

# SAFETY DATA SHEET

## Propan-2-ol (IPA)

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830

Date of issue : 2017-05-03  
Date of revision : 2022-12-27  
Version : 1

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

---

#### 1.1. Product identifier

**Product name** : IPA  
**Chemical name** : Propan-2-ol  
**EC number** : 200-661-7  
**CAS number** : 67-63-0  
**INCI Name** : Not available/not applicable  
**REACH Registration number** : 01-2119457558-25  
**Other means of identification** : 2-Propanol, 2-propanol, HP-IPA, IPA, IPPAA, ISO PROPYL ALCOHOL, Isopropanol, Isopropyl alcohol, Propan-2-ol, isopropanol, isopropyl alcohol, propan-2-ol  
**Chemical formula** : C<sub>3</sub>H<sub>8</sub>O

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

**Identified Uses** :

- Manufacture of substance
- Distribution of substance
- Formulation and (re)packing of substances and mixtures
- Use in Coatings - Industrial
- Use in Cleaning Agents - Industrial
- Use in oil field drilling and production operations - Industrial
- Lubricants - Industrial
- Metal working fluids / rolling oils - Industrial
- Blowing agents
- Use as binders and release agents - Industrial
- Use as a fuel - Industrial
- Functional Fluids - Industrial
- Use in laboratories - Industrial
- Rubber production and processing
- Polymer processing - Industrial
- Water treatment chemicals - Industrial
- Mining chemicals
- Use in Coatings - Professional
- Use in Cleaning Agents - Professional
- Use in oil field drilling and production operations - Professional
- Lubricants - Professional (Low Release)
- Metal working fluids / rolling oils - Professional
- Use as binders and release agents - Professional
- Agrochemical uses - Professional
- Use as a fuel - Professional
- Functional Fluids - Professional

De-icing and anti-icing applications - Professional  
Road and construction applications  
Use in laboratories - Professional  
Explosives manufacture & use  
Polymer processing - Professional  
Water treatment chemicals - Professional  
Use in Coatings - Consumer  
Use in Cleaning Agents - Consumer  
Lubricants - Consumer (Low Release)  
Agrochemical uses - Consumer  
Use as a fuel - Consumer  
Functional Fluids - Consumer  
De-icing and anti-icing applications - Consumer  
Uses in cosmetics/personal care products, perfumes and fragrances – Consumer

**Uses advised against** : The above Identified Uses are specific to the customer for whom this Safety Data Sheet is intended and are uses for which the information in this Safety Data Sheet is applicable. Other uses for this product may be upported/registered. This product is not ecommended for any industrial, professional or consumer use other than those which are upported/registered.

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

**Name** : GLI-THERM Sp. z o.o.  
**Address** : st. Rozwojowa 11, 44-338 Jastrzębie-Zdrój Poland  
**Regon** : 242850136  
**NIP/Tax No** : 6423178990  
**Telephone** : +48 733 525 533  
**E-mail** : sandra.stachowicz@gli therm.eu  
**Website address** : www.gli therm.eu

### 1.4. Emergency telephone number

#### National advisory body/Poison Center:

Ireland : National Poisons Information Centre  
Emergency number:  
+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166  
(public, 8am - 10pm, 7/7)

United Kingdom : National Poisons Information Service (Newcastle Centre)  
Emergency number:  
0844 892 0111 (UK only, 24/7, healthcare professionals only)

Poland : Szpital Praski p.w. Przemienienia Pańskiego Sp. z o.o.  
Emergency number:  
+48 22 619 66 54  
+48 22 619 08 97

Germany : Vergiftungs-Informationen-Zentrale Freiburg  
Emergency number: +49 (0) 761 19240

24 Hour Emergency Telephone: : +(44)-8708200418 CHEMTREC

**Supplier**

Telephone number : +48 733 525 533

## SECTION 2: Hazards identification

---

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

**Flammable liquid** : Category 2.  
**Eye irritation** : Category 2.  
**Specific target organ toxicant (central nervous system):** : Category 3.  
**H 225** : Highly flammable liquid and vapor.  
**H 319** : Causes serious eye irritation.  
**H 336** : May cause drowsiness or dizziness.

