Safety Data Sheet according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 02/20/2018

2.4. Unknown acute toxicity (GHS US)

Not applicable

Safety Data Sheet

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

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable 3.2. Mixtures

| Name | Product identifier | % | GHS-US classification |
|---|---------------------|---------|---|
| hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics | (CAS No) 64742-47-8 | 84 - 90 | Flam. Liq. 4, H227 Asp. Tox. 1, H304 |
| 1-propanol | (CAS No) 71-23-8 | 0.5 - 1 | Flam. Liq. 2, H225 Eye Dam. 1, H318 STOT SE 3, H336 |

Full text of hazard classes and H-statements : see section 16

| 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). |
| First-aid measures after inhalation | : Remove the victim into fresh air. If not breathing give artificial respiration. Get medical advice/attention. Allow victim to breathe fresh air. Allow the victim to rest. |
| First-aid measures after skin contact | Remove/Take off immediately all contaminated clothing. Wash with water and soap. If skin irritation or rash occurs: If skin irritation occurs: Get medical advice/attention. Get medical advice/attention. Rinse skin with water/shower. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. |
| First-aid measures after eye contact | Rinse cautiously with water for several minutes. Move victim away from exposure and into fresh air. Rinse immediately with plenty of water for 15 minutes. Get medical advice/attention. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. |
| First-aid measures after ingestion | : Do NOT induce vomiting. This material is an aspiration hazard. Get medical advice/attention. Rinse mouth. Obtain emergency medical attention. |
| 4.2. Most important symptoms and effe | cts (acute and delayed) |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/injuries | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| 4.3. Immediate medical attention and sp | pecial treatment, if necessary |
| No additional information available | |
| | |
| SECTION 5: Fire-fighting measures | |
| SECTION 5: Fire-fighting measures 5.1. Suitable (and unsuitable) extinguis | hing media |
| | hing media : Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. |
| 5.1. Suitable (and unsuitable) extinguis | - |
| 5.1.Suitable (and unsuitable) extinguisSuitable extinguishing media | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand.Do not use a heavy water stream. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand.Do not use a heavy water stream. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard 5.3. Special protective equipment and p | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. precautions for fire-fighters Use water spray or fog for cooling exposed containers. Exercise caution when fighting any |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard 5.3. Special protective equipment and p Firefighting instructions | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Drecautions for fire-fighters Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Complete protective clothing. Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard 5.3. Special protective equipment and p Firefighting instructions Protection during firefighting SECTION 6: Accidental release mean | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Drecautions for fire-fighters Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Complete protective clothing. Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard 5.3. Special protective equipment and p Firefighting instructions Protection during firefighting SECTION 6: Accidental release mean | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. precautions for fire-fighters Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Complete protective clothing. Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. ISURES |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard 5.3. Special protective equipment and p Firefighting instructions Protection during firefighting SECTION 6: Accidental release mea 6.1. Personal precautions, protective equipment | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. precautions for fire-fighters Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Complete protective clothing. Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. ISURES Absorb spill on vermiculite floor absorbent or other absorbent material. Eliminate every possible source of ignition. Evacuate area. Remove ignition sources. Use special care to avoid static |
| 5.1. Suitable (and unsuitable) extinguis Suitable extinguishing media Unsuitable extinguishing media 5.2. Specific hazards arising from the c Fire hazard Explosion hazard 5.3. Special protective equipment and p Firefighting instructions Protection during firefighting SECTION 6: Accidental release mea 6.1. Personal precautions, protective extends General measures | Foam. Dry chemical powder. Carbon dioxide. Dry powder. Carbon dioxide. Water spray. Sand. Do not use a heavy water stream. hemical Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. precautions for fire-fighters Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Complete protective clothing. Self-contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. ISURES Absorb spill on vermiculite floor absorbent or other absorbent material. Eliminate every possible source of ignition. Evacuate area. Remove ignition sources. Use special care to avoid static |

Safety Data Sheet

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

| 6.1.2. | For emergency responders | |
|-----------------|---|--|
| Protecti | ve equipment | : Equip cleanup crew with proper protection. |
| Emerge | ency procedures | : Ventilate area. |
| 6.2. | Environmental precautions | |
| | | |
| Prevent | t entry to sewers and public waters. N | Notify authorities if liquid enters sewers or public waters. |
| Prevent 6.3. | t entry to sewers and public waters. N Methods and material for contai | |
| 6.3. | | |

| SECTION 7: Handling and storage | |
|---|--|
| 7.1. Precautions for safe handling | |
| Additional hazards when processed | Containers of this material may be hazardous when empited. All hazard precautions give should be observed. Handle empty containers with care because residual vapors are flammable. |
| Precautions for safe handling | Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. |
| Hygiene measures | Wash thoroughly after handling. |
| 7.2. Conditions for safe storage, including | any incompatibilities |
| Technical measures | Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/ equipment. |
| Storage conditions | Store in a well-ventilated place. Keep away from heat, sparks, and flames. Emptied containers may retain product residues. Precautions apply to emptied containers. Keep only in the original container in a cool, well ventilated place away from : Keep container tightly closed. Keep container closed when not in use. |
| Incompatible products | Strong bases. Strong acids. |
| Incompatible materials | Sources of ignition. Direct sunlight. Heat sources. |

