

# DENATURED ALCOHOL

## Safety Data Sheet

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

Date of issue: 01/10/2019

Version: 1.0

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
Product name : DENATURED ALCOHOL  
Product code : TS123

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

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Crown Paint Company  
1801 W. Sheridan  
Oklahoma City, 73106 - United States  
T 1-405-232-8580

#### 1.4. Emergency telephone number

Emergency number : In the event of an emergency involving dangerous goods:  
in Canada call CANUTEC at 613-996-6666 or \*666 on a cellular phone.  
in the US call CHEMTREC at 800-424-9300 (Account Name for US is Polyglass Coatings)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flam. Liq. 2 H225 - Highly flammable liquid and vapor  
Carc. 1A H350 - May cause cancer  
STOT SE 1 H370 - Causes damage to organs  
Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor  
H301+H311+H331 - Toxic if swallowed, in contact with skin or if inhaled  
H350 - May cause cancer  
H370 - Causes damage to organs  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking  
P233 - Keep container tightly closed.  
P240 - Ground/Bond container and receiving equipment  
P241 - Use explosion-proof electrical/ventilating/lighting equipment  
P242 - Use only non-sparking tools.  
P243 - Take precautionary measures against static discharge.  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 - Wash thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P307+P311 - If exposed: Call a poison center/doctor  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P321 - Specific treatment (see 4.1. First aid procedures on this label)  
P370+P378 - In case of fire: Use dry chemical powder, alcohol-resistant foam, carbon dioxide

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(CO2) to extinguish  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with all local, regional, national and international regulations.

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

| Name                   | Product identifier | %      | GHS-US classification                                                                                                                             |
|------------------------|--------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| ethanol                | (CAS-No.) 64-17-5  | >= 80  | Flam. Liq. 2, H225<br>Carc. 1A, H350                                                                                                              |
| Isopropanol            | (CAS-No.) 67-63-0  | 5 - 10 | Flam. Liq. 2, H225<br>Eye Irrit. 2, H319<br>STOT SE 3, H336                                                                                       |
| methanol               | (CAS-No.) 67-56-1  | < 5    | Flam. Liq. 2, H225<br>Acute Tox. 3 (Oral), H301<br>Acute Tox. 3 (Dermal), H311<br>Acute Tox. 3 (Inhalation:dust,mist),<br>H331<br>STOT SE 1, H370 |
| methyl isobutyl ketone | (CAS-No.) 108-10-1 | < 5    | Flam. Liq. 2, H225<br>Acute Tox. 4 (Inhalation:dust,mist),<br>H332<br>Eye Irrit. 2, H319<br>Carc. 2, H351<br>STOT SE 3, H335                      |

Full text of H-phrases: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| First-aid measures general            | : IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician. Specific treatment (see 4.1. First aid procedures on this label). |
| First-aid measures after inhalation   | : Remove person to fresh air and keep comfortable for breathing. Assure fresh air breathing. Allow the victim to rest. Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                                                                                                                                                                                     |
| First-aid measures after skin contact | : Rinse skin with water/shower. Wash skin with plenty of water. Take off contaminated clothing. Remove/Take off all contaminated clothing immediately. 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 eyes with water as a precaution. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                                                                                                                                            |
| First-aid measures after ingestion    | : Call a poison center/doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.                                                                                                                                                                                                                                                                            |

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

|                  |                                                                                            |
|------------------|--------------------------------------------------------------------------------------------|
| Symptoms/effects | : Not expected to present a significant hazard under anticipated conditions of normal use. |
|------------------|--------------------------------------------------------------------------------------------|

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

|                                |                                                        |
|--------------------------------|--------------------------------------------------------|
| Suitable extinguishing media   | : Water spray. Dry powder. Foam. Carbon dioxide. Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream.                     |

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### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Highly flammable liquid and vapor.
- Explosion hazard : May form flammable/explosive vapor-air mixture.
- Reactivity : Highly flammable liquid and vapor.

### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. Do not enter fire area without proper protective equipment, including respiratory protection.

