SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Physical state : Liquid
Substance name : 3-AMINOPROPYLTRIMETHOXYSILANE
Product code : SIA0611.0
Formula : C6H17NO3Si
Synonyms : 3-(TRIMETHOXYSILYL)PROPYLAMINE
Chemical family : ORGANOMETHOXYSILANE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Chemical intermediate
For research and industrial use only

1.3. Details of the supplier of the safety data sheet

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)
Flam. Liq. 4 H227
Skin Irrit. 2 H315
Eye Dam. 1 H318
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) :
H227 - Combustible liquid
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) :
P261 - Avoid breathing vapors
P264 - Wash hands thoroughly after handling
P301+P330+P331 - If skin contact occurs: Get medical advice/attention
P303+P361+P353+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P302+P352+P335 - If on skin: Wash with plenty of water
P332+P313 - If skin irritation occurs: Get medical advice/attention
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P210 - Keep away from heat, open flames, sparks. - No smoking
P271 - Use only outdoors or in a well-ventilated area
P362 - Take off contaminated clothing and wash before reuse
P370+P378 - In case of fire: Use water spray, foam, carbon dioxide, dry chemical to extinguish
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P403+P235 - Keep in a cool place
P405 - Store locked up
2.3. Other hazards
No additional information available

2.4. Unknown acute toxicity (GHS-US)
No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

<table>
<thead>
<tr>
<th>Substance type</th>
<th>Name</th>
<th>CAS No</th>
<th>EC no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mono-constituent</td>
<td>3-AMINOPROPYLTRIMETHOXYSILANE</td>
<td>13822-56-5</td>
<td>237-511-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-Aminopropyltrimethoxysilane</td>
<td>(CAS No) 13822-56-5</td>
<td>&gt; 95</td>
<td>Flam. Liq. 4, H227, Skin Irrit. 2, H315, Eye Dam. 1, H318, STOT SE 3, H335</td>
</tr>
<tr>
<td>Methanol</td>
<td>(CAS No) 67-56-1</td>
<td></td>
<td>Flam. Liq. 2, H225, Acute Tox. 3 (Oral), H301, Acute Tox. 3 (Dermal), H311, Acute Tox. 3 (Inhalation: vapour), H331, Skin Irrit. 2, H315, Eye Dam. 1, H318, STOT SE 1, H370, STOT SE 3, H336</td>
</tr>
</tbody>
</table>

3.2. Mixture
Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general
Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact
Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact
Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion
Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation
May cause irritation or asthma-like symptoms. Overexposure may cause: Coughing. Headache. Nausea.

Symptoms/injuries after skin contact
Causes skin irritation.

Symptoms/injuries after eye contact
Causes serious eye damage.

Symptoms/injuries after ingestion
May be harmful if swallowed.

Chronic symptoms
On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

4.3. Indication of any immediate medical attention and special treatment needed

NOTE TO PHYSICIAN: This product reacts with water in the acid contents of the stomach to form methanol. The combination of visual disturbances, metabolic acidosis and formic acid in urine is evidence of methanol poisoning. The therapeutic intravenous administration of ethanol (10 mls/hour) allows methanol to be preferentially oxidized and reduces production of methanol metabolites. Acidosis must be treated with intravenous administration of sodium bicarbonate and methanol elimination may be increased by hemodialysis, as indicated. Treatment should be based on blood methanol levels and acid-base balance.

