

SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH), Annex II, as amended by Regulation (EU) 2020/878

Isopropanol (propan-2-ol)

Version 1.0 · Date of issue: 02.10.2026



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

1.1 Product identifier

Trade name	Isopropanol (IPA) – technical grade and pharma grade
Substance name (IUPAC)	Propan-2-ol
Synonyms	2-Propanol, isopropyl alcohol, dimethyl carbinol
CAS No.	67-63-0
EC No.	200-661-7
Index No.	603-117-00-0
REACH registration number	01-2119457558-25-XXXX (joint submission; full number available on request)
Molecular formula / molar mass	C ₃ H ₈ O · 60.10 g/mol

1.2 Relevant identified uses of the substance and uses advised against

Identified uses	Solvent for paints, resins and printing inks; cleaning and degreasing agent (printing industry, electronics, cleanroom); manufacture of disinfectants, pharmaceutical and cosmetic formulations; chemical synthesis and extraction; laboratory chemical; formulation and repackaging.
Uses advised against	Not for supply to consumers (professional and industrial use only).
Product information	Available in technical grade (purity ≥ 99.8 %) and pharma grade (purity ≥ 99.9 %, complies with Ph. Eur.). ISCC PLUS certified material (mass balance approach) available on request. Chemically identical to conventional isopropanol; classification and properties are unchanged.

1.3 Details of the supplier of the safety data sheet

Supplier	PENPET GREEN Chemicals Distribution GmbH
Address	Merkurring 60-62, 22143 Hamburg, Germany
Telephone	+49 40 675799-50
E-mail (competent person)	sds@penpet.de
Internet	www.penpet.green

1.4 Emergency telephone number

Emergency number	Poison Information Centre North (GIZ-Nord), Göttingen, Germany: +49 551 19240 (24 h)
Company emergency	+49 40 675799-50 (Mon–Fri, 08:00–17:00 CET)

SECTION 2 Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP):

Hazard class / category	Hazard statement
Flam. Liq. 2	H225 – Highly flammable liquid and vapour.
Eye Irrit. 2	H319 – Causes serious eye irritation.
STOT SE 3	H336 – May cause drowsiness or dizziness.

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2.2 Label elements



GHS02
Flame



GHS07
Exclamation mark

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.
P233 Keep container tightly closed.
P261 Avoid breathing vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P235 Store in a well-ventilated place. Keep cool.

Hazard-determining component

Propan-2-ol

2.3 Other hazards

Vapours are heavier than air and may spread along the ground; explosive vapour/air mixtures may form even at room temperature. Prolonged skin contact may defat the skin. The substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH. It is not identified as having endocrine-disrupting properties (Art. 57(f) REACH, Regulation (EU) 2017/2100, 2018/605).

SECTION 3 Composition/information on ingredients

3.1 Substances

Substance name	CAS / EC / Index	Content	Classification (CLP)
Propan-2-ol	67-63-0 / 200-661-7 / 603-117-00-0	≥ 99.8 %	Flam. Liq. 2 (H225); Eye Irrit. 2 (H319); STOT SE 3 (H336)

No further ingredients relevant for classification. Water content according to specification: technical grade ≤ 0.1 %, pharma grade ≤ 0.5 %.

SECTION 4 First aid measures

4.1 Description of first aid measures

General information	Remove affected person from the danger area. Take off contaminated clothing immediately. First aiders: ensure self-protection.
After inhalation	Move to fresh air, keep at rest and warm. Seek medical advice in case of breathing difficulties or if feeling unwell. If unconscious, place in the recovery position.
After skin contact	Take off contaminated clothing. Wash skin with plenty of soap and water. Consult a doctor if skin irritation persists.

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After eye contact	Rinse immediately with running water for at least 15 minutes with eyelids held open. Remove contact lenses if easy to do. If eye irritation persists, consult an ophthalmologist.
After ingestion	Rinse mouth with water. Do not induce vomiting. Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Eye irritation (redness, watering, burning). Inhalation of high vapour concentrations has a narcotic effect: headache, dizziness, drowsiness, nausea; in extreme cases unconsciousness. Prolonged skin contact may defat and dry the skin.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Alcohol-resistant foam, carbon dioxide (CO ₂), dry powder, water spray/fog.
Unsuitable extinguishing media	Full water jet.

5.2 Special hazards arising from the substance or mixture

Highly flammable. Vapours are heavier than air, spread along the ground and may form explosive mixtures with air; flashback over considerable distances possible. Combustion produces carbon monoxide and carbon dioxide. Containers may burst when heated.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and chemical protective clothing. Cool endangered containers with water spray. The substance is miscible with water; diluted solutions may still be flammable. Collect contaminated firefighting water separately; do not allow to enter drains.

