

3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95 Safety Data Sheet SIA0598.0 Date of issue: 11/17/2014 Version: 1.0

| SECTION 1: Identification of the su | Ibstance/mixture and of | the company/undertaking | | | | |
|--|---|--|------------|--|--|--|
| 1.1. Product identifier | | | | | | |
| Product form | : Substance | | | | | |
| Physical state | : Liquid | | | | | |
| Substance name | 3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95 SIA0598.0 C12H21NO4Si | | | | | |
| Product code | | | | | | |
| Formula | | | | | | |
| Synonyms | : m-[3-(TRIMETHOXYSILY | PROPYL)]ANILINE; BENZENAMINE, 4-[3- | | | | |
| -, -, -, - | (TRIMETHOXYSILYL)PROPOXY]- | | | | | |
| hemical family : ORGANOMETHOXYSILANE | | | | | | |
| 1.2. Relevant identified uses of the su | bstance or mixture and uses a | dvised against | | | | |
| Use of the substance/mixture | : Chemical intermediate | | | | | |
| | For research and industria | I use only | | | | |
| 1.3. Details of the supplier of the safet | y data sheet | | | | | |
| GELEST, INC. | | | | | | |
| 11 East Steel Road | | | | | | |
| Morrisville, PA 19067 | | | | | | |
| USA T 215-547-1015 - F 215-547-2484 - (M-F): 8:0 | 0 AM - 5:30 PM EST | | | | | |
| info@gelest.com - www.gelest.com | | | | | | |
| 1.4. Emergency telephone number | | | | | | |
| Emergency number | : CHEMTREC: 1-800-424-9 | 300 (USA); +1 703-527-3887 (International) | | | | |
| <u> </u> | | | | | | |
| SECTION 2: Hazards identification | | | | | | |
| 2.1. Classification of the substance or | mixture | | | | | |
| Classification (GHS-US) | | | | | | |
| Skin Irrit. 2 H315 | | | | | | |
| Eye Irrit. 2A H319 | | | | | | |
| Full text of H-phrases: see section 16 | | | | | | |
| | | | | | | |
| 2.2. Label elements | | | | | | |
| | | | | | | |
| GHS-US labeling | | | | | | |
| Hazard pictograms (GHS-US) | | | | | | |
| | | | | | | |
| | • | | | | | |
| | | | | | | |
| | GHS07 | | | | | |
| Signal word (GHS-US) | : Warning | | | | | |
| Hazard statements (GHS-US) | : H315 - Causes skin irritati | n | | | | |
| | H319 - Causes serious ey | e irritation | | | | |
| Precautionary statements (GHS-US) | | oves/protective clothing/eye protection/face protection | n | | | |
| | P264 - Wash hands thorou P302+P352 - If on skin: W | 0) | | | | |
| | | on occurs: Get medical advice/attention | | | | |
| | P305+P351+P338 - IF IN | EYES: Rinse cautiously with water for several minut | es. Remove | | | |
| | | and easy to do. Continue rinsing | | | | |
| | | on persists: Get medical advice/attention ted clothing and wash before reuse | | | | |
| 2.3. Other hazards | | and many and wash before rease | | | | |
| No additional information available | | | | | | |
| | | | | | | |
| 2.4. Unknown acute toxicity (GHS-US) | | | | | | |
| No data available | | | | | | |
| SECTION 3: Composition/informat | ion on ingredients | | | | | |
| 3.1. Substance | | | | | | |
| Substance type | : Mono-constituent | | | | | |
| | | | | | | |
| 11/18/2014 | EN (English US) | SDS ID: SIA0598.0 | Page 1 | | | |