### 2.2. Label elements

**Hazard pictograms** :



**Signal word** : DANGER

**Hazard statements** : **H 225** - Highly flammable liquid and vapor.  
**H 319** - Causes serious eye irritation.  
**H 336** - May cause drowsiness or dizziness.

#### Precautionary statements

**Prevention** : **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, and lighting equipment.  
**P242** - Use only non-sparking tools.  
**P243** - Take precautionary measures against static discharge.  
**P261** - Avoid breathing mist / vapours.  
**P264** - Wash skin thoroughly after handling.  
**P271** - Use only outdoors or in a well-ventilated area.  
**P280** - Wear protective gloves and eye / face protection.

- Response** : **P301 + P310** - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
**P303 + P361 + P353** - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
**P304 + P340** - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
**P305 + P351 + P338** - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P312** - Call a POISON CENTER or doctor/physician if you feel unwell.  
**P331** - Do NOT induce vomiting.  
**P337 + P313** - If eye irritation persists: Get medical advice/attention.  
**P370 + P378** - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish.
- Storage** : **P403 + P235** - Store in a well-ventilated place. Keep cool.  
**P405** - Store locked up.
- Disposal** : **P501** Dispose contents / container to destinations in accordance with local, regional, national and international regulations.

### 2.3. Other hazards

- Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.
- Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.
- Other hazards which do not result in classification**
- Physical / Chemical Hazards** : Material can release vapours that readily form flammable mixtures. Vapour accumulation could flash and/or explode if ignited.
- Health Hazards** : Repeated exposure may cause skin dryness or cracking. May be irritating to the skin, nose, throat, and lungs.  
May cause central nervous system depression. If swallowed, may be aspirated and cause lung damage.
- Environmental Hazards** : No significant hazards. Material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

## SECTION 3: Composition/information on ingredients

---

### 3.1. Substance

Mono-constituent substance

Substance	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP/GHS]	Type
propan-2-ol	EC: 200-661-7 CAS: 67-63-0 REACH: 01-2119457558-25	100	[Asp. Tox. 2 H305], Flam. Liq. 2 H225, STOT SE 3 H336, Eye Irrit. 2 H319	[A]

Note - any classification in brackets is a GHS building block that was not adopted by the EU in the CLP regulation (No 1272/2008) and therefore is not applicable in the EU or in non-EU countries which have implemented the CLP regulation and is shown for informational purposes only.

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type:

[A] Constituent

[B] Impurity

[C] Stabilizing additive

Occupational exposure limits, if available, are listed in Section 8.

### 3.2. Mixture

Not Applicable. This product is regulated as a substance.

## SECTION 4: First aid measures

---

### 4.1 Description of first aid measures

<b>Eye contact</b>	:	Flush thoroughly with water for at least 15 minutes. Get medical assistance.
<b>Inhalation</b>	:	Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.
<b>Skin contact</b>	:	Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.
<b>Ingestion</b>	:	Seek immediate medical attention. Do not induce vomiting.

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

Headache, dizziness, drowsiness, nausea and other CNS effects. Eye pain, redness, tearing, swelling of eyelids, itching.

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

- Notes to physician** : If ingested, material may be aspirated into the lungs and cause chemical pneumonitis.
- Specific treatments** : Treat appropriately.

### SECTION 5: Firefighting measures

---

#### 5.1. Extinguishing media

- Suitable extinguishing media** : Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames.
- Unsuitable extinguishing media** : Straight streams of water

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

- Hazardous combustion products** : Incomplete combustion products, Oxides of carbon, Smoke, Fume

#### 5.3 Advice for firefighters

- Fire Fighting Instructions** : Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapours and to protect personnel attempting to stop a leak. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.
- Unusual Fire Hazards** : Highly flammable. Vapour is flammable and heavier than air. Vapour may travel across the ground and reach remote ignition sources, causing a flashback fire danger. Hazardous material. Firefighters should consider protective equipment indicated in Section 8.

