



SAFETY DATA SHEET ETHANOL & ISOPROPANOL

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

1.1. Product identifier

Product name	ETHANOL & ISOPROPANOL
Product number	12520
Synonyms; trade names	ETHANOL 99 & 5% ISOPROPANOL, IPA SPRIT, SYNTH ETHANOL ABS DEN 3%IPA, ETHANOL 96% + 5% IPA, ETHANOL ABS + 3% IPA, ETHANOL ABS + 10% IPA, ETHANOL ABS + 1% IPA, ETHANOL ABS + 5% IPA, ETHANOL 96% + 3% IPA, ETHANOL ABS + 2% IPA COSM, ETHANOL 96% F 150, ETHANOL 99.9% S HOSP, ETHANOL 99 DEN 5% IPA, ETHANOL 99,9% S IPA, ETHANOL 99.9% S135, ETHANOL 96% F145, ETHANOL 96% DEN 1% IPA, ABS FINSPRIT 99.5% IPA 100, FINSPRIT 95% IPA 100, HOSP SP 70%, HOSP SP 96%, IPA SPR 70%, IPA SPR 99.9%, SPRIT 95% DEN IPA, HOSP SP 99.9%, KEMETYL FINSPRIT 95% IPA100, ABS ETHANOL 99.9% TECH IPA100, ETHANOL 70% IPA, HOSPITAL SPRIT 70%, ETHANOL 96% + 20% IPA, ETHANOL 96% + 4 % IPA, ETHANOL 99.9% IPA, ETHANOL 70% HOSP, ETHANOL 99.9% S IPA

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

Identified uses	Chemical Solvent.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	12520

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Flam. Liq. 2 - H225
Health hazards	Eye Irrit. 2 - H319
Environmental hazards	Not Classified

2.2. Label elements

ETHANOL & ISOPROPANOL

Hazard pictograms



Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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 or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHANOL			60-100%
CAS number: 64-17-5	EC number: 200-578-6	REACH registration number: 01-2119457610-43-XXXX	
Classification			
Flam. Liq. 2 - H225			
Eye Irrit. 2 - H319			
PROPAN-2-OL			< 25%
CAS number: 67-63-0	EC number: 200-661-7	REACH registration number: 01-2119457558-25-XXXX	
Classification			
Flam. Liq. 2 - H225			
Eye Irrit. 2 - H319			
STOT SE 3 - H336			

The full text for all hazard statements is displayed in Section 16.

Composition comments

The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Move affected person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.

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Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

Ingestion	May cause stomach pain or vomiting.
Skin contact	Prolonged skin contact may cause redness and irritation.
Eye contact	Prolonged contact may cause redness and/or tearing.

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

Notes for the doctor	No specific recommendations. If in doubt, get medical attention promptly.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Oxides of the following substances: Carbon.
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5.3. Advice for firefighters

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Follow precautions for safe handling described in this safety data sheet. Take precautionary measures against static discharges. No smoking, sparks, flames or other sources of ignition near spillage. Avoid inhalation of spray mist and contact with skin and eyes. Provide adequate ventilation.
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6.2. Environmental precautions

Environmental precautions	Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.
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6.4. Reference to other sections

Reference to other sections	Wear protective clothing as described in Section 8 of this safety data sheet.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Avoid spilling. Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Avoid inhalation of vapours and spray/mists. Provide adequate ventilation. Avoid contact with skin and eyes.
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7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Keep only in the original container. Keep away from heat, sparks and open flame. Keep container tightly closed.
Storage class	Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
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SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ETHANOL

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 1920 mg/m³

PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

WEL = Workplace Exposure Limit.

