SAFETY DATA SHEET

Isopropyl Alcohol (2-Propanol) — Laboratory Reagent, Analytical Reagent, HPLC and Electronic grades

Prepared in accordance with 29 CFR 1910.1200 (OSHA Hazard Communication Standard, 2024 amendment / GHS Rev. 7), UN GHS, US DOT 49 CFR Parts 171–180 and Canada HPR (SOR/2015-17)

SDS number	**HP-SDS-20600-US-01**
Version / Revision	Version 1.0
Issue date	01 November 2026
Supersedes	Not applicable (first issue)
Review due	01 November 2029, or earlier if new hazard information becomes available
Companion sheet	A GB/EU sheet for supply by Highpuris Ltd will be issued separately. Do not substitute one sheet for the other — the classification is the same but the exposure limits, supply restrictions and legal references are not.

1 SECTION 1: IDENTIFICATION

1.1 Product identifier

Product name	**Isopropyl Alcohol (2-Propanol)**
Product description	Isopropyl alcohol (2-propanol), assay ≥ 99.0 % w/w (Laboratory Reagent), ≥ 99.7 % w/w (Analytical Reagent), ≥ 99.8 % w/w (HPLC) or ≥ 99.9 % w/w (Electronic grade). Clear, colourless, water-miscible liquid. All grades carry the same hazard classification and transport description.
Synonyms	Isopropanol; 2-Propanol; Propan-2-ol; sec-Propyl alcohol; Dimethylcarbinol; IPA; Alcool isopropylique
CAS number	67-63-0
EC (EINECS) number	200-661-7
EU Index number	603-117-00-0
REACH registration number	Not applicable to supply in the United States. A REACH registration (or coverage under a registrant's supply chain) is required before placement in the EU/EEA or Northern Ireland; UK REACH applies to Great Britain.
Molecular formula	C_3H_8O ($(CH_3)_2CHOH$)
Molecular weight	60.10 g/mol
Highpuris product code	**20600** — the 9-digit catalogue SKUs below are built as product code · grade · pack
Pack sizes covered	500 mL, 1 L, 2.5 L and 4 L glass bottles (GL45), 5 L, 20 L and 25 L HDPE containers and 200 L HDPE drums, in UN-certified multi-unit shipping cases where applicable

Catalogue SKUs covered by this SDS

Grade	Assay	Pack size and SKU
Laboratory Reagent	≥ 99.0 %	500 mL **206000123** · 1 L **206000141** · 2.5 L **206000142** · 5 L **206000144** · 25 L **206000162** · 200 L **206000164**
Analytical Reagent	≥ 99.7 %	500 mL **206000223** · 1 L **206000241** · 2.5 L **206000242** · 5 L **206000244**
HPLC	≥ 99.8 %	1 L **206000641** · 2.5 L **206000642** · 4 L **206000643**
Electronic	≥ 99.9 %	1 L **206000841** · 2.5 L **206000842** · 5 L **206000844** · 20 L **206000861**

1.2 Relevant identified uses of the substance and uses advised against

- **Identified uses:** laboratory analytical reagent; solvent and mobile-phase component for HPLC; sample preparation, extraction, precipitation, cleaning, rinsing and drying of laboratory glassware and precision parts; Electronic grade for wet-process cleaning and drying in semiconductor, display and electronics laboratories; further formulation and repackaging by professional users.
- **Uses advised against:** not for food, drug, pesticide, biocidal, cosmetic, medicinal, household or consumer use. Not intended for use by the general public. Not to be used as a hand sanitiser, antiseptic or disinfectant, or in any application resulting in human ingestion or direct dermal application.

1.3 Details of the supplier of the safety data sheet

Supplier	**Highpuris LLC** 9920 Pacific Heights Blvd, Suite 150 San Diego, CA 92121-4361 United States of America
Telephone	+1 (401) 288-1196
E-mail (SDS contact)	admin@highpuris.com · noreply@highpuris.com
Website	www.highpuris.com

1.4 Emergency telephone number

24-hour emergency (USA / Canada)	**CHEMTREC 1-800-424-9300**
24-hour emergency (international)	**CHEMTREC +1 703-527-3887** (collect calls accepted)
CHEMTREC contract number	**CCN 1024800** — Highpuris LLC, registered August 2026. Quote this number when calling; it must appear with the emergency telephone number on shipping papers under 49 CFR 172.604
Non-emergency (business hours)	+1 (401) 288-1196, 09:00 – 17:00 Pacific Time, Monday to Friday