### SECTION 6: Accidental release measures

---

#### 6.1. Personal precautions, protective equipment and emergency procedures

- Notification procedures** : In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
- Protective measures** : Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

## 6.2. Environmental precautions

Large Spills: Dyke far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

## 6.3. Methods and materials for containment and cleaning up

- Land Spill** : Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewer, basements or confined areas. A vapour-suppressing foam may be used to reduce vapour. Use clean non-sparking tools to collect absorbed material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.  
**Large Spills:** Water spray may reduce vapour, but may not prevent ignition in enclosed spaces. Recover by pumping or with suitable absorbent.
- Water Spill** : Stop leak if you can do so without risk. Eliminate sources of ignition. Warn other shipping. Seek the advice of a specialist before using dispersants.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted.

**Note:** Local regulations may prescribe or limit action to be taken.

## 6.4. Reference to other sections

See section 7 for safe handling information.

For information on personal protective equipment, see section 8.

See section 13 for disposal information.

# SECTION 7: Handling and storage

---

The information in this section contains generic advice and guidance.

## 7.1. Precautions for safe handling

- Protective measures** : Avoid contact with eyes. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Potentially toxic/irritating fumes/vapour may be evolved from heated or agitated material. Use only with adequate ventilation. Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Peroxides may form upon prolonged storage. Exposure to light, heat or air significantly increases peroxide formation. If evaporated to a residue, the mixture of peroxides residue and material vapor may explode when exposed to heat or shock.  
Prevent small spills and leakage to avoid slip hazard.

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

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be earthed and bonded. Fixed storage containers, transfer containers and associated equipment should be earthed and bonded to prevent accumulation of static charge.

<b>Storage Temperature</b>	:	[Ambient]
<b>Storage Pressure</b>	:	[Ambient]
<b>Suitable Containers/Packing</b>	:	Tankers; Drums; Tank Cars; Tank Trucks; Barges
<b>Suitable Materials and Coatings (Chemical Compatibility)</b>	:	Carbon Steel; Stainless Steel; Polyester; Teflon; Polyethylene; Epoxy Phenolic; Copper Bronze; Zinc; Polypropylene; Vinyls
<b>Unsuitable Materials and Coatings</b>	<b>and</b> :	Butyl Rubber; Polystyrene; Cast iron; Ethylene-propylene-diene monomer (EPDM); Natural Rubber; Monel; Aluminium

## 7.3. Specific end use(s)

Section 1 informs about identified end-uses. No industrial or sector specific guidance available.

## SECTION 8: Exposure controls/personal protection

---

The information in this section contains generic advice and guidance.

### 8.1. Control parameters

#### EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Limit/Standard			Source
propan-2-ol	STEL	1250 mg/m <sup>3</sup>	500 ppm	UK EH40
propan-2-ol	TWA	999 mg/m <sup>3</sup>	400 ppm	UK EH40
propan-2-ol	STEL		400 ppm	ACGIH
propan-2-ol	TWA		200 ppm	ACGIH

UK EH40 Workplace Exposure Limits. Exposure limits for use with Control of Substances Hazardous to Health Regulations 2002 (as amended)

Note: Information about recommended monitoring procedures can be obtained from the relevant agency(ies)/institute(s): UK Health and Safety Executive (HSE)



**DERIVED NO EFFECT LEVEL (DNEL)/DERIVED MINIMAL EFFECT LEVEL (DMEL)****Worker**

Substance Name: propan-2-ol

**Dermal** : 888 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects**Inhalation** : 500 mg/m<sup>3</sup> DNEL, Chronic Exposure, Systemic Effects**Consumer**

Substance Name: propan-2-ol

**Dermal** : 319 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects**Inhalation** : 89 mg/m<sup>3</sup> DNEL, Chronic Exposure, Systemic Effects**Oral** : 26 mg/kg bw/day DNEL, Chronic Exposure, Systemic Effects

**Note:** The Derived No Effect Level (DNEL) is an estimated safe level of exposure that is derived from toxicity data in accord with specific guidance within the European REACH regulation. The DNEL may differ from an Occupational Exposure Limit (OEL) for the same chemical. OELs may be recommended by an individual company, a governmental regulatory body or an expert organization, such as the Scientific Committee for Occupational Exposure Limits (SCOEL) or the American Conference of Governmental Industrial Hygienists (ACGIH). OELs are considered to be safe exposure levels for a typical worker in an occupational setting for an 8-hour work shift, 40 hour work week, as a time weighted average (TWA) or a 15 minute short-term exposure limit (STEL). While also considered to be protective of health, OELs are derived by a process different from that of REACH.