Ingredient comments	WEL = Workplace Exposure Limits
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ETHANOL (CAS: 64-17-5)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Workers - Inhalation; Long term systemic effects: 950 mg/m ³ Workers - Inhalation; Short term local effects: 1900 mg/m ³ Workers - Dermal; Long term systemic effects: 343 mg/kg/day General population - Inhalation; Long term systemic effects: 114 mg/m ³ General population - Inhalation; Short term local effects: 950 mg/m ³ General population - Dermal; Long term systemic effects: 206 mg/kg/day General population - Oral; Long term systemic effects: 87 mg/kg/day
PNEC	- Fresh water; 0.96 mg/l - marine water; 0.79 mg/l - Intermittent release; 2.75 mg/l - STP; 580 mg/l - Sediment (Freshwater); 3.6 mg/kg - Sediment (Marinewater); 2.9 mg/kg - Soil; 0.63 mg/kg

PROPAN-2-OL (CAS: 67-63-0)

DNEL	Industry - Dermal; Long term systemic effects: 888 mg/kg/day Industry - Inhalation; Long term systemic effects: 500 mg/m ³ Consumer - Dermal; Long term systemic effects: 319 mg/kg/day Consumer - Inhalation; Long term systemic effects: 89 mg/m ³ Consumer - Oral; Long term systemic effects: 26 mg/kg/day
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ETHANOL & ISOPROPANOL

PNEC

- Fresh water; 140.9 mg/l
- marine water; 140.9 mg/l
- Intermittent release; 140.9 mg/l
- STP; 2251 mg/l
- Sediment (Freshwater); 552 mg/kg
- Sediment (Marinewater); 552 mg/kg
- Soil; 28 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The selected gloves should have a breakthrough time of at least 8 hours. Butyl rubber. glove thickness 0.7mm To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear rubber apron. Wear rubber footwear.

Hygiene measures

Provide eyewash station. Wash at the end of each work shift and before eating, smoking and using the toilet. Do not smoke in work area.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Colourless.
Odour	Characteristic.
Odour threshold	No information available.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	76°C
Flash point	16 - 22°C Closed cup.
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	No information available.

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Other flammability	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	No information available.
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.
<u>9.2. Other information</u>	
Other information	No information required.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions No information required.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition. Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Strong reducing agents.

10.6. Hazardous decomposition products

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Hazardous decomposition products Oxides of the following substances: Carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Skin corrosion/irritation

Animal data No information available.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation May cause respiratory system irritation.

Ingestion Gastrointestinal symptoms, including upset stomach.

Skin contact Slightly irritating.

Eye contact Irritating to eyes.

Toxicological information on ingredients.

ETHANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀) 10,470.0
mg/kg)

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀) 15,800.0
mg/kg)

Species Rat

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Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 20.0

Species Rat

ATE inhalation (vapours mg/l) 20.0

Skin corrosion/irritation

Animal data Not irritating. Rabbit OECD 404

Serious eye damage/irritation

Serious eye damage/irritation Irritating. Rabbit OECD 405

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising. Mouse OECD 429

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard No information available.

Inhalation Vapours in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.

Ingestion Ingestion of large amounts may cause unconsciousness. May cause nausea, headache, dizziness and intoxication.

Skin contact Prolonged contact may cause dryness of the skin.

Eye contact Causes serious eye irritation.

PROPAN-2-OL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,840.0

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Species	Rat
Notes (oral LD₅₀)	OECD 401
ATE oral (mg/kg)	5,840.0
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	13,900.0
Species	Rabbit
Notes (dermal LD₅₀)	OECD 402
ATE dermal (mg/kg)	13,900.0
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ gases ppmV)	10,000.0
Species	Rat
Notes (inhalation LC₅₀)	LC ₅₀ (6h) >10000 ppm, Inhalation, Rat OECD 403
<u>Skin corrosion/irritation</u>	
Animal data	Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye irritation.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Not sensitising.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vivo	No information available.
<u>Carcinogenicity</u>	
Carcinogenicity	There is no evidence that the product can cause cancer.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No information available.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	May cause drowsiness or dizziness.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No information available.
<u>Aspiration hazard</u>	
Aspiration hazard	No information available.