2 SECTION 2: HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture

Classification under 29 CFR 1910.1200 (OSHA HCS 2024), UN GHS Rev. 7, EU CLP (EC) No 1272/2008 and Canada HPR:

Hazard class	Category	Hazard statement
Flammable liquids	Category 2	H225 — Highly flammable liquid and vapor
Serious eye damage / eye irritation	Category 2	H319 — Causes serious eye irritation
Specific target organ toxicity, single exposure (respiratory tract irritation)	Category 3	H335 — May cause respiratory irritation
Specific target organ toxicity, single exposure (narcotic effects, CNS)	Category 3	H336 — May cause drowsiness or dizziness

The harmonised EU classification for propan-2-ol (Index No. 603-117-00-0, Annex VI to Regulation (EC) No 1272/2008) is Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336. No specific concentration limits are assigned. The US (OSHA) classification above follows the manufacturer's classification for STOT SE 3, which also carries H335 (respiratory tract irritation) in addition to the harmonised H336. The manufacturer's sheet additionally lists STOT RE 2 / H373 (kidney, liver); this entry is not adopted here.

2.2 GHS label elements

Hazard pictograms — required on the label and on every shipped container:



GHS02 — Flame



GHS07 — Exclamation mark

Pictograms must be a square set on a point, with a black symbol on a white ground and a red border wide enough to be clearly visible. Minimum size is one-fifteenth of the label surface area and never smaller than 10 mm × 10 mm (16 mm × 16 mm where the package holds more than 3 L). Where the corresponding DOT transport label is displayed on the outer packaging, the duplicate GHS pictogram may be omitted from that outer packaging under 29 CFR 1910.1200(f)(5); all pictograms remain required on the inner container label.

Signal word	**DANGER**
Hazard statements	H225 — Highly flammable liquid and vapor. H319 — Causes serious eye irritation. H335 — May cause respiratory irritation. H336 — May cause drowsiness or dizziness.

Precautionary statements — Prevention

- P210 — Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 — Keep container tightly closed.
- P240 — Ground and bond container and receiving equipment.
- P241 — Use explosion-proof electrical, ventilating and lighting equipment.
- P242 — Use non-sparking tools.
- P243 — Take action to prevent static discharges.
- P260 — Do not breathe mist, vapours or spray.
- P264 — Wash hands and exposed skin thoroughly after handling.
- P271 — Use only outdoors or in a well-ventilated area.
- P280 — Wear protective gloves, protective clothing, eye protection and face protection.

Precautionary statements — Response

- P303 + P361 + P353 — IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
- P304 + P340 — IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 — IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P312 — Call a POISON CENTER or doctor if you feel unwell.
- P337 + P313 — If eye irritation persists: Get medical advice or attention.
- P370 + P378 — In case of fire: use carbon dioxide, dry chemical or alcohol-resistant foam to extinguish.

Precautionary statements — Storage and disposal

- P403 + P233 — Store in a well-ventilated place. Keep container tightly closed.
- P403 + P235 — Store in a well-ventilated place. Keep cool.
- P405 — Store locked up.
- P501 — Dispose of contents and container in accordance with federal, state, provincial and local regulations.

2.3 Other hazards which do not result in classification

- Vapour is heavier than air (vapour density 2.1) and can travel a considerable distance along the ground to a source of ignition and flash back. The flash point of 12 °C (53.6 °F) is below normal room temperature, so explosive vapour–air mixtures (2 – 12 vol %) can form in ordinary conditions of use and storage.
- Can form explosive peroxides on prolonged storage exposed to air and light, particularly in opened containers. Peroxides concentrate on distillation or evaporation; test for peroxides before distilling or evaporating to low volume, and never distil to dryness.
- Electrostatic charging can occur during pouring, pumping, filling and splash-filling of containers; the charge can ignite the vapour. Ground and bond all metal equipment and containers.
- Reacts violently with strong oxidising agents (chromic acid, permanganates, perchlorates, concentrated peroxides, nitric acid); contact with hypochlorite bleach can generate toxic chlorinated by-products.
- High vapour concentrations have a narcotic action on the central nervous system (headache, dizziness, drowsiness) and irritate the eyes and respiratory tract.
- The substance does not meet PBT or vPvB criteria under REACH Annex XIII and is not an identified endocrine disruptor.