SECTION 5: Firefighting measures

5.1. Extinguishing media

5.2. Special hazards arising from the substance or mixture

Fire hazard
Combustible liquid. Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.
5.3. Advice for firefighters

Firefighting instructions: Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire.
Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Remove ignition sources. Use special care to avoid static electric charges.
6.1.1. For non-emergency personnel

Emergency procedures: Evacuate unnecessary personnel.
6.1.2. For emergency responders

Protective equipment: Equip cleanup crew with proper protection.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal. Use only non-sparking tools.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Avoid all eye and skin contact and do not breathe vapor and mist. Provide good ventilation in process area to prevent accumulation of vapors. Containers must be properly grounded before beginning transfer. Use only non-sparking tools.
Hygiene measures: Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Ground/bond container and receiving equipment.
Storage conditions: Keep container tightly closed.
Incompatible materials: Acids; Alcohols; Moisture; Oxidizing agent; Peroxides; Water.
Storage area: Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Methanol (67-56-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
<tr>
<td>USA OSHA</td>
</tr>
<tr>
<td>USA IDLH</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Provide local exhaust or general room ventilation.
Personal protective equipment: Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection: Wear protective gloves. Neoprene or nitrile rubber gloves.
Eye protection: Chemical goggles. Contact lenses should not be worn.
Skin and body protection: Wear suitable protective clothing.
Respiratory protection: NIOSH-certified combination organic vapor - amine gas (brown cartridge) respirator.
SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state: Liquid
- Appearance: Clear liquid.
- Molecular mass: 179.29 g/mol
- Color: Straw.
- Odor threshold: No data available
- Refractive index: 1.4240
- pH: No data available
- Relative evaporation rate (butyl acetate=1): No data available
- Melting point: No data available
- Freezing point: < -40 °C
- Boiling point: 80 °C @ 8 mm Hg
- Flash point: 83 °C
- Auto-ignition temperature: 300 °C
- Decomposition temperature: No data available
- Flammability (solid, gas): Combustible liquid
- Vapor pressure: 5 mm Hg @ 67˚C
- Relative vapor density at 20 °C: < 1
- Relative density: 1.027
- VOC content: < 30 %
- Solubility: Reacts with water.
- Log Pow: No data available
- Log Kow: No data available
- Viscosity, kinematic: No data available
- Viscosity, dynamic: No data available
- Explosion properties: No data available
- Oxidizing properties: No data available
- Explosive limits: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable when stored in sealed containers.

10.3. Possibility of hazardous reactions

Reacts with water and moisture in air, liberating methanol.

10.4. Conditions to avoid

Heat. Sparks. Open flame.

10.5. Incompatible materials


10.6. Hazardous decomposition products

Methanol. Organic acid vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>3-Aminopropyltrimethoxysilane (13822-56-5)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Methanol (67-56-1)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>6200 mg/kg</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>20 g/kg</td>
</tr>
<tr>
<td>LC50 inhalation rat (ppm)</td>
<td>22500 ppm (Exposure time: 8 h)</td>
</tr>
</tbody>
</table>
3-AMINOPROPYLTRIMETHOXYSilane

Safety Data Sheet

3-Aminopropyltrimethoxysilane (13822-56-5)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US (oral)</td>
<td>100,000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
<td>300,000 mg/kg body weight</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
<td>3,000 mg/l/4h</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**: Causes skin irritation.

**Serious eye damage/irritation**: Causes serious eye damage.

**Respiratory or skin sensitization**: Not classified

**Germ cell mutagenicity**: Not classified

**Carcinogenicity**: Not classified

**Reproductive toxicity**: Not classified

**Specific target organ toxicity (single exposure)**: May cause respiratory irritation.

**Specific target organ toxicity (repeated exposure)**: Not classified

**Aspiration hazard**: Not classified

**Symptoms/injuries after inhalation**: May cause irritation or asthma-like symptoms. Overexposure may cause: Coughing. Headache. Nausea.

**Symptoms/injuries after skin contact**: Causes skin irritation.

**Symptoms/injuries after eye contact**: Causes serious eye damage.

**Symptoms/injuries after ingestion**: May be harmful if swallowed.

**Chronic symptoms**: On contact with water this compound liberates methanol which is known to have a chronic effect on the central nervous system. Methanol may effect the central nervous system resulting in persistent or recurring headaches or impaired vision.