SECTION 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition; no smoking. Ensure adequate ventilation. Do not breathe vapours; avoid contact with eyes and skin. Wear personal protective equipment (see Section 8). Keep unprotected persons away.

6.2 Environmental precautions

Do not allow to enter drains, surface water or groundwater. Notify the competent authorities in case of water pollution.

6.3 Methods and material for containment and cleaning up

Absorb with inert liquid-binding material (sand, diatomite, universal binder) and collect in suitable, closable containers for disposal. Use non-sparking tools and explosion-proof equipment. Clean contaminated surfaces thoroughly.

6.4 Reference to other sections

Safe handling: Section 7. Personal protective equipment: Section 8. Disposal: Section 13.

SECTION 7 Handling and storage

7.1 Precautions for safe handling

Handle only in well-ventilated areas; avoid formation of vapours. Keep away from ignition sources; no smoking. Take precautionary measures against electrostatic discharge (earth equipment and containers, use conductive hoses). Use explosion-proof equipment and non-sparking tools. Avoid contact with eyes and skin. Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of work.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a cool, dry, well-ventilated place. Protect from heat and direct sunlight. Store separately from: oxidising agents, alkali and alkaline-earth metals, acid chlorides and acid anhydrides. Suitable materials: stainless steel, carbon steel; plastics and seals only after compatibility testing.

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Storage class (TRGS 510, Germany)

3 – Flammable liquids

7.3 Specific end use(s)

No further information; see Section 1.2.

SECTION 8 Exposure controls/personal protection

8.1 Control parameters

Country / source	Limit value	Remark
Germany – TRGS 900 (AGW)	200 ml/m ³ (ppm) · 500 mg/m ³	Excursion factor 2 (II); Y
Germany – TRGS 903 (BGW)	Acetone: 25 mg/l (whole blood, urine)	Sampling: end of exposure or end of shift
EU – indicative limit (IOELV)	Not established	–

DNEL (registrant)	Exposure	Value
Workers	Inhalation, long-term / short-term (systemic)	500 / 1,000 mg/m ³
Workers	Dermal, long-term (systemic)	888 mg/kg bw/day
General population	Inhalation, long-term / short-term (systemic)	89 / 178 mg/m ³
General population	Dermal, long-term (systemic)	319 mg/kg bw/day
General population	Oral, long-term / short-term (systemic)	26 / 51 mg/kg bw/day

PNEC

Not derived by the registrant – no hazard identified for water, sediment, soil and sewage treatment plant.

8.2 Exposure controls

Engineering controls	Ensure good ventilation of the workplace, local exhaust ventilation where necessary; explosion-proof ventilation equipment. Provide an eye wash station.
Eye/face protection	Tightly fitting safety goggles with side shields (EN 166); additionally face shield where splashing is possible.
Hand protection	Chemical protective gloves to EN ISO 374: nitrile rubber (0.4 mm) or butyl rubber (0.5 mm), breakthrough time > 8 h each; fluoroelastomer (0.7 mm) > 8 h; polychloroprene (0.5 mm) 4–8 h. Observe the glove manufacturer's information.
Body protection	Antistatic, flame-retardant protective clothing; antistatic safety footwear (EN ISO 20345).
Respiratory protection	If the occupational exposure limit is exceeded or ventilation is insufficient: gas filter A (brown, EN 14387) – A1 up to 1,000 ml/m ³ , A2 up to 5,000 ml/m ³ , A3 up to 10,000 ml/m ³ .
Environmental exposure controls	Do not allow to enter the environment; see Sections 6 and 12.

SECTION 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Liquid (20 °C, 1013 hPa)
Colour	Colourless, clear
Odour	Alcohol-like
Melting point / freezing point	–89 °C

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Boiling point	82.5 °C (1013 hPa)
Flammability	Highly flammable liquid (Flam. Liq. 2)
Lower / upper explosion limit	2.0 vol % (50 g/m ³) / 13.4 vol % (335 g/m ³)
Flash point	12 °C (closed cup)
Auto-ignition temperature	425 °C
Decomposition temperature	Not determined
pH	Not applicable (organic liquid)
Kinematic viscosity	approx. 2.6 mm ² /s (25 °C; calculated from dynamic viscosity and density)
Solubility in water	Completely miscible
Partition coefficient n-octanol/water (log Kow)	0.05 (25 °C)
Vapour pressure	44 hPa (20 °C); 60 hPa (25 °C)
Density	0.786 g/cm ³ (20 °C)
Relative vapour density	2.08 (air = 1; calculated from the molar mass)
Particle characteristics	Not applicable (liquid)

9.2 Other information

Explosive properties	Not explosive; vapour/air mixtures may, however, be explosive.
Oxidising properties	None
Dynamic viscosity	2.04 mPa·s (25 °C)

SECTION 10 Stability and reactivity

10.1 Reactivity

Formation of explosive vapour/air mixtures. Reacts with alkali and alkaline-earth metals with formation of hydrogen.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Violent reactions with strong oxidising agents possible.