## 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. No naked lights. No smoking.

#### 6.1.1. For non-emergency personnel

- Emergency procedures : NO open flames, NO sparks, and NO smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection". Equip cleanup crew with proper protection. Avoid breathing dust/fume/gas/mist/vapors/spray.
- Emergency procedures : Ventilate area.

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters. 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 : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. On land, sweep or shovel into suitable containers. Collect spillage. Minimize generation of dust. Store away from other materials.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection". See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Additional hazards when processed : Handle empty containers with care because residual vapors are flammable.
- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No naked lights. No smoking.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Wash thoroughly after handling.

### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical/ventilating/lighting equipment.

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|                        |                                                                                                                                                                                                                                                 |
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| Storage conditions     | : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use. Keep in fireproof place. |
| Incompatible products  | : Strong bases. strong acids.                                                                                                                                                                                                                   |
| Incompatible materials | : Sources of ignition. Direct sunlight. Heat sources.                                                                                                                                                                                           |

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

| ethanol (64-17-5) |                                     |                        |
|-------------------|-------------------------------------|------------------------|
| ACGIH             | ACGIH STEL (ppm)                    | 1000 ppm               |
| ACGIH             | Remark (ACGIH)                      | URT irr                |
| OSHA              | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 1900 mg/m <sup>3</sup> |
| OSHA              | OSHA PEL (TWA) (ppm)                | 1000 ppm               |

| Isopropanol (67-63-0) |                                     |                                                                                          |
|-----------------------|-------------------------------------|------------------------------------------------------------------------------------------|
| ACGIH                 | ACGIH TWA (ppm)                     | 200 ppm (2-propanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH                 | ACGIH STEL (ppm)                    | 400 ppm (2-propanol; USA; Short time value; TLV - Adopted Value)                         |
| ACGIH                 | Remark (ACGIH)                      | Eye & URT irr; CNS impair                                                                |
| OSHA                  | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 980 mg/m <sup>3</sup>                                                                    |
| OSHA                  | OSHA PEL (TWA) (ppm)                | 400 ppm                                                                                  |

| methanol (67-56-1) |                                     |                                                                                        |
|--------------------|-------------------------------------|----------------------------------------------------------------------------------------|
| ACGIH              | ACGIH TWA (ppm)                     | 200 ppm (Methanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH              | ACGIH STEL (ppm)                    | 250 ppm (Methanol; USA; Short time value; TLV - Adopted Value)                         |
| ACGIH              | Remark (ACGIH)                      | Headache; eye dam; dizziness; nausea                                                   |
| OSHA               | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 260 mg/m <sup>3</sup>                                                                  |
| OSHA               | OSHA PEL (TWA) (ppm)                | 200 ppm                                                                                |

| methyl isobutyl ketone (108-10-1) |                                     |                                                                                                     |
|-----------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------|
| ACGIH                             | ACGIH TWA (ppm)                     | 20 ppm (Methyl isobutyl ketone; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH                             | ACGIH STEL (ppm)                    | 75 ppm (Methyl isobutyl ketone; USA; Short time value; TLV - Adopted Value)                         |
| ACGIH                             | Remark (ACGIH)                      | URT irr; dizziness; headache                                                                        |
| OSHA                              | OSHA PEL (TWA) (mg/m <sup>3</sup> ) | 410 mg/m <sup>3</sup>                                                                               |
| OSHA                              | OSHA PEL (TWA) (ppm)                | 100 ppm                                                                                             |

#### 8.2. Exposure controls

|                                  |                                                                                                                                                           |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appropriate engineering controls | : Ensure good ventilation of the work station.                                                                                                            |
| Personal protective equipment    | : Avoid all unnecessary exposure.                                                                                                                         |
| Hand protection                  | : Protective gloves. Wear protective gloves.                                                                                                              |
| Eye protection                   | : Safety glasses. Chemical goggles or safety glasses.                                                                                                     |
| Skin and body protection         | : Wear suitable protective clothing.                                                                                                                      |
| Respiratory protection           | : Wear respiratory protection. Wear approved mask. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. |
| Environmental exposure controls  | : Avoid release to the environment.                                                                                                                       |
| Other information                | : When using, do not eat, drink or smoke.                                                                                                                 |