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Inhalation	May cause respiratory system irritation. Vapours may cause drowsiness and dizziness.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Causes serious eye irritation.
Target organs	Kidneys Liver

SECTION 12: Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

ETHANOL

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

PROPAN-2-OL

Ecotoxicity The product is not expected to be toxic to aquatic organisms.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Ecological information on ingredients.

ETHANOL

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 48 hours: > 100 mg/l, Leuciscus idus (Golden orfe)
LC₅₀, 96 hour: 14200 mg/l, Pimephales promelas (Fat-head Minnow)
LC₅₀, 96 hour: 13000 mg/l, Oncorhynchus mykiss (Rainbow trout)
LC₅₀, 96 hour: 12000 - 16000 mg/l, Oryzias latipes (Red killifish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 12340 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 48 hours: > 100 mg/l, Selenastrum capricornutum
EC₅₀, 72 hour: 275 mg/l,
(Chlorella vulgaris)

Chronic aquatic toxicity

Chronic toxicity - aquatic invertebrates NOEC, 9 day: 9.6 mg/l, Daphnia magna

PROPAN-2-OL

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

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Acute toxicity - fish	LC ₅₀ , 48 hours: 9640 mg/l, Pimephales promelas (Fat-head Minnow)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 10000 mg/l, Daphnia magna
Acute toxicity - aquatic plants	EC ₅₀ , 7 days: 1800 mg/l, Algae

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

ETHANOL

Persistence and degradability	The product is readily biodegradable. The product is degraded completely by photochemical oxidation.
Biodegradation	- Degradation 84%: 20 day - Half-life : 1 - <10 days

PROPAN-2-OL

Persistence and degradability	The substance is readily biodegradable.
Biological oxygen demand	53 %

12.3. Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	No information available.

Ecological information on ingredients.

ETHANOL

Bioaccumulative potential	The product is not bioaccumulating.
Partition coefficient	log Pow: - 0.31

PROPAN-2-OL

Bioaccumulative potential	The product is not bioaccumulating.
Partition coefficient	log Pow: 0.05 OECD 107

12.4. Mobility in soil

Mobility	The product is soluble in water.
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Ecological information on ingredients.

ETHANOL

Mobility	The product contains volatile organic compounds (VOCs) which will evaporate easily from all surfaces. The product is water-soluble and may spread in water systems.
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PROPAN-2-OL

ETHANOL & ISOPROPANOL

Mobility The product is soluble in water.

Surface tension 22.7 mN/m @ 20°C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

ETHANOL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

PROPAN-2-OL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.

ETHANOL

Other adverse effects The product contains volatile organic compounds (VOCs) which have a photochemical ozone creation potential.

PROPAN-2-OL

Other adverse effects No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Do not puncture or incinerate, even when empty. Waste is classified as hazardous waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID) 1987

UN No. (IMDG) 1987

UN No. (ICAO) 1987

UN No. (ADN) 1987

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ALCOHOLS, N.O.S. (CONTAINS ETHANOL, PROPAN-2-OL)

Proper shipping name (IMDG) ALCOHOLS, N.O.S. (CONTAINS ETHANOL, PROPAN-2-OL)

ETHANOL & ISOPROPANOL

Proper shipping name (ICAO) ALCOHOLS, N.O.S. (CONTAINS ETHANOL, PROPAN-2-OL)

Proper shipping name (ADN) ALCOHOLS, N.O.S. (CONTAINS ETHANOL, PROPAN-2-OL)

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

Transport labels



14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ICAO packing group	II
ADN packing group	II

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-E, S-D
ADR transport category	2
Emergency Action Code	•3YE
Hazard Identification Number (ADR/RID)	33
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

ETHANOL & ISOPROPANOL

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

This product may impact SEVESO storage regulations.

