

5. Fire-fighting measures

Extinguishing Media

Suitable : Select extinguishing agent appropriate to other materials involved. Do not use water jet. Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Keep containers and surroundings cool with water spray.

Unusual fire/explosion Hazards : Hazardous Combustion Products : CARBON MONOXIDE

The vapours are heavier than air and will collect in workpits and cellars, creating a fire and respiratory hazard. Vapours can travel a considerable distance to a source of ignition and flashback. This product may give rise to hazardous fumes in a fire.

Hazardous thermal (de)composition products : In combustion emits toxic fumes

Special fire-fighting procedures : Fire fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

Protection of fire-fighters : Wear full protective clothing and self-contained breathing apparatus.

6. Accidental release measures

Personal Precautions : Ventilate the area to dispel residual vapours. Wear appropriate protective clothing. Eliminate all sources of ignition. Wear respiratory protection.

Environmental precautions and cleanup methods : Allow to evaporate if it is safe to do so or contain and absorb using earth, sand or other inert material. Transfer into suitable containers for recovery or disposal.
: Try to prevent the material from entering drains or water courses. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

7. Handling and storage

Handling : Adequate ventilation should be provided if there is risk of vapour build-up. Avoid inhaling vapour. Avoid contact with eyes, skin and clothing.

Storage : Storage area should be: cool, under cover, well ventilated. Storage area should be: out of direct sunlight. Store away from sources of heat or ignition. Storage temperature should be kept below 30 °C. Storage and transfer equipment should be adequately earthed and bonded to prevent the accumulation of static charges. Obtain specialist advice in the choice of electrical equipment. Keep containers tightly closed - see firefighting measures. Suitable storage materials are:- stainless steel, mild steel. Do not store in:- aluminium and its alloys. For gaskets and seals use:- compressed asbestos, PTFE, butyl rubber.

Packaging materials

Recommended use : Use original container.

8. Exposure controls/personal protection

Engineering measures : Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions.

Hygiene measures : Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.

<u>Ingredient Name</u>	<u>Workplace Exposure Limits</u>
1) PROPAN-2-OL	EH40 (United Kingdom (UK)). LTEL: 999mg/m ³ Period: 8 hour(s). STEL: 1250mg/m ³

Personal protective equipment

Respiratory system : Respiratory protection if there is a risk of exposure to high vapour concentrations.

Skin and body : Wear: antistatic footwear rubber apron.

Hands : PVC or rubber gloves.

Eyes : Chemical goggles.

9. Physical and chemical properties

Physical state : Liquid.

Colour : Colourless.

Odour : Alcoholic.

Boiling point : 82.3°C (180.1°F)

Melting point : -89.5°C

Density : 0.785 g/cm³ at 20°C (68°F)

Vapour density : 2.08 (Air = 1)

Vapour pressure : (31.2mmHg) (at 20°C)

Evaporation rate (butyl acetate = 1) : 1.9 compared to Butyl acetate.

Solubility : Easily soluble in cold water.

ISOPROPANOL 70%

Octanol/water partition coefficient : The product is equally soluble in oil and water; $\log(\text{oil/water}) = 0.1$

pH : Not available.

Flash point : 12

Fire Hazards in Presence of Various Substances : Highly flammable in presence of open flames, sparks and static discharge, of heat.

Autoignition temperature : 399°C

Lower explosion limit : LOWER: 2% UPPER: Less or equal to 12%

Viscosity : Kinetic: 3.127 cS

10. Stability and reactivity

Stability : The product is stable.

Conditions to Avoid : Heat. Hot surfaces. Sources of ignition. Flames

Materials to avoid : Strong oxidising agents. Strong acids.

Hazardous decomposition products : In combustion emits toxic fumes

11. Toxicological information

Local effects

Skin irritation : A single 4h semi-occlusive application to intact rabbit skin produced irritation (mean scores for erythema or oedema 2 or above).

Eye irritation : Single application to the rabbit eye produced conjunctival irritation and corneal damage (epithelial and stromal).

Acute toxicity : Acute oral toxicity (LD50): 5045 mg/kg [Rat].
Acute dermal toxicity (LD50): >2000 mg/kg [Rabbit].
Acute toxicity of the vapour (LC50): >20 mg/l 8 hours [Rat].

12. Ecological information

Persistence/degradability : **Biodegradability:**
Readily biodegradable.

Bioaccumulative potential : This product shows a low bioaccumulation potential.

Ecotoxicity : Not available.

13. Disposal considerations

Methods of disposal ; Waste of residues ; Contaminated packaging : Dispose of in accordance with all applicable local and national regulations. Incineration is the recommended method of disposal.

Waste Classification : 200113

14. Transport information

International transport regulations

UN : **UN number** 1219
UN : **Proper shipping name** Isopropanol
UN : **Class** 3
UN : **Packing group** II
UN : **Label**



ADR/RID : **Number** 1219
ADR/RID : **Proper shipping name** Isopropanol
ADR/RID : **Class** 3
ADR/RID : **Item Number** 3(b)
ADR/RID : **Hazard identification number** 33
TREM CARD TEC(R) TEC(R)-544

IMDG : **Proper shipping name** Isopropanol
IMDG : **Packing group** II
IMDG : **Class** 3

ISOPROPANOL 70%

IMDG :	Marine pollutant	Not pollutant.
IMDG :	Ems Number	3-06
IMDG :	MFAG Number	305
IATA :	Proper shipping name	Isopropanol.
IATA :	Packing group	II
IATA :	Class	3
IATA :	Additional Information	-

15. Regulatory information

EU Regulations

Hazard symbol(s) :



Classification : Highly flammable, Irritant

Risk Phrases : R11- Highly flammable.
R36- Irritating to eyes.
R67- Vapours may cause drowsiness and dizziness.

Safety Phrases : S7- Keep container tightly closed.
S16- Keep away from sources of ignition - No smoking.
S24- Avoid contact with skin.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Product Use : Classification and labelling have been performed according to EU directives 67/548/EEC, 88/379/EEC, including amendments and the intended use.
- Consumer applications, Industrial applications.

Other EU regulations

Tactile warning of danger : Yes, applicable.

Restriction to Market Directive : Not applicable.

16. Other information

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