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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

|                                             |                         |
|---------------------------------------------|-------------------------|
| Physical state                              | : Liquid                |
|                                             | : No data available     |
|                                             | : No data available     |
| Odor threshold                              | : No data available     |
| pH                                          | : No data available     |
| Melting point                               | : Not applicable        |
| Freezing point                              | : No data available     |
| Boiling point                               | : 79.1 °C<br>174.5 °F   |
| Flash point                                 | : 11 °C<br>51.8 °F      |
| Relative evaporation rate (butyl acetate=1) | : No data available     |
| Flammability (solid, gas)                   | : No data available     |
| Explosion limits                            | : 6 - 36 vol %          |
| Explosive properties                        | : No data available     |
| Oxidizing properties                        | : No data available     |
| Vapor pressure                              | : No data available     |
| Relative density                            | : No data available     |
| Relative vapor density at 20 °C             | : No data available     |
| Specific gravity / density                  | : 0.8 g/cm <sup>3</sup> |
| Solubility                                  | : No data available     |
| Log Pow                                     | : No data available     |
| Auto-ignition temperature                   | : 385 °C<br>725 °F      |
| Decomposition temperature                   | : No data available     |
| Viscosity                                   | : 10 cP                 |
| Viscosity, kinematic                        | : No data available     |
| Viscosity, dynamic                          | : No data available     |

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Highly flammable liquid and vapor.

#### 10.2. Chemical stability

Stable under normal conditions. Not established. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

#### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, No sparks. Eliminate all sources of ignition. Direct sunlight. Extremely high or low temperatures. Open flame.

#### 10.5. Incompatible materials

strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

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| <b>ethanol (64-17-5)</b> |                                                                                  |
|--------------------------|----------------------------------------------------------------------------------|
| LD50 oral rat            | 10740 mg/kg body weight (Rat; OECD 401: Acute Oral Toxicity; Experimental value) |
| LD50 dermal rabbit       | > 16000 mg/kg (Rabbit; Literature study)                                         |
| ATE US (oral)            | 10740 mg/kg body weight                                                          |

| <b>Isopropanol (67-63-0)</b> |                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------|
| LD50 dermal rabbit           | 12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit) |
| LC50 inhalation rat (mg/l)   | 73 mg/l/4h (Rat)                                                                          |
| ATE US (dermal)              | 12870 mg/kg body weight                                                                   |
| ATE US (vapors)              | 73 mg/l/4h                                                                                |
| ATE US (dust, mist)          | 73 mg/l/4h                                                                                |

| <b>methanol (67-56-1)</b>  |                                                                                                      |
|----------------------------|------------------------------------------------------------------------------------------------------|
| LD50 oral rat              | > 5000 mg/kg (Rat; BASF test; Literature study; 1187-2769 mg/kg bodyweight; Rat; Weight of evidence) |
| LD50 dermal rabbit         | 15800 mg/kg (Rabbit; Literature study)                                                               |
| LC50 inhalation rat (mg/l) | 85 mg/l/4h (Rat; Literature study)                                                                   |
| LC50 inhalation rat (ppm)  | 64000 ppm/4h (Rat; Literature study)                                                                 |
| ATE US (oral)              | 100 mg/kg body weight                                                                                |
| ATE US (dermal)            | 300 mg/kg body weight                                                                                |
| ATE US (gases)             | 64000 ppmV/4h                                                                                        |
| ATE US (vapors)            | 85 mg/l/4h                                                                                           |
| ATE US (dust, mist)        | 0.5 mg/l/4h                                                                                          |

| <b>methyl isobutyl ketone (108-10-1)</b> |                                                                                      |
|------------------------------------------|--------------------------------------------------------------------------------------|
| LD50 oral rat                            | 2080 mg/kg (Rat; Equivalent or similar to OECD 401; Experimental value)              |
| LD50 dermal rat                          | >= 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity) |
| LD50 dermal rabbit                       | > 16000 mg/kg (Rabbit)                                                               |
| LC50 inhalation rat (mg/l)               | 8.2- 16.4,Rat; Experimental value                                                    |
| LC50 inhalation rat (ppm)                | 2000 - 4000 ppm/4h (Rat; Experimental value)                                         |
| ATE US (oral)                            | 2080 mg/kg body weight                                                               |
| ATE US (gases)                           | 2000 ppmV/4h                                                                         |
| ATE US (dust, mist)                      | 1.5 mg/l/4h                                                                          |