2.4 Unknown acute toxicity

Not applicable. Acute toxicity data are available for the substance; no component of unknown acute toxicity is present.

3 SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance — single component. All Highpuris grades are ≥ 99.0 % isopropyl alcohol; the balance is water. Trace impurities are controlled to the grade specification and are not present at levels that alter the classification.

Chemical name	CAS No.	EC No.	Conc. (% w/w)	GHS classification of the ingredient
Isopropyl alcohol (2-propanol)	67-63-0	200-661-7	≥ 99.0 – 100	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336
Water	7732-18-5	231-791-2	≤ 1.0	Not classified

EU Index number for propan-2-ol: 603-117-00-0. Harmonised classification: Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336. No specific concentration limits (SCLs) are assigned in EU CLP Annex VI. The US (OSHA) classification in Section 2.1 additionally includes H335 (STOT SE 3, respiratory tract irritation) following the manufacturer's classification. The manufacturer's additional STOT RE 2 / H373 entry is not adopted.

Impurities and stabilising additives: none deliberately added.

4 SECTION 4: FIRST-AID MEASURES

4.1 Description of first-aid measures

General. Move the casualty out of the danger area. Rescuers must protect themselves — remove ignition sources, wear eye protection and gloves and, where vapour is present, respiratory protection. Remove contaminated clothing and footwear. Never give anything by mouth to an unconscious or convulsing person. Show this Safety Data Sheet to the attending physician.

Inhalation. Move the casualty to fresh air at once and keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should give oxygen. If breathing has stopped, give artificial respiration — use a bag-valve mask or other mechanical device rather than mouth-to-mouth. Obtain medical attention; call a poison centre or doctor if the casualty feels unwell.

Skin contact. Wash off immediately with plenty of water for at least 15 minutes, removing contaminated clothing, shoes and jewellery while rinsing. Obtain medical attention if symptoms occur. Wash contaminated clothing before re-use; clothing soaked with solvent is a fire hazard and must be dried away from ignition sources.

Eye contact. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes, holding the eyelids wide open. Remove contact lenses if present and if it can be done without delay; do not interrupt rinsing to do so. Obtain medical attention, particularly if irritation persists.

Ingestion. Do NOT induce vomiting — there is a risk of aspiration into the lungs. If the casualty is conscious and alert, rinse the mouth with water. Obtain medical attention immediately.

4.2 Most important symptoms and effects, both acute and delayed

- Inhalation: irritation of the nose and throat, cough and difficulty in breathing; central nervous system depression at high vapour concentrations — headache, dizziness, drowsiness, tiredness, nausea and vomiting.
- Eyes: serious irritation — stinging, redness, watering and pain.
- Skin: defatting and drying with prolonged or repeated contact; redness. May be harmful if absorbed through the skin in large quantity.
- Ingestion: gastrointestinal irritation, nausea, vomiting and diarrhoea; central nervous system effects including drowsiness, incoordination and, in large amounts, loss of consciousness.
- Systemic: symptoms of over-exposure may include headache, dizziness, tiredness, nausea and vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically and supportively.
- After significant ingestion or heavy inhalation, observe for central nervous system and respiratory depression and for hypotension. Isopropanol is metabolised to acetone, which may cause ketosis without metabolic acidosis; blood isopropanol and acetone concentrations can guide management.
- Do not induce vomiting; consider the aspiration risk before any gastric decontamination. Activated charcoal is of little value for alcohols.

5 SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

- Suitable: carbon dioxide, dry chemical, dry sand or alcohol-resistant foam. Water mist or fog may be used to cool closed containers exposed to fire and to disperse vapour.
- Unsuitable: water may be ineffective as a direct extinguishing agent — do NOT use a solid water jet, which may spread the burning liquid. Ordinary (non-alcohol-resistant) foam breaks down on contact with this water-miscible polar solvent.