Safety Data Sheet

| Name CAS No | : 3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95 : 55648-29-8 | | | |
|--|---|-------|--|--|
| Name | Product identifier | % | Classification (GHS-US) | |
| Benzenamine, 4-[3-(trimethoxysilyl)propoxy]- | (CAS No) 55648-29-8 | > 90 | Skin Irrit. 2, H315 Eye Irrit. 2A, H319 | |
| Methanol | (CAS No) 67-56-1 | < 0.5 | 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 | |

| 3.2. Mixture | |
|--|--|
| Not applicable | |
| SECTION 4: First aid measures | |
| 4.1. Description of first aid measures | 3 |
| First-aid measures general | 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 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 effe | cts, | both acute and delayed | | | |
| Symptoms/injuries after inhalation | : | May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. | | | |
| Symptoms/injuries after skin contact | : | Causes skin irritation. | | | |
| Symptoms/injuries after eye contact | : | Causes serious eye irritation. | | | |
| 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. | | | |

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.

| SECTIO | ON 5: Firefighting measures | |
|------------|--|--|
| 5.1. | Extinguishing media | |
| Suitable e | extinguishing media | : Water spray. Foam. Carbon dioxide. Dry chemical. |
| 5.2. | Special hazards arising from the su | ibstance or mixture |
| Fire haza | ard | : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame. |
| 5.3. | Advice for firefighters | |
| Ũ | ng instructions n during firefighting | Use water spray to cool exposed surfaces. Exercise caution when fighting any chemical fire. 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. |

| SECT | SECTION 6: Accidental release measures | | | | |
|----------|---|-------------------------------|------------------|--|--|
| 6.1. | Personal precautions, protective equipment and emergency procedures | | | | |
| 6.1.1. | For non-emergency personnel | | | | |
| Emerge | ency procedures | : Evacuate unnecessary pers | onnel. | | |
| 6.1.2. | For emergency responders | | | | |
| Protecti | ve equipment | : Equip cleanup crew with pro | oper protection. | | |
| 6.2. | Environmental precautions | | | | |
| Prevent | Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. | | | | |
| | | | | | |

3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95 Safety Data Sheet

| 6.3. Methods and materia | I for containment and clear | ingun | | | |
|---|---|---|------------------------|--|--|
| Methods for cleaning up | I for containment and clear | • • | le using an absorben | t material to collect it Sween or | |
| methods for 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. | | | | |
| 6.4. Reference to other se | ections | | | | |
| See Heading 8. Exposure contro | Is and personal protection. | | | | |
| SECTION 7: Handling an | d storage | | | | |
| 7.1. Precautions for safe | | | | | |
| Precautions for safe handling | | eve and skin contact and do | not breathe vapor and | d mist. Provide good ventilation in | |
| , | | area to prevent accumulation | | <u> </u> | |
| Hygiene measures | | nds and other exposed areas and when leaving work. Was | | ater before eating, drinking or ng before reuse. | |
| 7.2. Conditions for safe s | torage, including any incon | npatibilities | | | |
| Storage conditions | • | tainer tightly closed. Store in | a dark area. | | |
| Incompatible materials | : Moisture. | | 6 1 6 | | |
| Storage area | : Store in a | well-ventilated place. Store | away from heat. | | |
| 7.3. Specific end use(s) | | | | | |
| No additional information availab | le | | | | |
| SECTION 8: Exposure co | ontrols/personal prote | ction | | | |
| 8.1. Control parameters | | | | | |
| Methanol (67-56-1) | | | | | |
| USA ACGIH | ACGIH TWA (ppm) | | 200 ppm | | |
| USA ACGIH | ACGIH STEL (ppm) | | 250 ppm | | |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | | 260 mg/m ³ | | |
| USA NIOSH | NIOSH REL (TWA) (ppm) | | 200 ppm | | |
| USA NIOSH | NIOSH REL (STEL) (mg/m ³ | | 325 mg/m ³ | | |
| USA NIOSH | NIOSH REL (STEL) (ppm) | | 250 ppm | | |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | | 260 mg/m ³ | | |
| USA OSHA | OSHA PEL (TWA) (mg/m) | | 200 mg/m 200 ppm | | |
| | | | | | |
| USA IDLH | US IDLH (ppm) | | 6000 ppm | | |
| 8.2. Exposure controls Appropriate engineering controls | - Provide l | ocal exhaust or general room | ventilation | | |
| Personal protective equipment | | 0 | | tains and safety showers should be | |
| | | in the immediate vicinity of a | | | |
| | | | | | |
| Hand protection | • | e or nitrile rubber gloves. | | | |
| Eye protection | | goggles. Contact lenses sho | ould not be worn. | | |
| Skin and body protection | | able protective clothing. | 10000 cm/m - / | | |
| Respiratory protection | : NIUSH-C | ertified combination organic | vapor - amine gas (bro | own cannoge) respirator. | |
| SECTION 9: Physical and | d chemical properties | | | | |
| 9.1. Information on basic | physical and chemical prop | perties | | | |
| Physical state | : Liquid | | | | |
| Appearance | : Liquid. | | | | |
| Molecular mass | : 271.39 g/ | | | | |
| Color | : Amber. B | | | | |
| Odor Odor throshold | : No data a | | | | |
| Odor threshold | : No data a | available | | | |
| Refractive index | : 1.495 : No data a | available | | | |
| pH : No data available Relative evaporation rate (butyl acetate=1) : No data available | | | | | |
| Melting point : No data available | | | | | |
| Freezing point | : No data a | | | | |
| Boiling point | | °C @ 0.5 mm Hg | | | |
| Elash point | : 120 100 : > 110 °C | 0 | | | |