10.4 Conditions to avoid

Heat, sparks, open flames, electrostatic discharge.

10.5 Incompatible materials

Strong oxidising agents, alkali and alkaline-earth metals, acid chlorides, acid anhydrides.

10.6 Hazardous decomposition products

In case of fire: carbon monoxide, carbon dioxide.

SECTION 11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Endpoint	Result / value
Acute toxicity, oral	LD50 rat: 5,840 mg/kg bw – not classified
Acute toxicity, dermal	LD50 rabbit (24 h): 16.4 ml/kg bw – not classified
Acute toxicity, inhalation	Rat (6 h, vapour): no mortality up to 10,000 ppm (approx. 25 mg/l); sedation from 5,000 ppm, reversible narcosis at 10,000 ppm – not classified

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Skin corrosion/irritation	Not irritating (rabbit, guinea pig); prolonged contact may defat the skin
Serious eye damage/irritation	Causes serious eye irritation (Eye Irrit. 2, H319)
Respiratory or skin sensitisation	Skin: not sensitising (Buehler test, OECD 406); respiratory: no data, not classified
Germ cell mutagenicity	Negative in vitro (Ames tests, HPRT test in CHO cells) and in vivo (micronucleus test, mouse) – not classified
Carcinogenicity	Not classified; rat (104 weeks) and mouse (18 months), inhalation up to 5,000 ppm: no relevant tumour findings
Reproductive toxicity	Fertility: no effect (two-generation study, rat, oral; NOAEL > 1,000 mg/kg bw/day; offspring NOAEL 100 mg/kg bw/day). Development: not teratogenic (rat NOAEL 400, rabbit 480 mg/kg bw/day) – not classified
STOT – single exposure	May cause drowsiness or dizziness (STOT SE 3, H336; narcotic effects)
STOT – repeated exposure	Not classified (rat, inhalation, 104 weeks: NOAEC 5,000 ppm)
Aspiration hazard	Not classified

11.2 Information on other hazards

Endocrine-disrupting properties: not identified. Propan-2-ol is mainly metabolised to acetone in the body (biomonitoring see Section 8.1). Symptoms after exposure: see Section 4.2.

SECTION 12 Ecological information

12.1 Toxicity

Endpoint	Value
Fish	LC50 (96 h) Pimephales promelas: 9,640 mg/l
Daphnia	EC50 (24 h) Daphnia magna: > 10,000 mg/l
Algae	Scenedesmus quadricauda (7 d): toxicity threshold 1,800 mg/l
Bacteria	Pseudomonas putida (16 h): toxicity threshold 1,050 mg/l

Not classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

Readily biodegradable (BOD5/COD 53 % in 5 days, non-adapted inoculum).

12.3 Bioaccumulative potential

No bioaccumulation expected (log Kow 0.05).

12.4 Mobility in soil

Koc approx. 3.5 l/kg (calculated): very high mobility in soil; completely miscible with water and volatile.

12.5 Results of PBT and vPvB assessment

The substance does not meet the PBT/vPvB criteria of REACH Annex XIII.

12.6 Endocrine disrupting properties

Not identified as an endocrine disruptor for the environment.

12.7 Other adverse effects

Water hazard class (AwSV, Germany)

WGK 1 – slightly hazardous to water (ID no. 135)

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SECTION 13 Disposal considerations

13.1 Waste treatment methods

Dispose of at an approved waste incineration plant or hazardous waste facility in accordance with local regulations. Do not dispose of with household waste; do not allow to enter drains. Empty packaging completely; dispose of uncleaned packaging as the substance itself.

Waste code (EWC, recommendation)

07 01 04* – other organic solvents, washing liquids and mother liquors;
packaging: 15 01 10*. The final assignment depends on the origin and use at the waste producer.

SECTION 14 Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN 1219	UN 1219	UN 1219
14.2 UN proper shipping name	ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL (ISOPROPYL ALCOHOL)	Isopropanol
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	II	II	II
14.5 Environmental hazards	No	Marine pollutant: No	No
Classification code / hazard identification no.	F1 / 33	–	–
Tunnel restriction code	D/E	–	–
Limited quantity (LQ) / excepted quantity (EQ)	1 L / E2	1 L / E2	Y341 / E2
EmS	–	F-E, S-D	–
Packing instruction (cargo / passenger)	–	–	364 (60 L) / 353 (5 L)
Hazard labels			

14.6 Special precautions for user

See Sections 6 to 8. Secure against slipping and damage during transport; keep away from ignition sources.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable – supplied in packages, IBCs and tank containers; no carriage in bulk according to IMO instruments intended.