Restrictions (Annex XVII Regulation 1907/2006)

This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3

Seveso Directive - Control of major accident hazards P5c

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

SECTION 16: Other information

ETHANOL & ISOPROPANOL

Abbreviations and acronyms used in the safety data sheet	<p>ATE: Acute Toxicity Estimate.</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>CAS: Chemical Abstracts Service.</p> <p>DNEL: Derived No Effect Level.</p> <p>IATA: International Air Transport Association.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>Kow: Octanol-water partition coefficient.</p> <p>LC₅₀: Lethal Concentration to 50 % of a test population.</p> <p>LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>PNEC: Predicted No Effect Concentration.</p> <p>REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p> <p>IARC: International Agency for Research on Cancer.</p> <p>MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.</p> <p>cATpE: Converted Acute Toxicity Point Estimate.</p> <p>BCF: Bioconcentration Factor.</p> <p>BOD: Biochemical Oxygen Demand.</p> <p>EC₅₀: 50% of maximal Effective Concentration.</p> <p>LOAEC: Lowest Observed Adverse Effect Concentration.</p> <p>LOAEL: Lowest Observed Adverse Effect Level.</p> <p>NOAEC: No Observed Adverse Effect Concentration.</p> <p>NOAEL: No Observed Adverse Effect Level.</p> <p>NOEC: No Observed Effect Concentration.</p> <p>LOEC: Lowest Observed Effect Concentration.</p> <p>DMEL: Derived Minimal Effect Level.</p> <p>EL50: Exposure Limit 50</p> <p>hPa: Hectopascal</p> <p>LL50: Lethal Loading fifty</p> <p>OECD: Organisation for Economic Co-operation and Development</p> <p>POW: Octanol-water partition coefficient</p> <p>SCBA: self-contained breathing apparatus</p> <p>STP: Sewage Treatment Plant</p> <p>VOC: Volatile Organic Compounds</p>
Classification abbreviations and acronyms	<p>Acute Tox. = Acute toxicity</p> <p>Aquatic Acute = Hazardous to the aquatic environment (acute)</p> <p>Aquatic Chronic = Hazardous to the aquatic environment (chronic)</p>
Key literature references and sources for data	Supplier's information.
Classification procedures according to Regulation (EC) 1272/2008	Flam. Liq. 2 - H225: On basis of test data. Eye Irrit. 2 - H319: Calculation method.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	14/01/2022

ETHANOL & ISOPROPANOL

Version number	4.001
Supersedes date	16/03/2021
SDS number	12520
SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario Use as a fuel - Industrial

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a fuel - Industrial
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC7 Use of functional fluid at industrial site
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

Use as a fuel - Industrial

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Avoid direct eye contact with product, also via contamination on hands. Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle. Store substance within a closed system.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Bulk transfers Transfer via enclosed lines. Drum/batch transfers Use drum pumps or carefully pour from container.

Risk management measures

Use suitable eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use as a fuel - Professional

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a fuel - Professional
Process scope	Covers the use as a fuel (or fuel additive) and includes activities associated with its transfer, use, equipment maintenance and handling of waste.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC16 Use of fuels

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure 0.5 - 10 kPa at STP
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Use as a fuel - Professional

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Avoid direct eye contact with product, also via contamination on hands. Store substance within a closed system. Bulk transfers Transfer via enclosed lines. Drum/batch transfers Use drum pumps or carefully pour from container.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Drain down system prior to equipment break-in or maintenance. Retain drain-downs in sealed storage pending disposal or for subsequent recycle. Bulk transfers Clear transfer lines prior to de-coupling. Drum/batch transfers Avoid spillage when withdrawing pump.

Risk management measures

Use suitable eye protection.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario Use as a fuel - Consumer

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use as a fuel - Consumer
Process scope	Covers consumer uses in liquid fuels.
Product category	PC13 Fuels.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC9a Widespread use of functional fluid (indoor) ERC9b Widespread use of functional fluid (outdoor)
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2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Product characteristics

Not regarded as dangerous for the environment. No exposure scenario required.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state	Liquid, vapour pressure > 10 Pa (STP)
Concentration details	Covers concentrations up to 100 %. Unless otherwise stated.