|                                   |                     |
|-----------------------------------|---------------------|
| Skin corrosion/irritation         | : Not classified    |
| Serious eye damage/irritation     | : Not classified    |
| Respiratory or skin sensitization | : Not classified    |
| Germ cell mutagenicity            | : Not classified    |
| Carcinogenicity                   | : May cause cancer. |

| <b>ethanol (64-17-5)</b> |                            |
|--------------------------|----------------------------|
| IARC group               | 1 - Carcinogenic to Humans |

| <b>Isopropanol (67-63-0)</b> |                      |
|------------------------------|----------------------|
| IARC group                   | 3 - Not Classifiable |

| <b>methyl isobutyl ketone (108-10-1)</b> |                                      |
|------------------------------------------|--------------------------------------|
| IARC group                               | 2B - Possibly Carcinogenic to Humans |

|                                                  |                            |
|--------------------------------------------------|----------------------------|
| Reproductive toxicity                            | : Not classified           |
| Specific target organ toxicity – single exposure | : Causes damage to organs. |

|                                                    |                  |
|----------------------------------------------------|------------------|
| 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. |
|-----------------------------------------------------|---------------------------------------------------------------------|

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### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

| ethanol (64-17-5)       |                                                                                                                                        |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| LC50 fish 1             | 14200 mg/l (LC50; US EPA; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value)                             |
| Isopropanol (67-63-0)   |                                                                                                                                        |
| LC50 fish 2             | 9640 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 2          | 13299 mg/l (EC50; Other; 48 h; Daphnia magna)                                                                                          |
| Threshold limit algae 1 | > 1000 mg/l (EC50; UBA; 72 h; Scenedesmus subspicatus)                                                                                 |
| methanol (67-56-1)      |                                                                                                                                        |
| LC50 fish 1             | 15400 mg/l (LC50; EPA 660/3 - 75/009; 96 h; Lepomis macrochirus; Flow-through system; Fresh water; Experimental value)                 |
| EC50 Daphnia 1          | > 10000 mg/l (EC50; DIN 38412-11; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)                                 |
| LC50 fish 2             | 10800 mg/l (LC50; 96 h; Salmo gairdneri)                                                                                               |

#### 12.2. Persistence and degradability

| DENATURED ALCOHOL                 |                                                                                                                                                                               |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Persistence and degradability     | Not established.                                                                                                                                                              |
| ethanol (64-17-5)                 |                                                                                                                                                                               |
| Persistence and degradability     | Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.                                                                                             |
| Biochemical oxygen demand (BOD)   | 0.8 - 0.967 g O <sub>2</sub> /g substance                                                                                                                                     |
| Chemical oxygen demand (COD)      | 1.7 g O <sub>2</sub> /g substance                                                                                                                                             |
| ThOD                              | 2.1 g O <sub>2</sub> /g substance                                                                                                                                             |
| BOD (% of ThOD)                   | 0.43                                                                                                                                                                          |
| Isopropanol (67-63-0)             |                                                                                                                                                                               |
| Persistence and degradability     | Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No (test)data on mobility of the substance available.        |
| Biochemical oxygen demand (BOD)   | 1.19 g O <sub>2</sub> /g substance                                                                                                                                            |
| Chemical oxygen demand (COD)      | 2.23 g O <sub>2</sub> /g substance                                                                                                                                            |
| ThOD                              | 2.4 g O <sub>2</sub> /g substance                                                                                                                                             |
| methanol (67-56-1)                |                                                                                                                                                                               |
| Persistence and degradability     | Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil.                                                                                             |
| Biochemical oxygen demand (BOD)   | 0.6 - 1.12 g O <sub>2</sub> /g substance                                                                                                                                      |
| Chemical oxygen demand (COD)      | 1.42 g O <sub>2</sub> /g substance                                                                                                                                            |
| ThOD                              | 1.5 g O <sub>2</sub> /g substance                                                                                                                                             |
| BOD (% of ThOD)                   | 0.8 (Literature study)                                                                                                                                                        |
| methyl isobutyl ketone (108-10-1) |                                                                                                                                                                               |
| Persistence and degradability     | Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Low potential for adsorption in soil. Photolysis in the air. |
| Biochemical oxygen demand (BOD)   | 2.06 g O <sub>2</sub> /g substance                                                                                                                                            |
| Chemical oxygen demand (COD)      | 2.16 g O <sub>2</sub> /g substance                                                                                                                                            |
| ThOD                              | 2.72 g O <sub>2</sub> /g substance                                                                                                                                            |
| BOD (% of ThOD)                   | 0.76                                                                                                                                                                          |