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SECTION 15 Regulatory information

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

EU regulations	Regulation (EC) No 1907/2006 (REACH): Annex XVII (restrictions) – entries 3, 40 and 75 (by virtue of the classification); not listed in Annex XIV (authorisation); not on the SVHC candidate list. Regulation (EC) No 1272/2008 (CLP). Regulation (EU) 2019/1021 (POPs): not listed. Regulation (EC) No 273/2004 (drug precursors): not listed. Regulation (EU) No 528/2012 (biocidal products): propan-2-ol is approved as an active substance for product types 1, 2 and 4 (Implementing Regulation (EU) 2015/407); use in biocidal products requires their authorisation. Directive 2012/18/EU (Seveso III): category P5c – flammable liquids (qualifying quantities 5,000 / 50,000 t).
VOC (Directive 2010/75/EU / 2004/42/EC)	Volatile organic compound: 100 %
National regulations (Germany)	Water hazard class: WGK 1 (AwSV, ID no. 135). Storage class: LGK 3 (TRGS 510). Occupational exposure limit: TRGS 900; biological limit value: TRGS 903. Ordinance on Industrial Safety (BetrSichV): flammable liquid. Major Accidents Ordinance (12. BImSchV): Annex I no. 1.2.5.3 (P5c). TA Luft: organic substance, no. 5.2.5. Observe employment restrictions for expectant mothers and young workers.

15.2 Chemical safety assessment

A chemical safety assessment has been carried out by the registrant; exposure scenarios are not available to the supplier.

SECTION 16 Other information

Full text of hazard statements and abbreviations referred to in Sections 2 and 3

Code	Meaning
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
Flam. Liq. 2	Flammable liquid, category 2
Eye Irrit. 2	Serious eye irritation, category 2
STOT SE 3	Specific target organ toxicity (single exposure), category 3
ADR / RID / IMDG / IATA	European Agreement concerning the International Carriage of Dangerous Goods by Road / Regulations concerning the International Carriage of Dangerous Goods by Rail / International Maritime Dangerous Goods Code / International Air Transport Association
EmS / IBC	Emergency Schedule (IMDG Code) / intermediate bulk container
AGW / IOELV	German occupational exposure limit (TRGS 900) / EU indicative occupational exposure limit value
BGW	German biological limit value (TRGS 903)
Excursion factor (I) / (II)	Peak limitation under TRGS 900: category I – substances for which the local effect determines the limit value; category II – substances with systemic (resorptive) effects
Y	A risk of damage to the embryo or foetus need not be feared if the occupational exposure limit and the biological limit value (BGW) are observed (TRGS 900)
DNEL / PNEC	Derived No-Effect Level / Predicted No-Effect Concentration
LC50 / LD50 / EC50	Lethal concentration / lethal dose / effective concentration for 50 % of the test population

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NOAEL / NOAEC / NOEC	No observed (adverse) effect level / concentration
bw / dw	Body weight / dry weight
log Kow / Koc / BCF	n-Octanol/water partition coefficient / organic carbon adsorption coefficient / bioconcentration factor
BOD5 / COD	Biochemical oxygen demand in 5 days / chemical oxygen demand
PBT / vPvB / SVHC	Persistent, bioaccumulative, toxic / very persistent, very bioaccumulative / substance of very high concern
WGK / AwSV / LGK	German water hazard class / Ordinance on facilities for handling substances hazardous to water / storage class under TRGS 510
VOC	Volatile organic compound

Further information

Classification procedure	Harmonised classification (Annex VI CLP, index no. 603-117-00-0).
Data sources	ECHA CHEM: harmonised classification and joint-submission registration dossier (lead dossier, accessed 02.10.2026); GisChem (BG RCI/BGHM), status 21.09.2026 (occupational exposure limit, WGK, storage class, safety parameters, protective equipment); TRGS 900/903; Directive (EU) 2017/164; ADR 2025 / IMDG Code / IATA DGR; PENPET GREEN specification and technical data sheet.
Version / issue date	1.0 / 02.10.2026 (first issue)
Training advice	Workers must be instructed on the basis of this safety data sheet and the workplace instructions before starting work with the substance.

Disclaimer

The information in this safety data sheet reflects the present state of our knowledge on the date of issue and describes the product with regard to safety requirements. It does not constitute a guarantee of product properties and does not establish a contractual relationship. The recipient is responsible for observing the applicable laws and regulations.