Flash point

3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95 Safety Data Sheet

| Auto-ignition temperature : | No data available | | | |
|---|--|--|--|--|
| Decomposition temperature : | No data available | | | |
| Flammability (solid, gas) : | No data available | | | |
| Vapor pressure : | No data available | | | |
| Relative vapor density at 20 °C : | No data available | | | |
| Relative density : | 1.02 | | | |
| VOC content : | < 5 % | | | |
| Solubility : | Insoluble in water. Reacts with water. | | | |
| Log Pow : | No data available | | | |
| Log Kow : | No data available | | | |
| Viscosity, kinematic : | No data available | | | |
| Viscosity, dynamic : | No data available | | | |
| Explosive 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 in sealed containers stored under nitrogen in | the dark. | | | |
| 10.3. Possibility of hazardous reactions | | | | |
| Reacts with water and moisture in air, liberating met | banol | | | |
| | | | | |
| 10.4. Conditions to avoid | | | | |
| Heat. Open flame. Sparks. | | | | |
| 10.5. Incompatible materials | | | | |
| Moisture. Oxidizing agent. | | | | |
| 10.6. Hazardous decomposition products | | | | |
| Methanol. Organic amine vapors. | | | | |
| SECTION 11: Toxicological information | | | | |
| 11.1. Information on toxicological effects | | | | |
| Acute toxicity : Not classified | | | | |
| Methanol (67-56-1) | | | | |
| LD50 oral rat | 6200 mg/kg | | | |
| LD50 dermal rabbit | 20 g/kg | | | |
| LC50 inhalation rat (ppm) | 22500 ppm (Exposure time: 8 h) | | | |
| ATE US (oral) | 100 000 ma/ka body weight | | | |

| LD50 oral rat | 6200 mg/kg |
|--|--|
| LD50 dermal rabbit | 20 g/kg |
| LC50 inhalation rat (ppm) | 22500 ppm (Exposure time: 8 h) |
| ATE US (oral) | 100.000 mg/kg body weight |
| ATE US (dermal) | 300.000 mg/kg body weight |
| ATE US (vapors) | 3.000 mg/l/4h |
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Potential Adverse human health effects and symptoms | : The hydrolysis product of this compound is methanol. |
| Symptoms/injuries after inhalation | : May cause irritation to the respiratory tract. Overexposure may cause: Coughing. Headache. Nausea. |