**PREDICTED NO EFFECT CONCENTRATION (PNEC)**

Substance Name: propan-2-ol

**Aqua (fresh water)** : 140.9 mg/l**Aqua (marine water)** : 140.9 mg/l**Aqua (intermittent release)** : 140.9 mg/l**Sewage treatment plant** : 2251 mg/l**Sediment** : 552 mg/kg (dry wt)**Soil** : 28 mg/kg**Oral (secondary poisoning)** : 160 mg / kg (food)**8.2. Exposure controls**

**Appropriate engineering controls** : The level of protection and types of controls necessary will vary depending upon potential exposure conditions.  
Control measures to consider: Adequate ventilation should be provided so that exposure limits are not exceeded. Use explosion-proof ventilation equipment.

## Individual protection measures

- Hygiene measures** : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.
- Eye/face protection** : Chemical goggles are recommended.
- Hand protection** : Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: If prolonged or repeated contact is likely, chemical-resistant gloves are recommended. If contact with forearms is likely, wear gauntlet-style gloves. Butyl rubber, minimum 0.64 mm thickness or comparable protective barrier material with a high performance level for continuous contact use conditions, permeation breakthrough minimum 480 minutes in accordance with CEN standards EN 420 and EN 374.
- Body protection** : Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: If prolonged or repeated contact is likely, chemical, and oil resistant clothing is recommended.
- Respiratory protection** : If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable.  
Types of respirators to be considered for this material include: Half-face filter respirator Type A filter material, European Committee for Standardization (CEN) standards EN 136, 140 and 405 provide respirator masks and EN 149 and 143 provide filter recommendations. For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode.  
Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.
- Environmental controls** : Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9: Physical and chemical properties

---

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

- Physical state : Liquid
- Color : Colourless
- Odor : Alcohol
- Odor threshold : No data available
- pH : Not technically feasible

Initial boiling point and boiling range	: 82°C (180°F) [ASTM D1078]
Melting point/freezing point	: Not technically feasible / No data available
Flash point	: 12°C (54°F) [ASTM D-56]
Evaporation rate	: 4 [Calculated]
Flammability (solid, gas)	: Not technically feasible
Upper/Lower Flammable Limits (Approximate volume % in air)	: UEL: 13 LEL: 2.0 [Calculated]
Vapor pressure	: 4 kPa (30 mm Hg) at 20 °C [Calculated]
Vapor density (Air = 1)	: 2 at 101 kPa [Calculated]
Density (at 15 oC)	: 790 kg/m <sup>3</sup> (6.59 lbs/gal, 0.79 kg/dm <sup>3</sup> ) [ASTM D4052]
Relative Density (at 15 °C)	: 0.79 [With respect to water] [Calculated]
Solubility(ies)	: Appreciable : 0.3 [Estimated]
Partition coefficient: n-octanol/water	
Auto-ignition temperature	: 399°C (750°F) [ASTM E659]
Decomposition temperature	: No data available
Pour Point	: -88°C (-126°F) [test method unavailable]
Viscosity	: 1.8 cSt (1.8 mm <sup>2</sup> /sec) at 40oC   3.1 cSt (3.1 mm <sup>2</sup> /sec) at 20°C [ASTM D7042]
Hygroscopic	: Yes
Coefficient of Thermal Expansion	: 0.00112 per Deg C [Calculated]

## 9.2. Other information

Explosive properties	: None
Oxidizing properties	: None

## SECTION 10: Stability and reactivity

---

### 10.1. Reactivity

See sub-sections below.

### 10.2 Chemical stability

Under normal storage conditions peroxides may accumulate and explode when subjected to heat or shock. Distillation or evaporation increases peroxide formation and increases the explosion hazard.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5. Incompatible materials

Aldehydes, Alkanolamines, Amines, Caustics, Chlorinated Compounds, Strong oxidisers.

### 10.6 Hazardous decomposition products

Material does not decompose at ambient temperatures.