5.2 Special hazards arising from the substance or mixture

- Highly flammable liquid (flash point 12 °C / 53.6 °F, Abel closed cup). Vapour is heavier than air, may travel along the ground to a distant source of ignition and flash back. Vapour–air mixtures are explosive between 2 and 12 vol %.
- Autoignition temperature 425 °C (797 °F).
- Containers may explode when heated owing to pressure build-up.
- Hazardous combustion products: carbon monoxide, carbon dioxide and peroxides. Thermal decomposition can release irritating gases and vapours.
- Opened containers that have been stored for a long time may contain peroxides; heated or evaporated residues can be explosive.

5.3 Advice for fire-fighters

- Wear a positive-pressure, pressure-demand self-contained breathing apparatus (MSHA/NIOSH-approved or equivalent) and full protective clothing.

- Evacuate and isolate the area. Approach from upwind. Stay out of low areas where vapour may collect.
- Use water spray to cool fire-exposed containers; withdraw immediately if a rising sound from a venting safety device or discolouration of a tank occurs.
- Prevent run-off water from entering drains and watercourses; collect contaminated fire-fighting water separately for disposal.
- Refer to ERG 2024 Guide 129 (Flammable liquids — polar / water-miscible / noxious).

6 SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel. Evacuate the area immediately. Remove all sources of ignition — no smoking, flares, sparks or flames in the immediate area. Take precautionary measures against static discharge. Move upwind. Restrict access. Avoid contact with skin, eyes and clothing and avoid breathing vapour. Alert the site emergency response team.

For emergency responders. Wear suitable PPE: chemical splash goggles with face shield, flame-resistant antistatic protective clothing, antistatic chemically resistant boots, butyl rubber gloves, and a NIOSH-approved air-purifying respirator with organic-vapour cartridges (Type A, EN 14387) or SCBA where vapour concentrations are unknown or exceed exposure limits. Use only intrinsically safe equipment, explosion-proof equipment and non-sparking tools. Ventilate confined spaces before entry. Initial isolation of at least 50 m (150 ft) in all directions is recommended for a spill; increase the distance for large spills and consult ERG Guide 129.

6.2 Environmental precautions

- Should not be released into the environment. Prevent entry into drains, sewers, surface water, groundwater and soil. Dyke or bund the spill.
- Isopropanol is miscible with water and mobile in the environment; large releases to water impose an oxygen demand. Do not empty into drains.
- Isopropanol has no CERCLA reportable quantity, but releases may carry specific reporting requirements at the local, regional or state level. Report releases as required by law.

6.3 Methods and material for containment and cleaning up

- Prevent further leakage or spillage if it is safe to do so. Remove all sources of ignition. Upright leaking containers and transfer the contents to a sound, labelled container.
- Soak up with inert, non-combustible absorbent — dry sand, earth, vermiculite or diatomaceous earth. Do NOT use combustible absorbents such as sawdust, paper or cloth.
- Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment.
- Collect the absorbed material with non-sparking tools into a labelled, sealed container suitable for flammable waste, and keep in suitable closed containers for disposal.
- Wash the residual area with water only after the bulk has been removed, collecting the wash water; do not allow it to enter drains.
- Ventilate the area thoroughly and monitor for flammable atmosphere before releasing the area.

6.4 Reference to other sections

See Section 8 for exposure controls and personal protection, and Section 13 for disposal considerations.