3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95 Safety Data Sheet

| Symptoms/injuries after skin contact | : Causes skin irritation. |
|---|---|
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| 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. |
| Reason for classification | : Expert judgment |
| SECTION 12: Ecological information | |
| 12.1. Toxicity | |
| Methanol (67-56-1) | |
| LC50 fish 1 | 28200 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| LC50 fish 2 | > 100 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |
| 12.2. Persistence and degradability | |
| No additional information available | |
| 12.3. Bioaccumulative potential | |
| Methanol (67-56-1) | |
| BCF fish 1 | < 10 |
| Log Pow | -0.77 |
| 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 consideration | 15 |
| 13.1. Waste treatment methods | |
| Waste disposal recommendations | : May be incinerated. Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials | : Avoid release to the environment. |
| | |
| SECTION 14: Transport information | |
| 14.1. UN number | |
| Not regulated for transport. | |
| 14.2. UN proper shipping name | |
| Not applicable | |
| 14.3. Additional information | |
| Other information | : No supplementary information available. |
| | |
| Transport by sea | |
| No additional information available | |
| Air transport | |
| No additional information available | |
| SECTION 15: Regulatory information | 1 |
| 15.1. US Federal regulations | |
| Methanol (67-56-1) | |
| Listed on the United States TSCA (Toxic Subst | ances Control Act) inventory |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Benzenamine, 4-[3-(trimethoxysilyl)propoxy | |
| Listed on the United States TSCA (Toxic Subs | |
| 15.2. International regulations | |
| | |

Safety Data Sheet

| Methanol (67-56-1) | |
|--|--|
| Listed on the AICS (Australian Inventory of Chemical Substances) | |
| Listed on the Canadian DSL (Domestic Sustances 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 NZIoC (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) | |
| Benzenamine, 4-[3-(trimethoxysilyl)propoxy]- (55648-29-8) | |
| Listed on the Canadian NDSL (Non-Domestic Substances List) | |

15.3. US State regulations

| 3-(m-AMINOPHENOXY)PROPYLTRIMETHOXYSILANE, tech-95(55648-29-8) | | | | | |
|--|--|---|---|-----------------------------------|--|
| U.S California - Propo | a - 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 No Toxicity - Male | | | | | |
| Methanol (67-56-1) | | | | | |
| U.S California - Proposition 65 - Carcinogens List | U.S California - Proposition 65 - Developmental Toxicity | U.S California - Proposition 65 - Reproductive Toxicity - | U.S California - Proposition 65 - Reproductive Toxicity - | No significance risk level (NSRL) | |

| Carcinogens List | Developmental Toxicity | Reproductive Toxicity - Female | Reproductive Toxicity - Male | | |
|---|------------------------|-----------------------------------|---------------------------------|----------------------------|--|
| No | Yes | No | No | | |
| Benzenamine, 4-[3-(trimethoxysilyl)propoxy]- (55648-29-8) | | | | | |
| U.S California - | U.S California - | U.S California - | U.S California - | No significance risk level | |
| Proposition 65 - | Proposition 65 - | Proposition 65 - | Proposition 65 - | (NSRL) | |
| Carcinogens List | Developmental Toxicity | Reproductive Toxicity - | Reproductive Toxicity - | | |
| | | Female | Male | | |
| No | No | No | No | | |

Methanol (67-56-1)

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic

U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)

U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)

U.S. - Connecticut - Volatile Substances

U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations

- U.S. Idaho Non-Carcinogenic Toxic Air Pollutants Emission Levels (ELs)
- U.S. Idaho Occupational Exposure Limits TWAs
- U.S. Illinois Toxic Air Contaminants
- U.S. Louisiana Reportable Quantity List for Pollutants
- U.S. Maine Air Pollutants Hazardous Air Pollutants
- U.S. Maine Chemicals of High Concern
- U.S. Massachusetts Allowable Ambient Limits (AALs)
- U.S. Massachusetts Allowable Threshold Concentrations (ATCs)
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Groundwater Reportable Concentration Reporting Category 2
- U.S. Massachusetts Oil & Hazardous Material List Reportable Quantity
- U.S. Massachusetts Oil & Hazardous Material List Soil Reportable Concentration Reporting Category 1
- U.S. Massachusetts Oil & Hazardous Material List Soil Reportable Concentration Reporting Category 2
- U.S. Massachusetts Right To Know List
- U.S. Massachusetts Threshold Effects Exposure Limits (TELs)
- U.S. Massachusetts Toxics Use Reduction Act
- U.S. Michigan Occupational Exposure Limits Skin Designations
- U.S. Michigan Occupational Exposure Limits STELs
- U.S. Michigan Occupational Exposure Limits TWAs
- U.S. Michigan Polluting Materials List
- U.S. Minnesota Chemicals of High Concern
- U.S. Minnesota Groundwater Health Risk Limits
- U.S. Minnesota Hazardous Substance List