## SECTION 11: Toxicological information

---

### 11.1. Information on toxicological effects

Acute toxicity

<b>Inhalation</b>	:	LD50	> 25000 mg/m <sup>3</sup> (Vapour) (Rat) 6 hour(s) Test scores or other study results do not meet criteria for classification.
		Conclusion/Remarks	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.		Conclusion/Remark	Elevated temperatures or mechanical action may form vapours, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
<b>Ingestion</b>	:	LD50	50 5840 mg/kg (Rat). Test scores or other study results do not meet criteria for classification.
		Conclusion/Remarks	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 401
<b>Skin</b>	:	LD50	13900 mg/kg (Rabbit). Test scores or other study results do not meet criteria for classification.
		Conclusion/Remark	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402
<b>Skin Corrosion /Irritation</b>	:	Conclusion/Remark	May dry the skin leading to discomfort and dermatitis. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 404
<b>Skin Corrosion /Irritation</b>	:	Data available. Test scores or other study results do not meet criteria for classification	
<b>Eye</b>	:	Serious Eye Damage/Irritation: Data available. Test scores or other study results meet criteria for classification. Irritating and will injure eye tissue. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405	
<b>Respiratory or skin sensitisation</b>	:	Respiratory Sensitization: No end point data for material. Not expected to be a respiratory sensitizer. Skin Sensitization: Data available. Test scores or other study results do not meet criteria for classification. Not expected to be a skin sensitizer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 406	
<b>Aspiration</b>	:	May be harmful if swallowed and enters airways. Based on physico-chemical properties of the material.	
<b>Germ cell mutagenicity</b>	:	Not expected to be a germ cell mutagen. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471 474 476	
<b>Carcinogenic</b>	:	Not expected to cause cancer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 451	

- Reproductive toxicity** : Not expected to be a reproductive toxicant. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 414 415 416
- Specific target organ toxicity - single exposure** : May cause drowsiness or dizziness.
- Specific target organ toxicity - repeated exposure** : Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413

## 11.2. Information on other hazards

### 11.2.1 Endocrine disrupting properties

No known endocrine disrupting properties that affect human health.

### 11.2.2 Other Information

#### For the product itself:

Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

## SECTION 12: Ecological information

---

The information given is based on data available for the material, the components of the material, and similar materials.

### 12.1. Toxicity

Material - Not expected to demonstrate chronic toxicity to aquatic organisms

### 12.2 Persistence and degradability

- Biodegradation** : Material - Expected to be readily biodegradable.
- Hydrolysis** : Material - Transformation due to hydrolysis not expected to be significant.
- Photolysis** : Material - Transformation due to photolysis not expected to be significant.
- Atmospheric Oxidation** : Material -- Expected to degrade at a moderate rate in air

### 12.3 Bioaccumulative potential

Not determined.

### 12.4 Mobility in soil

Material - Expected to remain in water or migrate through soil.

### 12.5 Results of PBT and vPvB assessment

- PBT** : This product is not, or does not contain, a substance that is a PBT
- vPvB** : This product is not, or does not contain, a substance that is a vPvB.

### 12.6 Endocrine disrupting properties

No known endocrine disrupting properties that affect the environment.

## 12.7 Other ecological information

### Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	8 day(s)	Alga	LOEC 1000 mg/l: data for the material
Aquatic - Acute Toxicity	24 hour(s)	Daphnia magna	LC50 9714 mg/l: data for the material
Aquatic - Acute Toxicity	96 hour(s)	Pimephales promelas	LC50 9640 mg/l: data for the material

### Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results: Basis
Octanol-Water	Calculated		log Kow 0.05 : material
Water	Ready Biodegradability	5 day(s)	Percent Degraded 53 : material

## SECTION 13: Disposal considerations

Disposal must comply with current local laws and regulations and the characteristics of the material at the time of disposal.

### 13.1. Waste treatment methods

#### Product

**Methods of disposal** : Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

**Hazardous waste** : Yes.

#### European waste catalogue (EWC)

**Waste code** : **Waste designation**

08 XX XX or 07 07 99 : wastes not otherwise specified

These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s).