SECTION 8: Exposure controls/personal protection

Control parameters 8.1.

| hydrocarbons, C11-C1 | 4, n-alkanes, isoalkanes, cyclics, < 2% aromat | ics (64742-47-8) |
|----------------------|--|-------------------------------|
| Not applicable | | |
| 1-propanol (71-23-8) | | |
| ACGIH | Local name | n-Propanol (n-Propyl alcohol) |
| ACGIH | ACGIH TWA (ppm) | 100 ppm |
| ACGIH | ACGIH STEL (ppm) | 100 ppm |
| ACGIH | Remark (ACGIH) | Eye & URT irr |
| OSHA | OSHA PEL (TWA) (mg/m³) | 500 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 200 ppm |

Appropriate engineering controls 8.2.

Appropriate engineering controls : Ensure good ventilation of the work station.

Individual protection measures/Personal protective equipment 8.3.

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective gloves/protective clothing/eye protection/face protection

Safety Data Sheet

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

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Protective clothing

Respiratory protection:

Wear appropriate mask

Other information:

Do not eat, drink or smoke during use.

| 9.1. Information on basic physical and chemical properties |
|---|
| |
| Physical state : Liquid |
| Appearance : Clear, colorless liquid. |
| Color : Clear Liquid |
| Odor : Solvent |
| Odor threshold : No data available |
| pH : No Data |
| Melting point : No Data |
| Freezing point : No data available |
| Boiling point : 370 - 550 °F @ 760 mmHg |
| Flash point : 108 °F Method TCC |
| Relative evaporation rate (butyl acetate=1) : No data available |
| Flammability (solid, gas) : Non flammable. |
| Vapor pressure : < 1 mmHg @ 77.0 |
| Relative vapor density at 20 °C : No data available |
| Relative density : 804 - 815 mmHg 77.0 F |
| Solubility : Water: < 0.01 |
| Log Pow : No data available |
| Auto-ignition temperature : No data available |
| Decomposition temperature : No data available |
| Viscosity : >= 95 cP |
| Viscosity, kinematic : No data available |
| Viscosity, dynamic : No data available |
| Explosion limits : No data available |
| Explosive properties : No data available |
| Oxidizing properties : No data available |
| 9.2. Other information |

| 9.2. | Other information |
|----------|---|
| No addi | tional information available |
| SECT | ION 10: Stability and reactivity |
| 10.1. | Reactivity |
| No addi | tional information available |
| 10.2. | Chemical stability |
| Stable u | inder normal conditions. Flammable liquid and vapor. May form flammable/explosive vapor-air mixture. Not established. |
| 10.3. | Possibility of hazardous reactions |
| Not esta | ablished. |
| 10.4. | Conditions to avoid |
| Direct s | unlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. |
| 10.5. | Incompatible materials |
| | |

| Oxidizing agent. Strong acids. Strong bases. | |
|--|--|
| 04/20/2018 | |

Safety Data Sheet

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

| 10.6. Hazardous decomposition products | |
|--|--|
| fume. Carbon monoxide. Carbon dioxide. May re | lease flammable gases. |
| SECTION 11: Toxicological informati | ion |
| 11.1. Information on toxicological effects | |
| Acute toxicity | : Not classified |
| hydrocarbons, C11-C14, n-alkanes, isoalkan | nes, cyclics, < 2% aromatics (64742-47-8) |
| LD50 dermal rabbit | > 5000 mg/kg body weight (Rabbit; Literature) |
| 1-propanol (71-23-8) | |
| LD50 oral rat | > 2000 mg/kg (Rat) |
| LD50 dermal rabbit | 4049 mg/kg (Rabbit) |
| LC50 inhalation rat (mg/l) | 9.8 mg/l/4h (Rat) |
| ATE US (dermal) | 4049 mg/kg body weight |
| ATE US (vapors) | 9.8 mg/l/4h |
| ATE US (dust, mist) | 9.8 mg/l/4h |
| Skin corrosion/irritation | : Not classified |
| | pH: No Data |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| | pH: No Data |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| | Based on available data, the classification criteria are not met |
| Carcinogenicity | : Not classified |
| | |
| Reproductive toxicity | : Not classified |
| | Based on available data, the classification criteria are not met |
| 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 | : Based on available data, the classification criteria are not met. |
| Symptoms/injuries | : Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| | |

