SAFETY DATA SHEET
PROPAN-2-OL

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

1.1. Product identifier

Product name PROPAN-2-OL

Product number 461

Synonyms; trade names IPA, IPS, SEC PROPYL ALCOHOL, ISOPROPYL ALCOHOL, CAFSOL 2, EVERBLEND 15, AL11, IPA LOW ODOUR, ISOPROPANOL, ISOPROPANOL PC SSL, ISOPROPANOL PC SHL, ISOPROPANOL SSL, MX-THINNER HTS 83698, ISOPROPANOL SHELL, ISOPROPANOL EP, ISOPROPANOL (PHARMA), ISOPROPANOL MIN 99.5%, ISOPROPANOL MIN. 99.8%, ISOPROPANOL (IPA), ISOPROPANOL C+, ISOPROPYL ALCOHOL TT-I-735A, ISOPROPANOL PH SHL, ISOPROPANOL BQ, ISOPROPANOL IND, ISOPROPYL ALCOHOL 100%, ISOPROPANOL PC INS

REACH registration number 01-2119457558-25-XXXX

CAS number 67-63-0

EU index number 603-117-00-0

EC number 200-661-7

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

Identified uses Industrial Solvent In household and cosmetic chemical industry. Pharmaceuticals Chemicals used in the synthesis and / or formulation of industrial products For further information, see attached Exposure Scenario.

1.3. Details of the supplier of the safety data sheet

Supplier

Darrant Distribution LTD
Unit 1 Witham Point
Wavell Drive
Lincoln
LN3 4PL
+44 1522 533244
sales@darrantch
emicals.com

1.4. Emergency telephone number

Emergency telephone 01522 533244

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 STOT SE 3 - H336

Environmental hazards Not Classified

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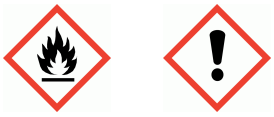
2.2. Label elements

EC number 200-661-7

Pictogram



Signal word Danger

Hazard statements H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 Avoid breathing vapour/ spray.
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.
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name PROPAN-2-OL

REACH registration number 01-2119457558-25-XXXX

EU index number 603-117-00-0

CAS number 67-63-0

EC number 200-661-7

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. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.

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. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues. Wash contaminated clothing before reuse.

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

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Inhalation	Vapours may irritate throat/respiratory system. Symptoms following overexposure may include the following: Coughing. May cause drowsiness or dizziness.
Ingestion	Aspiration hazard if swallowed. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.
Skin contact	Product has a defatting effect on skin. Dryness and/or cracking.
Eye contact	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

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.

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	The product is highly flammable. Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

5.3. Advice for firefighters

Protective actions during firefighting	Evacuate area. Stop leak if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Vapours are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back. Vapours may form explosive mixtures with air.
For emergency responders	Avoid contact with skin, eyes and clothing. Keep unnecessary and unprotected personnel away from the spillage. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke.

6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. 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.

6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid breathing gas, fume, vapours or spray. Wash skin thoroughly after handling. Avoid contact with skin, eyes and clothing. Use mechanical ventilation in case of handling which causes formation of vapours. When using do not eat, drink or smoke. Avoid spilling. Keep away from heat, sparks and open flame. Storage tanks and other containers must be earthed. Use explosion-proof electrical, ventilating and lighting equipment.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a well-ventilated place. Keep away from heat, sparks and open flame. Earth container and transfer equipment to eliminate sparks from static electricity. Unsuitable container materials: Rubber (natural, latex). Neoprene. Nitrile rubber.

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.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

DNEL

Industry - Dermal; Long term systemic effects: 888 mg/kg/day
Industry - Inhalation; Long term systemic effects: 500 mg/m³
Consumer - Dermal; Long term systemic effects: 319 mg/kg/day
Consumer - Inhalation; Long term systemic effects: 89 mg/m³
Consumer - Oral; Long term systemic effects: 26 mg/kg/day

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 Observe any occupational exposure limits for the product or ingredients. Provide explosion proof ventilation for high concentrations. Provide adequate general and local exhaust ventilation. Provide eyewash station and safety shower.

Eye/face protection Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

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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. Nitrile rubber. glove thickness >0.35mm Butyl rubber. To protect hands from chemicals, gloves should comply with European Standard EN374.
Other skin and body protection	Wear apron or protective clothing in case of contact.
Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. Provide eyewash station and safety shower. When using do not eat, drink or smoke. Wash contaminated clothing before reuse.
Respiratory protection	If ventilation is inadequate, suitable respiratory protection must be worn. Organic vapour filter. Gas filter, type A 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	Alcoholic.
Odour threshold	No information available.
pH	No information available.
Melting point	-88°C
Initial boiling point and range	82 - 83°C
Flash point	12°C
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Lower flammable/explosive limit: 2.0 % Upper flammable/explosive limit: 12 - 13 %
Other flammability	No information available.
Vapour pressure	6020 Pa
Vapour density	2 @ 20°C
Relative density	0.78-0.79 @ 20°C
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	No information available.
Auto-ignition temperature	425°C
Decomposition Temperature	No information available.
Viscosity	No information available.
Explosive properties	No information available.