#### Packaging

**Methods of disposal** : Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations.

**Special precautions** : Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

## SECTION 14: Transport information

	ADR/RID	ADNR/ADN	IMDG	IATA
14.1. UN Number	UN1219	UN1219	UN1219	UN1219
14.2. UN Proper Shipping Name	ISOPROPANOL	ISOPROPANOL	ISOPROPANOL	ISOPROPYL ALCOHOL
14.3. Transport Hazard Class(es)	3	3	3	3
14.4. Packing Group	II	II	II	II
14.5. Environmental Hazards	None	None		None
14.6. Special Precautions for users	Classification Code: F1 Label(s) / Mark(s): 3 Hazard ID Number: 33 Hazchem EAC: 2YE	Hazard ID Number: 33 Label(s) / Mark(s): 3	Label(s): 3 EMS Number: F-E, S-D Transport Document Name: UN1219, ISOPROPANOL, 3, PG II, (12°C c.c.)	Label(s) / Mark(s): 3 Transport Document Name: UN1219, ISOPROPYL ALCOHOL, 3, PG II

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Substance Name: ISOPROPYL ALCOHOL  
Ship type required: NA  
Pollution category: Z

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Applicable EU Directives and Regulations:

1907/2006 [... on the Registration, Evaluation, Authorisation and Restriction of Chemicals ... and amendments thereto]

2004/42/CE [on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC.]

96/82/EC as extended by 2003/105/EC [ ... on the control of major-accident hazards involving dangerous substances]. Product contains a substance that falls within the criteria defined in Annex I. Refer to Directive for details of requirements taking into account the volume of product stored on site.

98/24/EC [... on the protection of workers from the risk related to chemical agents at work ...]. Refer to Directive for details of requirements.

1272/2008 [on classification, labelling and packaging of substances and mixtures.. and amendments thereto]

REACH Restrictions on the manufacturing, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII): The following entries of Annex XVII may be considered for this product: 03, 40

### 15.2 Chemical Safety Assessment:

**REACH Information:** A Chemical Safety Assessment has been carried out for one or more substances present in the material.

## SECTION 16: Other information

---

The data is confirmed based on the state of our knowledge, but does not determine how the production properties and cannot be used to justify legally binding contracts.

### IDENTIFIED USES:

Manufacture of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU10, SU3, SU8, SU9)  
Distribution of substance (PROC1, PROC15, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3, SU8, SU9)

Formulation and (re)packing of substances and mixtures (PROC1, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU10, SU3)

Use in Coatings - Industrial (PROC1, PROC10, PROC13, PROC14, PROC15, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, SU3)

Use in Cleaning Agents - Industrial (PROC1, PROC10, PROC13, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, SU3)

Use in oil field drilling and production operations - Industrial (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU3)

Lubricants - Industrial (PROC1, PROC10, PROC13, PROC17, PROC18, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, SU3)

Metal working fluids / rolling oils - Industrial (PROC1, PROC10, PROC13, PROC17, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, SU3)

Blowing agents (PROC1, PROC12, PROC2, PROC3, PROC8b, PROC9, SU3)

Use as binders and release agents - Industrial (PROC1, PROC10, PROC13, PROC14, PROC2, PROC3, PROC4, PROC6, PROC7, PROC8a, PROC8b, SU3)

Use as a fuel - Industrial (PROC1, PROC16, PROC2, PROC3, PROC8a, PROC8b, SU3)

Functional Fluids - Industrial (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU3)

Use in laboratories - Industrial (PROC10, PROC15, SU3)

Rubber production and processing (PROC1, PROC13, PROC14, PROC15, PROC2, PROC21, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, SU10)

Polymer processing - Industrial (PROC1, PROC13, PROC14, PROC2, PROC21, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, SU10, SU3)

Water treatment chemicals - Industrial (PROC1, PROC13, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU3)

Mining chemicals (PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, SU3)

Use in Coatings - Professional (PROC1, PROC10, PROC11, PROC13, PROC15, PROC19, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, SU22)

Use in Cleaning Agents - Professional (PROC1, PROC10, PROC11, PROC13, PROC19, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU22)

Use in oil field drilling and production operations - Professional (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU22)

Lubricants - Professional (Low Release) (PROC1, PROC10, PROC11, PROC13, PROC17, PROC18, PROC2, PROC20, PROC3, PROC4, PROC8a, PROC8b, PROC9, SU22)

Metal working fluids / rolling oils - Professional (PROC1, PROC10, PROC11, PROC13, PROC17, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, SU22)

Use as binders and release agents - Professional (PROC1, PROC10, PROC11, PROC14, PROC2, PROC3, PROC4, PROC6, PROC8a, PROC8b, SU22)