Safety Data Sheet

| Methanol (67-56-1) | | | | |
|--|--|--|--|--|
| U.S Minnesota - Permissible Exposure Limits - Skin Designations | | | | |
| U.S Minnesota - Permissible Exposure Limits - STELs | | | | |
| U.S Minnesota - Permissible Exposure Limits - TWAs | | | | |
| U.S New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour | | | | |
| U.S New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual | | | | |
| U.S New Jersey - Discharge Prevention - List of Hazardous Substances | | | | |
| U.S New Jersey - Environmental Hazardous Substances List | | | | |
| U.S New Jersey - Right to Know Hazardous Substance List | | | | |
| U.S New Jersey - Special Health Hazards Substances List | | | | |
| U.S New Jersey - Water Quality - Ground Water Quality Criteria | | | | |
| U.S New Jersey - Water Quality - Practical Quantitation Levels (PQLs) | | | | |
| U.S New York - Occupational Exposure Limits - Skin Designations | | | | |
| U.S New York - Occupational Exposure Limits - TWAs | | | | |
| U.S New York - Reporting of Releases Part 597 - List of Hazardous Substances | | | | |
| U.S North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour | | | | |
| U.S North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour | | | | |
| U.S North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues | | | | |
| U.S Oregon - Permissible Exposure Limits - TWAs | | | | |
| U.S Pennsylvania - RTK (Right to Know) - Environmental Hazard List | | | | |
| U.S Pennsylvania - RTK (Right to Know) List | | | | |
| U.S Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour | | | | |
| U.S Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual | | | | |
| U.S South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations | | | | |
| U.S South Carolina - Toxic Air Pollutants - Pollutant Categories | | | | |
| U.S Tennessee - Occupational Exposure Limits - Skin Designations | | | | |
| U.S Tennessee - Occupational Exposure Limits - STELs | | | | |
| U.S Tennessee - Occupational Exposure Limits - TWAs | | | | |
| U.S Texas - Effects Screening Levels - Long Term | | | | |
| U.S Texas - Effects Screening Levels - Short Term | | | | |
| U.S Vermont - Permissible Exposure Limits - Skin Designations | | | | |
| U.S Vermont - Permissible Exposure Limits - STELs | | | | |
| U.S Vermont - Permissible Exposure Limits - TWAs | | | | |
| U.S Washington - Dangerous Waste - Discarded Chemical Products List | | | | |
| U.S Washington - Permissible Exposure Limits - Skin Designations | | | | |
| U.S Washington - Permissible Exposure Limits - STELs | | | | |
| U.S Washington - Permissible Exposure Limits - TWAs | | | | |
| | | | | |
| 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.: Chemcial 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 |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Liq. 2 | Flammable liquids Category 2 |
| 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 |
| H301 | Toxic if swallowed |
| H311 | Toxic in contact with skin |
| H315 | Causes skin irritation |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H331 | Toxic if inhaled |
| H336 | May cause drowsiness or dizziness |
| H370 | Causes damage to organs |

Safety Data Sheet

| HMIS III Rating | |
|-----------------|---|
| Health | : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given |
| Flammability | : 1 Slight Hazard |
| Physical | : 1 Slight Hazard |

Prepared by safety and environmental affairs.

Date of issue: 11/17/2014 Version: 1.0

SDS US (GHS HazCom 2012) - Custom

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

The information contained in this document has been gathered from reference materials and/or Gelest, Inc. test data and is to the best knowledge and belief of Gelest, Inc. accurate and reliable. Such information is offered solely for your consideration, investigation and verification. It is not suggested or guaranteed that the hazard precautions or procedures described are the only ones which exist. Gelest, Inc. makes no warranties, express or implied, with respect to the use of such information and assumes no responsibility therefore. Information on this safety data sheet is not intended to constitute a basis for product specifications.

© 2014 Gelest Inc. Morrisville, PA 19067

