available
- Packing Group: No information available
- Description: No information available
- IMDG Page: No information available
- Marine Pollutant: No information available
- MFAG: No information available
- Maximum Quantity: No information available

Product code: M1254
Product name: N,N'-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
14. TRANSPORT INFORMATION

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL</th>
<th>Philippines (PICCS)</th>
<th>Japan ENCS (2)</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>Present</td>
<td>Present KE-23800</td>
<td>Present</td>
<td>Present (2)-1020</td>
<td>Present</td>
<td>Present</td>
<td>Present 203-750-9</td>
</tr>
</tbody>
</table>

U.S. Regulations


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)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>Not Listed</td>
<td>Not Listed</td>
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</tbody>
</table>

CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
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</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
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<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>None</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N'-Methylenebisacrylamide</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Product code: M1254

Product name: N,N'-METHYLENEBISACRYLAMIDE, ELECTROPHORESIS GRADE
U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N’-Methylenebisacrylamide</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

Canada

WHMIS hazard class:
Non-controlled

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

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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</thead>
<tbody>
<tr>
<td>N,N’-Methylenebisacrylamide</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

EU Classification

R-phrase(s)
R22 - Harmful if swallowed.
R36/38 - Irritating to eyes and skin.

S-phrase(s)
none
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N’-Methylenebisacrylamide</td>
<td></td>
<td>No information</td>
<td></td>
</tr>
</tbody>
</table>

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

Indication of danger:
None.
16. OTHER INFORMATION

Preparation Date: 08/31/2015
Revision Date: 08/31/2015
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