**Reason for classification**: Expert judgment

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Methanol (67-56-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fish 1</td>
<td>28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>&gt; 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])</td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

**Methanol (67-56-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF fish 1</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Log Pow</td>
<td>-0.77</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other adverse effects: This substance may be hazardous to the environment.

Effect on ozone layer: No additional information available

Effect on the global warming: No known ecological damage caused by this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Waste disposal recommendations: May be incinerated. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.

Ecology - waste materials: Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No./(DOT)</td>
<td>1760</td>
</tr>
<tr>
<td>DOT NA no.</td>
<td>UN1760</td>
</tr>
</tbody>
</table>

#### 14.2. UN proper shipping name

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper Shipping Name (DOT)</td>
<td>Corrosive liquids, n.o.s. (3-AMINOPROPYLTRIMETHOXYSilANE)</td>
</tr>
<tr>
<td>Department of Transportation (DOT) Hazard Classes</td>
<td>8 - Class 8 - Corrosive material 49 CFR 173.136</td>
</tr>
</tbody>
</table>
Hazard labels (DOT) : 8 - Corrosive

DOT Symbols : G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241

14.3. Additional information
Other information : No supplementary information available.

Transport by sea
DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”

Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

SECTION 15: Regulatory information

15.1. US Federal regulations
3-Aminopropyltrimethoxysilane (13822-56-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Methanol (67-56-1)
Listed on the United States TSCA (Toxic Substances Control Act) inventory
Listed on United States SARA Section 313
SARA Section 313 - Emission Reporting 1.0 %

15.2. International regulations
3-Aminopropyltrimethoxysilane (13822-56-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on Nizioc (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Methanol (67-56-1)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on Nizioc (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations
3-AMINOPROPYLTRIMETHOXYSILANE (13822-56-5)

U.S. - California - Proposition 65 - Carcinogens List No
U.S. - California - Proposition 65 - Developmental Toxicity No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male No

01/07/2015 EN (English US) SDS ID: SIA0611.0 6/8
### Aminopropyltrimethoxysilane (13822-56-5)

<table>
<thead>
<tr>
<th>Country/State</th>
<th>Proposition 65</th>
<th>Carcinogens List</th>
<th>Proposition 65</th>
<th>Reproductive Toxicity - Male</th>
<th>No significance risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. California</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Methanol (67-56-1)

<table>
<thead>
<tr>
<th>Country/State</th>
<th>Proposition 65</th>
<th>Carcinogens List</th>
<th>Proposition 65</th>
<th>Reproductive Toxicity - Male</th>
<th>No significance risk level (NSRL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. California</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Other Regulations