Amounts used

For each use event, covers use amounts up to 37,500 g.

Use as a fuel - Consumer

PC13_2 Liquid: scooter refuelling For each use event, covers use amounts up to 3,750 g.
 PC13_3 Liquid: garden equipment - use PC13_4 Liquid: Garden equipment - Refuelling
 PC13_6 Liquid: home space heater fuel For each use event, covers use amounts up to 750 g.
 PC13_5 Liquid: lamp oil For each use event, covers use amounts up to 100 g.

Frequency and duration of use

Covers use up to 1 time per week.
 Covers use up to 1 time per day.
 Application duration: 2 hours
 Unless otherwise stated.

PC13_3 Liquid: garden equipment - use PC13_4 Liquid: Garden equipment - Refuelling
 PC13_6 Liquid: home space heater fuel Covers use up to 26 days/year. PC13_1 Liquid:
 automotive refuelling Covers exposure up to 0.05 hours per event. PC13_2 Liquid: scooter
 refuelling PC13_4 Liquid: Garden equipment - Refuelling Covers exposure up to 0.03 hours
 per event. PC13_3 Liquid: garden equipment - use Covers exposure up to 2 hours per event.
 PC13_5 Liquid: lamp oil Covers exposure up to 0.01 hours per event. PC13_6 Liquid: home
 space heater fuel Covers exposure up to 8 hours per event.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 420 cm². Unless otherwise stated.

PC13_1 Liquid: automotive refuelling PC13_2 Liquid: scooter refuelling PC13_5 Liquid: lamp
 oil Covers skin contact area up to 210 cm².

Other given operational conditions affecting Non-industrial exposure

Temperature Assumes activities are at ambient temperature (unless stated differently).

Room size Covers use in room size of 20 m³. Unless otherwise stated. PC13_1 Liquid: automotive
 refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment - use Covers
 use in room size of 100 m³.

Ventilation rate Covers use under typical household ventilation. Unless otherwise stated. PC13_1 Liquid:
 automotive refuelling PC13_2 Liquid: scooter refuelling PC13_3 Liquid: garden equipment -
 use Covers outdoor use. PC13_4 Liquid: Garden equipment - Refuelling Covers use in a one
 car garage (34 m³) under typical ventilation.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment
 and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.
 Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management
 Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users
 should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in oil field drilling and production operations - Industrial

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in oil field drilling and production operations - Industrial
Process scope	Oil field well drilling and production operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Use in oil field drilling and production operations - Industrial

Not regarded as dangerous for the environment. No exposure scenario required.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Risk management measures

Use suitable eye protection and gloves.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



Exposure scenario

Use in oil field and production operations - Professional

Identification

Product name	Isopropanol
REACH registration number	01-2119457558-25-XXXX
CAS number	67-63-0
EC number	200-661-7
EU index number	603-117-00-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in oil field and production operations - Professional
Process scope	Oil field well drilling and production operations (including drilling muds and well cleaning), including material transfers, onsite formulation, well head operations, shaker room activities and related maintenance.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
<u>Worker</u>	
Process category	PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC4 Chemical production where opportunity for exposure arises PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Use in oil field and production operations - Professional

Not regarded as dangerous for the environment. No exposure scenario required.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid, vapour pressure 0.5 - 10 kPa at STP

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide enhanced general ventilation by mechanical means.

Assumes a good basic standard of occupational hygiene is implemented.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions.

Risk management measures

Use suitable eye protection and gloves.

Gloves should comply with the requirements of EN 374.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method Used ECETOC TRA model.

Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.

4. Guidance to check compliance with the exposure scenario (Health 1)

Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.