7 SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

- Handle only in a chemical fume hood or under local exhaust ventilation. Wear personal protective equipment and face protection.
- Keep away from open flames, hot surfaces, sparks and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment and non-sparking tools.
- Take precautionary measures against static discharge. To avoid ignition of vapours by static electricity, all metal parts of the equipment must be grounded and bonded when transferring from drums or bulk containers; fill containers slowly and avoid splash filling.
- Do not get in eyes, on skin or on clothing. Do not breathe mist, vapours or spray.
- Keep the container tightly closed when not in use. Do not return unused material to the original container.
- Opened containers can form peroxides on prolonged exposure to air and light. Date containers on receipt and on opening, and test for peroxides before distillation or evaporation.
- Do not eat, drink or smoke in the handling area. Wash hands and exposed skin thoroughly after handling.
- Ensure an emergency eyewash station and safety shower are within 10 seconds' unobstructed travel of the work area.
- Empty containers retain product residue and vapour and remain flammable — do not cut, weld, drill or reuse.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions	Keep away from heat, sparks and flame. Store in a flammables area, in a dry, cool and well-ventilated place with the container tightly closed. Keep locked up or in an area accessible only to authorised, trained personnel. Store in accordance with NFPA 30 / 29 CFR 1910.106 (Class IB flammable liquid), in an approved flammable-liquids cabinet or storage room.
Recommended temperature	Cool — ideally below 25 °C (77 °F) and away from direct sunlight and heat sources. Because the flash point is 12 °C, flammable vapour can be present at ordinary room temperature; ventilate accordingly.
Containment	Store on a bunded or kerbed floor with secondary containment of at least 110 % of the largest container. Use explosion-proof electrical equipment in the storage area and ground any metal shelving or racking.
Suitable materials	Original supplier packaging: borosilicate glass with PTFE-faced closures; HDPE, PTFE, PP, PVDF, 316 stainless steel, carbon steel (for bulk, with grounding).
Unsuitable materials	Aluminium at elevated temperature; polystyrene, natural rubber and some other elastomers and plastics, which may swell or be attacked; plasticised materials.
Incompatible storage	Segregate from strong oxidising agents (chromic acid, permanganates, perchlorates, concentrated peroxides, nitric acid, hypochlorites), acids, halogens, acid anhydrides and acyl halides, and alkali metals.
Shelf life	Stable when stored as specified in unopened original packaging. Once opened, peroxides may form on prolonged exposure to air and light; test periodically and before distillation or evaporation, and apply the site's peroxide-forming chemical programme. Electronic and HPLC grades should be opened only in a clean environment, after which purity and trace-metal levels can no longer be guaranteed against the released specification.

7.3 Specific end use(s)

Laboratory reagent, chromatography solvent and industrial process chemical. No further specific guidance beyond the identified uses in Section 1.2.

8 SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Occupational exposure limits — isopropyl alcohol (CAS 67-63-0)

Source	Type	Value
OSHA PEL (29 CFR 1910.1000, Table Z-1)	8-hour TWA	400 ppm (980 mg/m³)
NIOSH REL	10-hour TWA / 15-minute STEL	400 ppm (980 mg/m³) / 500 ppm (1,225 mg/m³)
ACGIH TLV	8-hour TWA / STEL	200 ppm / 400 ppm
NIOSH IDLH	Immediately dangerous to life or health	2,000 ppm (10 % of the lower explosive limit)
Cal/OSHA PEL (8 CCR 5155)	8-hour TWA / STEL	400 ppm / 500 ppm
Mexico OEL (NOM-010-STPS)	TWA / STEL	200 ppm / 400 ppm
EU IOELV (Directive 2017/164/EU and earlier)	—	No indicative or binding EU limit value established. National limits include UK WEL 400 ppm TWA / 500 ppm STEL and Germany AGW 200 ppm.
ACGIH BEI (biological exposure index)	Acetone in urine	40 mg/L, end of shift at end of workweek

8.2 Exposure controls

Appropriate engineering controls

- Use in a certified chemical fume hood with a minimum face velocity of 0.5 m/s (100 ft/min), or under equivalent local exhaust ventilation captured at the point of generation.
- Provide general dilution ventilation sufficient to keep airborne concentrations below the exposure limits and well below the lower explosion limit. Electrical equipment, exhaust ducting and fans must be explosion-proof and bonded to earth.
- Safety shower and eyewash station must be immediately available (ANSI/ISEA Z358.1).

Eye and face protection

- Chemical splash goggles conforming to ANSI/ISEA Z87.1 or EN 166 (OSHA 29 CFR 1910.133), worn together with a face shield whenever there is any risk of splashing, pouring or pressurised release. Ordinary safety spectacles are not adequate.

Skin and body protection

- Gloves: butyl rubber (≥ 0.5 mm; breakthrough time > 480 minutes, EN ISO 374 performance level 6) is the preferred material. Nitrile rubber is suitable for incidental splash contact only and must be changed immediately on contamination; neoprene is acceptable for short contact. Natural rubber latex is not recommended. Confirm performance with the glove manufacturer for the specific task.
- Body: flame-resistant, antistatic laboratory coat or coveralls; a chemically resistant apron or full suit for bulk transfer, drumming and spill response.
- Feet: closed, antistatic, chemically resistant footwear.