- **California:** Proposition 65 - Maximum Allowable Dose Levels (MADL)
- **California:** SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
- **California:** SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
- **California:** Toxic Air Contaminant List (AB 1807, AB 2728)
- **Colorado:** Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
- **Connecticut:** Hazardous Air Pollutants - HLVs (30 min)
- **Connecticut:** Hazardous Air Pollutants - HLVs (8 hr)
- **Connecticut:** Volatile Substances
- **Delaware:** Pollutant Discharge Requirements - Reportable Quantities
- **Idaho:** Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
- **Idaho:** Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
- **Idaho:** Occupational Exposure Limits - TWAs
- **Illinois:** Toxic Air Contaminants
- **Louisiana:** Reportable Quantity List for Pollutants
- **Maine:** Air Pollutants - Hazardous Air Pollutants
- **Maine:** Chemicals of High Concern
- **Massachusetts:** Allowable Ambient Limits (AALs)
- **Massachusetts:** Allowable Threshold Concentrations (ATCs)
- **Massachusetts:** Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
- **Massachusetts:** Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- **Massachusetts:** Oil & Hazardous Material List - Reportable Quantity
- **Massachusetts:** Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
- **Massachusetts:** Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
- **Massachusetts:** Right To Know List
- **Massachusetts:** Threshold Effects Exposure Limits (TELEs)
- **Massachusetts:** Toxics Use Reduction Act
- **Michigan:** Occupational Exposure Limits - Skin Designations
- **Michigan:** Occupational Exposure Limits - STELs
- **Michigan:** Occupational Exposure Limits - TWAs
- **Michigan:** Polluting Materials List
- **Minnesota:** Chemicals of High Concern
- **Minnesota:** Groundwater Health Risk Limits
- **Minnesota:** Hazardous Substance List
- **Minnesota:** Permissible Exposure Limits - Skin Designations
- **Minnesota:** Permissible Exposure Limits - STELs
- **Minnesota:** Permissible Exposure Limits - TWAs
- **New Hampshire:** Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
- **New Hampshire:** Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
- **New Jersey:** Discharge Prevention - List of Hazardous Substances
- **New Jersey:** Environmental Hazardous Substances List
- **New Jersey:** Right to Know Hazardous Substance List
- **New Jersey:** Special Health Hazards Substances List
- **New Jersey:** Water Quality - Ground Water Quality Criteria
- **New Jersey:** Water Quality - Practical Quantitation Levels (PQLs)
- **New York:** Occupational Exposure Limits - Skin Designations
- **New York:** Occupational Exposure Limits - TWAs
- **New York:** Reporting of Releases Part 597 - List of Hazardous Substances
- **North Dakota:** Air Pollutants - Guideline Concentrations - 1-Hour
- **North Dakota:** Air Pollutants - Guideline Concentrations - 8-Hour
- **North Dakota:** Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
- **Oregon:** Permissible Exposure Limits - TWAs
- **Pennsylvania:** RTK (Right to Know) - Environmental Hazard List
- **Pennsylvania:** RTK (Right to Know) List
- **Rhode Island:** Air Toxics - Acceptable Ambient Levels - 1-Hour
- **Rhode Island:** Air Toxics - Acceptable Ambient Levels - Annual
- **South Carolina:** Toxic Air Pollutants - Maximum Allowable Concentrations
- **South Carolina:** Toxic Air Pollutants - Pollutant Categories
- **Tennessee:** Occupational Exposure Limits - Skin Designations
- **Tennessee:** Occupational Exposure Limits - STELs
- **Tennessee:** Occupational Exposure Limits - TWAs
3-AMINOPROPYLTRIMETHOXYSILANE
Safety Data Sheet

SECTION 16: Other information

Abbreviations and acronyms:
Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

Full text of H-phrases:

- **Acute Tox. 3 (Dermal)**: Acute toxicity (dermal) Category 3
- **Acute Tox. 3 (Inhalation:vapour)**: Acute toxicity (inhalation:vapor) Category 3
- **Acute Tox. 3 (Oral)**: Acute toxicity (oral) Category 3
- **Eye Dam. 1**: Serious eye damage/eye irritation Category 1
- **Flam. Liq. 2**: Flammable liquids Category 2
- **Flam. Liq. 4**: Flammable liquids Category 4
- **Skin Irrit. 2**: Skin corrosion/irritation Category 2
- **STOT SE 1**: Specific target organ toxicity (single exposure) Category 1
- **STOT SE 3**: Specific target organ toxicity (single exposure) Category 3
- **H225**: Highly flammable liquid and vapor
- **H227**: Combustible liquid
- **H301**: Toxic if swallowed
- **H311**: Toxic in contact with skin
- **H315**: Causes skin irritation
- **H318**: Causes serious eye damage
- **H331**: Toxic if inhaled
- **H335**: May cause respiratory irritation
- **H336**: May cause drowsiness or dizziness
- **H370**: Causes damage to organs

HMIS III Rating

- **Health**: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- **Flammability**: 2 Moderate Hazard
- **Physical**: 1 Slight Hazard

Prepared by safety and environmental affairs.

Date of issue: 01/07/2015 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

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

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