Agrochemical uses - Professional (PROC1, PROC11, PROC13, PROC2, PROC4, PROC8a, PROC8b, SU22)

Use as a fuel - Professional (PROC1, PROC16, PROC2, PROC3, PROC8a, PROC8b, SU22)

Functional Fluids - Professional (PROC1, PROC2, PROC20, PROC3, PROC8a, PROC9, SU22)

De-icing and anti-icing applications - Professional (PROC1, PROC10, PROC11, PROC2, PROC8a, PROC8b, SU22)

Road and construction applications (PROC1, PROC10, PROC11, PROC13, PROC2, PROC8a, PROC8b, PROC9, SU22)

Use in laboratories - Professional (PROC10, PROC15, SU22)

Explosives manufacture & use (PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, SU22)

Polymer processing - Professional (PROC1, PROC14, PROC2, PROC21, PROC6, PROC8a, PROC8b, SU22)

Water treatment chemicals - Professional (PROC1, PROC13, PROC2, PROC3, PROC4, PROC8a, PROC8b, SU22)

Use in Coatings - Consumer (PC01, PC04, PC08, PC09A, PC09B, PC09C, PC15, PC18, PC23, PC24, PC31, PC34, SU21)

Use in Cleaning Agents - Consumer (PC03, PC04, PC08, PC09A, PC09B, PC09C, PC24, PC35, PC38, SU21)

Lubricants - Consumer (Low Release) (PC01, PC24, PC31, SU21)

Agrochemical uses - Consumer (PC12, PC27, SU21)



Use as a fuel - Consumer (PC13, SU21)  
Functional Fluids - Consumer (PC16,PC17, SU21)  
De-icing and anti-icing applications - Consumer (PC04, SU21)  
Uses in cosmetics/personal care products, perfumes and fragrances – Consumer (PC28,PC39, SU21)  
Water treatment chemicals - Consumer (PC36,PC37, SU21)

#### REFERENCES:

Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, CONCAWE Product Dossiers, publications from other trade associations, such as the EU Hydrocarbon Solvents REACH Consortium, U.S. HPV Program Robust Summaries, the EU IUCLID Data Base, U.S. NTP publications, and other sources, as appropriate.

Abbreviations; acronyms and full text of H-Statements

<b>H225</b>	:	Highly flammable liquid and vapour.
<b>H290</b>	:	May be corrosive to metals.
<b>H300</b>	:	Fatal if swallowed
<b>H301</b>	:	Toxic if swallowed.
<b>H302</b>	:	Harmful if swallowed.
<b>H310</b>	:	Fatal in contact with skin
<b>H312</b>	:	Harmful in contact with skin.
<b>H314</b>	:	Causes severe skin burns and eye damage.
<b>H315</b>	:	Causes skin irritation.
<b>H317</b>	:	May cause an allergic skin reaction.
<b>H318</b>	:	Causes serious eye damage.
<b>H319</b>	:	Causes serious eye irritation.
<b>H330</b>	:	Fatal if inhaled
<b>H331</b>	:	Toxic if inhaled.
<b>H332</b>	:	Harmful if inhaled.
<b>H334</b>	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H335</b>	:	May cause respiratory irritation.
<b>H336</b>	:	May cause drowsiness or dizziness
<b>H341</b>	:	Suspected of causing genetic defects.
<b>H350i</b>	:	May cause cancer by inhalation.
<b>H360D</b>	:	May damage the unborn child.
<b>H361d</b>	:	Suspected of damaging the unborn child.
<b>H372</b>	:	Causes damage to organs through prolonged or repeated exposure.
<b>H373</b>	:	May cause damage to organs through prolonged or repeated exposure.
<b>H400</b>	:	Very toxic to aquatic life.
<b>H410</b>	:	Very toxic to aquatic life with long lasting effects.
<b>H411</b>	:	Toxic to aquatic life with long lasting effects
<b>H412</b>	:	Harmful to aquatic life with long lasting effects.
<b>Met. Corr. 1</b>	:	Corrosive to metals, Category 1
<b>Repr. 2</b>	:	Reproductive toxicity, Category 2
<b>Acute Tox. 4</b>	:	Acute toxicity, Category 4
<b>Aquatic Chronic 2</b>	:	Hazardous to the aquatic environment – Chronic Hazard, Category 2
<b>Aquatic Chronic 3</b>	:	Hazardous to the aquatic environment, chronic, Category 3
<b>Eye Irrit. 2,</b>	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