#### 12.3. Bioaccumulative potential

| DENATURED ALCOHOL         |                  |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

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| ethanol (64-17-5)                 |                                                                                          |
|-----------------------------------|------------------------------------------------------------------------------------------|
| BCF fish 1                        | 1 (BCF; Other; 72 h; Cyprinus carpio; Static system; Fresh water; Read-across)           |
| Log Pow                           | -0.31 (Experimental value)                                                               |
| Bioaccumulative potential         | Low potential for bioaccumulation (Log Kow < 4).                                         |
| Isopropanol (67-63-0)             |                                                                                          |
| Log Pow                           | 0.05 (Weight of evidence approach; Other; 25 °C)                                         |
| Bioaccumulative potential         | Low potential for bioaccumulation (Log Kow < 4).                                         |
| methanol (67-56-1)                |                                                                                          |
| BCF fish 1                        | < 10 (BCF; 72 h; Leuciscus idus)                                                         |
| Log Pow                           | -0.77 (Experimental value; Other)                                                        |
| Bioaccumulative potential         | Low potential for bioaccumulation (BCF < 500).                                           |
| methyl isobutyl ketone (108-10-1) |                                                                                          |
| BCF fish 1                        | 2 - 5 (BCF)                                                                              |
| Log Pow                           | 1.9 (Experimental value; OECD 117: Partition Coefficient (n-octanol/water), HPLC method) |
| Bioaccumulative potential         | Low potential for bioaccumulation (BCF < 500).                                           |

### 12.4. Mobility in soil

| ethanol (64-17-5)                 |                                                                                                        |
|-----------------------------------|--------------------------------------------------------------------------------------------------------|
| Surface tension                   | 0.022 N/m (20 °C)                                                                                      |
| Log Koc                           | Koc,PCKOCWIN v1.66; 1; Read-across                                                                     |
| Isopropanol (67-63-0)             |                                                                                                        |
| Surface tension                   | 0.021 N/m (25 °C)                                                                                      |
| methanol (67-56-1)                |                                                                                                        |
| Surface tension                   | 0.023 N/m (20 °C)                                                                                      |
| Log Koc                           | Koc,PCKOCWIN v1.66; 1; Calculated value                                                                |
| methyl isobutyl ketone (108-10-1) |                                                                                                        |
| Surface tension                   | 0.024 N/m (20 °C)                                                                                      |
| Log Koc                           | Koc,101.85; Weight of evidence; Calculated value; log Koc; 2.008; Weight of evidence; Calculated value |

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

|                                            |                                                                                                                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste treatment methods                    | : Dispose of contents/container in accordance with licensed collector's sorting instructions.                                                                                           |
| Product/Packaging disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container in accordance with all local, regional, national and international regulations. |
| Additional information                     | : Flammable vapors may accumulate in the container. Handle empty containers with care because residual vapors are flammable.                                                            |
| Ecology - waste materials                  | : Avoid release to the environment.                                                                                                                                                     |

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

|                                |                                                                 |
|--------------------------------|-----------------------------------------------------------------|
| Transport document description | : UN1987 Alcohols, n.o.s., 3, II                                |
| UN-No.(DOT)                    | : UN1987                                                        |
| Proper Shipping Name (DOT)     | : Alcohols, n.o.s.                                              |
| Class (DOT)                    | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |



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Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Packaging Non Bulk (49 CFR 173.xxx) : 202

DOT Packaging Bulk (49 CFR 173.xxx) : 242

DOT Special Provisions (49 CFR 172.102) : 172 - This entry includes alcohol mixtures containing up to 5% petroleum products.  
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.  
TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).  
TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 4b;150

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

Emergency Response Guide (ERG) Number : 127

Other information : No supplementary information available.