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Explosive under the influence of a flame	No information available.
Oxidising properties	No information available.

9.2. Other information

Refractive index	1.377 at 20C
Particle size	No information available.
Molecular weight	60.1
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 Solvent vapours may form explosive mixtures with air.

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 acids. Alkali metals. Amines. Aluminium. Iron.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of the following substances: Carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) LD_{50} >5000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD_{50}) LD_{50} >5000 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC_{50}) LC_{50} (6h) >10000 ppm, Inhalation, Rat

Skin corrosion/irritation

Animal data Not irritating.

Serious eye damage/irritation

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Serious eye damage/irritation Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vivo No information available.

Carcinogenicity

Carcinogenicity There is no evidence that the product can cause cancer.

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. 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.

SECTION 12: Ecological Information

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

12.1. Toxicity

Toxicity Not considered toxic to fish.

Acute aquatic toxicity

Acute toxicity - fish LC_{50}, 48 hours: >100 mg/l, Leuciscus idus (Golden orfe)
LC_{50}, 96 hour: 4200 mg/l,
(Rasbora heteromorpha)

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: >100 mg/l, Daphnia magna
LC_{50}, 48 hour: 1400 - 1950 mg/l, Marinewater invertebrates
(Crangon crangon)

Acute toxicity - aquatic plants EC_{50}, 72 hours: >100 mg/l, Scenedesmus subspicatus

12.2. Persistence and degradability

Persistence and degradability The substance is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

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Partition coefficient No information available.

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

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 No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Do not puncture or incinerate, even when empty. Materials such as cleaning rags and paper wipes that are contaminated with flammable liquids may self-ignite after use and should be stored in designated fireproof containers with tight-fitting, self-closing lids.

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) 1219

UN No. (IMDG) 1219

UN No. (ICAO) 1219

UN No. (ADN) 1219

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ISOPROPANOL (ISOPROPYL ALCOHOL)

Proper shipping name (IMDG) ISOPROPANOL (ISOPROPYL ALCOHOL)

Proper shipping name (ICAO) ISOPROPANOL (ISOPROPYL ALCOHOL)

Proper shipping name (ADN) ISOPROPANOL (ISOPROPYL ALCOHOL)

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

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Transport labels

14.4. Packing group

ADR/RID packing group	II
IMDG packing group	II
ADN packing group	II
ICAO 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	•2YE
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	No information required.

SECTION 15: Regulatory information

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

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.

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS
All the ingredients are listed or exempt.

Canada - DSL/NDSL
All the ingredients are listed or exempt.
DSL

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US - TSCA
All the ingredients are listed or exempt.

Australia - AICS
All the ingredients are listed or exempt.

Korea - KECI
All the ingredients are listed or exempt.

China - IECSC
All the ingredients are listed or exempt.

Philippines – PICCS
All the ingredients are listed or exempt.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
CAS: Chemical Abstracts Service.
DNEL: Derived No Effect Level.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
Kow: Octanol-water partition coefficient.
LC_{50}: Lethal Concentration to 50 % of a test population.
LD_{50}: Lethal Dose to 50% of a test population (Median Lethal Dose).
PBT: Persistent, Bioaccumulative and Toxic substance.
PNEC: Predicted No Effect Concentration.
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
vPvB: Very Persistent and Very Bioaccumulative.
IARC: International Agency for Research on Cancer.
MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
cATpE: Converted Acute Toxicity Point Estimate.
BCF: Bioconcentration Factor.
BOD: Biochemical Oxygen Demand.
EC_{50}: 50% of maximal Effective Concentration.
LOAEC: Lowest Observed Adverse Effect Concentration.
LOAEL: Lowest Observed Adverse Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
NOEC: No Observed Effect Concentration.
LOEC: Lowest Observed Effect Concentration.
DMEL: Derived Minimal Effect Level.
EL50: Exposure Limit 50
hPa: Hectopascal
LL50: Lethal Loading fifty
OECD: Organisation for Economic Co-operation and Development
POW: Octanol-water partition coefficient
SCBA: self-contained breathing apparatus
STP: Sewage Treatment Plant
VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
Aquatic Acute = Hazardous to the aquatic environment (acute)
Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

21/03/2018

Version number

4.000

Supersedes date

23/11/2017

SDS number

461

PROPAN-2-OL

SDS status	Approved.
Hazard statements in full	H225 Highly flammable liquid and vapour. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Signature	Lisa Bland