Respiratory protection

- Not normally required where work is carried out in an effective fume hood. Where the exposure limits may be exceeded, use a NIOSH-approved respirator with organic-vapour cartridges (EN 14387 Type A, brown filter) within its assigned protection factor.
- For unknown concentrations, oxygen-deficient atmospheres, emergency response or concentrations at or above 2,000 ppm (IDLH), use a positive-pressure self-contained breathing apparatus or a supplied-air respirator with escape bottle.
- Respirator use requires a written programme under 29 CFR 1910.134, including medical evaluation, fit testing and training.

Environmental exposure controls

- Do not discharge to the environment or empty into drains. Collect solvent waste for licensed disposal; route vent gases through a condenser or carbon adsorber where necessary.

9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Property	Value
Physical state	Liquid
Colour	Colourless
Odour	Alcohol-like
Odour threshold	No information available
Melting point / freezing point	−89.5 °C (−129.1 °F)
Boiling point / initial boiling point	81 – 83 °C (177.8 – 181.4 °F) at 760 mmHg (101.3 kPa)
Flammability	Highly flammable liquid and vapour (Category 2). Classified on the basis of test data.
Lower / upper explosion limit	2 vol % / 12 vol % in air
Flash point	12 °C (53.6 °F), Abel closed cup (BS 2000 Part 170, IP 170, AS/NZS 2106)
Auto-ignition temperature	425 °C (797 °F) (ASTM E-659)
Decomposition temperature	No data available
pH	7 (1 % aqueous solution)
Kinematic / dynamic viscosity	Dynamic viscosity 2.27 mPa·s at 20 °C
Solubility (water)	Miscible
Solubility (other)	No quantitative information available; miscible with ethanol, diethyl ether, acetone and chloroform
Partition coefficient n-octanol/water (log Kow)	0.05
Vapour pressure	43 mmHg (5.7 kPa) at 20 °C
Density / relative density	0.785 (specific gravity; ASTM D-4052)
Relative vapour density	2.1 (air = 1) at 20 °C (68 °F) — vapour is heavier than air and will collect in low areas
Particle characteristics	Not applicable (liquid)
Molecular weight	60.10 g/mol
Evaporation rate	1.7 (n-butyl acetate = 1; ASTM D 3539)
Oxidising properties	None
Explosive properties	Not explosive; explosive vapour–air mixtures possible
Surface tension	22.7 mN/m at 20 °C (68 °F)
Softening point	No data available

Property	Value
Bulk density	Not applicable (liquid)
Flammability (solid, gas)	Not applicable (liquid)
Sensitivity to mechanical impact / static discharge	No information available; vapour–air mixtures are sensitive to ignition by static discharge
VOC content	100 % (organic carbon, by mass, 59.9 %) (EC/1999/13)
Thermal conductivity	0.137 W/m·°C at 20 °C (68 °F)
Refractive index	1.377 at 20 °C (68 °F) (ASTM D-1218)
Coefficient of expansion	0.0009 per °C
Specific heat capacity	3 kJ/kg·°C at 20 °C (68 °F)
Dielectric constant	18.6 at 20 °C (68 °F)
Heat of vapourisation	665 J/g
Concentration	≥ 99.0 % w/w (Laboratory Reagent); ≥ 99.7 % w/w (Analytical Reagent); ≥ 99.8 % w/w (HPLC); ≥ 99.9 % w/w (Electronic)

9.2 Other information

No additional physical or chemical hazard information. Test data above relate to isopropyl alcohol unless otherwise stated.

10 SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Reactive hazard: none known under normal conditions of use, based on available information. Reacts vigorously with strong oxidising agents as detailed below, and can form peroxides on prolonged exposure to air and light.

10.2 Chemical stability

Stable under normal conditions and under the recommended storage and handling conditions. Vapour–air mixtures are sensitive to ignition by static discharge at ambient temperature because the flash point is 12 °C. Hazardous polymerisation does not occur.

10.3 Possibility of hazardous reactions

- None under normal processing.
- Violent or explosive reaction with strong oxidising agents — chromic acid, permanganates, perchlorates, concentrated hydrogen peroxide, nitric acid and similar; fire may result.
- Exothermic reaction with strong acids, acid anhydrides and acyl halides; reaction with halogens and hypochlorite bleach can generate toxic chlorinated by-products.
- Alkali metals and aluminium at elevated temperature react to form alkoxides with evolution of flammable hydrogen.
- Prolonged storage exposed to air and light can form explosive peroxides, which concentrate on distillation or evaporation.