### Transportation of Dangerous Goods

Transport document description : UN1987 ALCOHOLS, N.O.S., 3, II

UN-No. (TDG) : UN1987

Proper Shipping Name (Transportation of Dangerous Goods) : ALCOHOLS, N.O.S.

TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids

Packing group : II - Medium Danger

TDG Special Provisions : 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S.; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S.; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S.; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S.; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. An example in Canada is the "Food and Drugs Act". (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS. SOR/2014-306,150 - An emergency response assistance plan (ERAP) is required for these dangerous goods under subsection 7.1(6) of Part 7 (Emergency Response Assistance Plan).

Explosive Limit and Limited Quantity Index : 1 L

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Passenger Carrying Road Vehicle or Passenger : 5 L  
Carrying Railway Vehicle Index

### Transport by sea

UN-No. (IMDG) : 1987  
Proper Shipping Name (IMDG) : ALCOHOLS, N.O.S.  
Class (IMDG) : 3 - Flammable liquids  
Packing group (IMDG) : II - substances presenting medium danger

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

|                        |                  |         |
|------------------------|------------------|---------|
| Isopropanol            | CAS-No. 67-63-0  | 5 - 10% |
| methanol               | CAS-No. 67-56-1  | < 5%    |
| methyl isobutyl ketone | CAS-No. 108-10-1 | < 5%    |

#### Isopropanol (67-63-0)

Listed on SARA Section 313 (Specific toxic chemical listings)

#### methanol (67-56-1)

Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 5000 lb

#### methyl isobutyl ketone (108-10-1)

Listed on SARA Section 313 (Specific toxic chemical listings)

CERCLA RQ 5000 lb

### 15.2. International regulations

#### CANADA

##### DENATURED ALCOHOL

Listed on the Canadian DSL (Domestic Substances List) inventory.

### EU-Regulations

No additional information available

### National regulations

#### ethanol (64-17-5)

Listed on IARC (International Agency for Research on Cancer)

#### methyl isobutyl ketone (108-10-1)

Listed on IARC (International Agency for Research on Cancer)

### 15.3. US State regulations

This product can expose you to methyl isobutyl ketone, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### 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 - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
| No                                                    | Yes                                                         | No                                                                  | No                                                                |                                   |

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| methyl isobutyl ketone (108-10-1)                     |                                                             |                                                                     |                                                                   |                                   |
|-------------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------|
| U.S. - California - Proposition 65 - Carcinogens List | U.S. - California - Proposition 65 - Developmental Toxicity | U.S. - California - Proposition 65 - Reproductive Toxicity - Female | U.S. - California - Proposition 65 - Reproductive Toxicity - Male | No significance risk level (NSRL) |
| Yes                                                   | Yes                                                         | No                                                                  | No                                                                |                                   |

| ethanol (64-17-5)                                          |
|------------------------------------------------------------|
| U.S. - New Jersey - Right to Know Hazardous Substance List |

| isopropanol (67-63-0)                                      |
|------------------------------------------------------------|
| U.S. - New Jersey - Right to Know Hazardous Substance List |

| methanol (67-56-1)                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

| methyl isobutyl ketone (108-10-1)                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S. - Massachusetts - Right To Know List<br>U.S. - New Jersey - Right to Know Hazardous Substance List<br>U.S. - Pennsylvania - RTK (Right to Know) List |

## SECTION 16: Other information

Other information : None.

Full text of H-phrases:

|      |                                   |
|------|-----------------------------------|
| H225 | Highly flammable liquid and vapor |
| H301 | Toxic if swallowed                |
| H311 | Toxic in contact with skin        |
| H319 | Causes serious eye irritation     |
| H331 | Toxic if inhaled                  |
| H332 | Harmful if inhaled                |
| H335 | May cause respiratory irritation  |
| H336 | May cause drowsiness or dizziness |
| H350 | May cause cancer                  |
| H351 | Suspected of causing cancer       |
| H370 | Causes damage to organs           |

SDS US Endura

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