<b>Eye Dam. 1,</b>	:	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
<b>Skin Corr. 1A</b>	:	Skin corrosion/irritation, Category 1, Sub-Category 1A
<b>Skin Corr. 1B</b>	:	Skin corrosion/irritation, Category 1, Sub-Category 1B
<b>Skin Irrit. 2,</b>	:	SKIN CORROSION/IRRITATION - Category 2
<b>STOT RE 2</b>	:	Specific target organ toxicity - repeated exposure, Category 2
<b>STOT SE 3</b>	:	Specific target organ toxicity - single exposure, Category 3
<b>NDS</b>	:	The highest acceptable concentration
<b>NDSCh</b>	:	Highest Permissible Temporary Concentration
<b>NDSP</b>	:	Maximum Allowable Ceiling Concentration
<b>REACH</b>	:	Registration, Evaluation, Authorisation and Restriction of Chemical
<b>MARPOL</b>	:	(from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
<b>N/A</b>	:	Not applicable
<b>N/D</b>	:	Not determined
<b>NE</b>	:	Not established
<b>VOC</b>	:	Volatile Organic Compound
<b>AICS</b>	:	Australian Inventory of Chemical Substances
<b>AIHA WEEL</b>	:	American Industrial Hygiene Association Workplace Environmental Exposure Limits
<b>DSL</b>	:	Domestic Substance List (Canada)
<b>ELINCS</b>	:	European List of Notified Chemical Substances
<b>ENCs</b>	:	Existing and new Chemical Substances (Japanese inventory)
<b>IECSC</b>	:	Inventory of Existing Chemical Substances in China
<b>KECI</b>	:	Korean Existing Chemicals Inventory
<b>NDSL</b>	:	Non-Domestic Substances List (Canada)
<b>NZIoC</b>	:	New Zealand Inventory of Chemicals
<b>PICCS</b>	:	Philippine Inventory of Chemicals and Chemical Substances
<b>TLV</b>	:	Threshold Limit Value (American Conference of Governmental Industrial Hygienists)
<b>TSCA</b>	:	Toxic Substances Control Act (U.S. inventory)
<b>UVCB</b>	:	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
<b>IBC Code</b>	:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
<b>UN</b>	:	United Nations (also UNO: United Nations Organization)
<b>NOEC</b>	:	No Observed Effect Concentration
<b>NOELR</b>	:	No Observable Effect Loading Rate
<b>OECD</b>	:	Organization for Economic Co-operation and Development
<b>ASTM</b>	:	American Society for Testing and Materials
<b>WAF</b>	:	Water Accommodated Fraction
<b>ADR</b>	:	Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
<b>IMDG</b>	:	International Maritime Code for Dangerous Goods

<b>IATA</b>	:	International Air Transport Association
<b>GHS</b>	:	Globally Harmonised System of Classification and Labeling of Chemicals
<b>EINECS</b>	:	European Inventory of Existing Commercial Chemical Substances
<b>CAS</b>	:	Chemical Abstracts Service (division of the American Chemical Society)
<b>DNEL</b>	:	Derived No-Effect Level (REACH)
<b>PNEC</b>	:	Predicted No-Effect Concentration (REACH)
<b>LC</b>	:	Lethal Concentration
<b>LD</b>	:	Lethal Dose
<b>LL</b>	:	Lethal Loading
<b>EC</b>	:	Effective Concentration
<b>EL</b>	:	Effective Loading
<b>LC50</b>	:	Lethal concentration, 50 percent
<b>LD50</b>	:	Lethal dose, 50 percent
<b>EC50</b>	:	The concentration of the test substance that causes 50% change in response (e.g. to growth) over a specified time period
<b>PBT</b>	:	Persistent, Bioaccumulative and Toxic
<b>vPvB</b>	:	very Persistent and very Bioaccumulative
<b>Acute Tox, 4</b>	:	Acute toxicity - Category 4
<b>Notice to reader</b>	:	The information contained herein is accurate to the latest knowledge and describes the product from the point of view of help and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"