10.4 Conditions to avoid

Heat, flames, sparks, open flames, hot surfaces and other ignition sources; static discharge; direct sunlight; prolonged exposure of opened containers to air and light; contact with incompatible materials; distillation or evaporation to dryness without a prior peroxide test.

10.5 Incompatible materials

Class	Examples
Oxidising agents	Chromic acid, permanganates, perchlorates, nitric acid, concentrated hydrogen peroxide, peroxides, hypochlorites (bleach)
Acids	Strong mineral acids (sulfuric, nitric) — exothermic reaction; strong acids and heat can also dehydrate the alcohol
Halogens	Chlorine, bromine, fluorine and halogen-releasing compounds
Acid anhydrides and acyl halides	Acetic anhydride, acetyl chloride and similar — exothermic esterification
Reactive metals	Alkali metals (sodium, potassium); aluminium at elevated temperature; metal powders
Plastics and elastomers	Polystyrene, natural rubber and some other elastomers and plasticised materials — swelling or attack

10.6 Hazardous decomposition products

Carbon monoxide (CO), carbon dioxide (CO_2) and peroxides on heating or in a fire; irritating gases and vapours may also be released by thermal decomposition.

11 SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in 29 CFR 1910.1200(c) / GHS

Likely routes of exposure: inhalation of vapour, skin and eye contact, and accidental ingestion.

Endpoint	Data and conclusion
Acute toxicity — oral	LD_{50} (rat): 5,045 mg/kg bw; LD_{50} (mouse): 3,600 mg/kg bw. Ingestion may cause central nervous system effects and gastrointestinal irritation, nausea, vomiting and diarrhoea. Not classified (above the Category 4 cut-off of 2,000 mg/kg).
Acute toxicity — dermal	LD_{50} (rat): 12,800 mg/kg bw. May be harmful in contact with skin in large quantity. Not classified.
Acute toxicity — inhalation	LC_{50} (rat, 4 h): 72.6 mg/L (vapour). May be harmful if inhaled; may cause drowsiness, dizziness and respiratory tract irritation. Not classified for acute toxicity; the effects are covered by the STOT SE 3 classification.
Skin corrosion / irritation	Based on available data, the classification criteria are not met. Prolonged or repeated contact defats and dries the skin.
Serious eye damage / irritation	Irritating to eyes. Classified Eye Irritation Category 2.
Respiratory or skin sensitisation	Based on available data, the classification criteria are not met for respiratory or skin sensitisation. Not classified.
Germ cell mutagenicity	Based on available data, the classification criteria are not met. Not classified.
Carcinogenicity	Based on available data, the classification criteria are not met. Not listed by IARC, NTP, ACGIH, OSHA or Mexico as a carcinogen.
Reproductive toxicity	Based on available data, the classification criteria are not met. Not classified.
STOT — single exposure	Category 3. Target organs: central nervous system (narcotic effects — drowsiness, dizziness) and respiratory system (irritation). Classified STOT SE 3, H335 and H336.
STOT — repeated exposure	Not classified. Repeated high-level exposure in animals affects liver and kidney weights only at doses far above occupational exposure; the manufacturer's STOT RE Category 2 entry is not supported by its own Section 11 data and is not carried.
Aspiration hazard	Based on available data, the classification criteria are not met. Not classified.

11.2 Other information

Target organs: central nervous system, respiratory system and eyes. Symptoms of over-exposure: central nervous system depression — inhalation of high vapour concentrations may cause headache, dizziness, tiredness, nausea and vomiting. Persons with pre-existing skin disorders, eye disease or chronic respiratory disease may be at increased risk from exposure. Endocrine disrupting properties: this product does not contain any known or suspected endocrine disruptors.

The toxicological properties have not been fully investigated in all endpoints. Toxicologically synergistic products: no information available. The values above are those reported in the manufacturer's safety data sheet for 2-propanol.