SECTION 12: Ecological information

12.1. Toxicity

| hydrocarbons, C11-C14, n-alkanes, isoalkane | s, cyclics, < 2% aromatics (64742-47-8) |
|---|---|
| LC50 fish 1 | > 100 mg/l (Pisces) |
| EC50 Daphnia 1 | > 100 mg/l (Invertebrata) |
| Threshold limit algae 1 | > 100 mg/l (Algae) |
| 1-propanol (71-23-8) | |
| LC50 fish 1 | 3200 mg/l 48 h; Salmo gairdneri (Oncorhynchus mykiss) |
| EC50 Daphnia 1 | 4415 mg/l (24 h; Daphnia magna) |
| EC50 other aquatic organisms 1 | 4168 mg/l (48 h; Protozoa) |
| LC50 fish 2 | 4480 mg/l (96 h; Pimephales promelas) |
| EC50 Daphnia 2 | 3644 mg/l (48 h; Daphnia magna) |
| TLM fish 1 | 200 - 500,Gobio gobio |
| TLM other aquatic organisms 1 | 100 - 1000,96 h |
| Threshold limit algae 1 | 2000 mg/l (Selenastrum capricornutum) |
| Threshold limit algae 2 | 3100 mg/l (168 h; Scenedesmus quadricauda) |

Safety Data Sheet

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

| Persistence and degradability | |
|---|---|
| | Not established. |
| | anes, cyclics, < 2% aromatics (64742-47-8) |
| Persistence and degradability | Readily biodegradable in water. Adsorbs into the soil. |
| 1-propanol (71-23-8) | |
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil unde anaerobic conditions. |
| Biochemical oxygen demand (BOD) | 0.47 - 1.63 g O₂/g substance |
| Chemical oxygen demand (COD) | 2.23 g O₂/g substance |
| ThOD | 2.4 g O ₂ /g substance |
| BOD (% of ThOD) | 0.20 - 0.44 % ThOD |
| 2.3. Bioaccumulative potential | |
| BR-FG FABRIC GUARD | |
| Bioaccumulative potential | Not established. |
| hydrocarbons, C11-C14, n-alkanes, isoalk | anes, cyclics, < 2% aromatics (64742-47-8) |
| Log Pow | 6 - 8.2 |
| Bioaccumulative potential | High potential for bioaccumulation (Log Kow > 5). |
| 1-propanol (71-23-8) | |
| Log Pow | 0.25 (Experimental value) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |
| 2.4. Mobility in soil | |
| hydrocarbons, C11-C14, n-alkanes, isoalka | anes, cyclics, < 2% aromatics (64742-47-8) |
| Surface tension | 0.026 N/m (20 °C) |
| 1-propanol (71-23-8) | |
| Surface tension | 0.024 N/m (20 °C) |
| 2.5. Other adverse effects | |
| ffect on the global warming | : No known effects from this product. |
| WPmix comment | : No known effects from this product. |
| | |
| ther information | : Avoid release to the environment. |
| ECTION 13: Disposal consideration | ons |
| 3.1. Disposal methods | |
| roduct/Packaging disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to |
| dditional information | : Handle empty containers with care because residual vapors are flammable. |
| cology - waste materials | : Avoid release to the environment. |
| ECTION 14: Transport information | n |

In accordance with DOT

Other information

: No supplementary information available.

Safety Data Sheet

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

TDG

Transport by sea

Air transport

SECTION 15: Regulatory information

15.1. US Federal regulations

| hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-47-8) | | |
|--|--|--|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | | |
| | | |
| 1-propanol (71-23-8) | | |

15.2. International regulations

CANADA

hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics (64742-47-8) Listed on the Canadian DSL (Domestic Sustances List)

EU-Regulations No additional information available

National regulations No additional information available

15.3. US State regulations

| 1-propanol (71-23-8) |
|---|
| U.S New Jersey - Right to Know Hazardous Substance List |

| SE | CTION 16: Other informatic | on de la constant de |
|------|----------------------------|---|
| Dat | a sources | REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. |
| Oth | er information | : None. |
| Full | text of H-phrases: | |
| | H225 | Highly flammable liquid and vapor |
| | H226 | Flammable liquid and vapor |

| H226 | Flammable liquid and vapor |
|------|--|
| H227 | Combustible liquid |
| H304 | May be fatal if swallowed and enters airways |
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |
| H336 | May cause drowsiness or dizziness |

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product