12 SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Endpoint	Value
Fish — acute	LC_{50} (Pimephales promelas, fathead minnow, 96 h, flow-through): 9,640 mg/L; (static): 11,130 mg/L. LC_{50} (Lepomis macrochirus, bluegill, 96 h): > 1,400 mg/L.
Aquatic invertebrates — acute	EC_{50} (water flea, 48 h): 13,299 mg/L; (24 h): 9,714 mg/L. LC_{50} (Daphnia, 96 h): 10,000 mg/L.
Algae	EC_{50} (Desmodesmus subspicatus, freshwater algae, 72 h): > 1,000 mg/L; (96 h): > 1,000 mg/L.
Microorganisms	EC_{50} (Photobacterium phosphoreum, Microtox, 5 min): 35,390 mg/L.

Isopropyl alcohol is of low acute toxicity to aquatic organisms. Do not empty into drains: the product is flammable and large releases impose an oxygen demand on receiving waters.

12.2 Persistence and degradability

Persistence is unlikely based on available information. Isopropyl alcohol is readily biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation data available; not expected to bioaccumulate. log Kow = 0.05.

12.4 Mobility in soil

Will likely be mobile in the environment owing to its volatility and complete miscibility with water; rapid biodegradation limits transport in soil and groundwater.

12.5 Results of PBT and vPvB assessment

The substance does not meet the criteria for PBT or vPvB under REACH Annex XIII.

12.6 Other adverse effects

Germany water hazard class WGK 1 (slightly hazardous to water). Not an ozone-depleting substance (ozone depletion potential not applicable). Endocrine disrupting properties: this product does not contain any known or suspected endocrine disruptors.

13 SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

- Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste under 40 CFR 261 and must consult federal, state and local hazardous waste regulations to ensure complete and accurate classification.
- Dispose of surplus and non-recyclable material via a licensed hazardous-waste contractor, preferably by incineration in a permitted facility or by use as a fuel for energy recovery. Do not discharge to sewers, drains or watercourses.
- Collect waste solvent in labelled, grounded, closed containers kept away from ignition sources; do not mix with oxidising agents, acids or halogenated waste streams.
- Test for peroxides before any in-house solvent recovery by distillation; do not distil to dryness. Contact a hazardous-waste specialist about old or heavily oxidised containers.
- Empty containers retain product residue and flammable vapour and remain hazardous. Do not cut, weld, braze, drill, grind or expose to heat, flame or sparks.
- Dispose of the container in accordance with local regulations. RCRA "empty" criteria are set out in 40 CFR 261.7.

13.2 Waste codes

RCRA (40 CFR 261): discarded unused product exhibits the ignitability characteristic (flash point < 60 °C) — EPA hazardous waste number D001. Not a P- or U-listed commercial chemical product. European waste catalogue: EWC code 16 05 06* (laboratory chemicals consisting of or containing hazardous substances) or 07 01 04* (other organic solvents, washing liquids and mother liquors) from the manufacture, formulation, supply and use of fine chemicals. Final code allocation is the responsibility of the waste producer.

14 SECTION 14: TRANSPORT INFORMATION

This product is a regulated dangerous good in all modes of transport.

14.1 Common transport classification (all modes)

UN number / UN ID number	UN 1219
UN proper shipping name	Isopropanol (also "Isopropyl alcohol")
Transport hazard class	Class 3 — Flammable liquids
Subsidiary hazard	None
Packing group	II
Label(s) required	Class 3 "Flammable liquid" (red) on every package
Environmental hazards	Not classified as a marine pollutant under the IMDG Code and not an environmentally hazardous substance under ADR/RID.
Special precautions for user	Transport upright, secured against movement, away from foodstuffs. Segregate from oxidising agents, acids and halogens. Keep away from heat and ignition sources. Ground and bond during loading and unloading; vehicles must carry no ignition sources in the load area.

Transport in bulk (MARPOL Annex II / IBC Code)	Isopropyl alcohol is listed in Chapter 17 of the IBC Code. Not applicable to packaged goods; consult the ship's Certificate of Fitness for bulk carriage.

Transport hazard label(s) required on the package:



Class 3 — Flammable liquid

Minimum 100 mm × 100 mm on each side, set on a point, with a solid inner line 5 mm inside the edge (49 CFR 172.407). Reduced-size labels are permitted only where the package is too small to bear a full-size label. Where a subsidiary hazard label is required, it is displayed next to the primary label.

14.2 US DOT — 49 CFR (road, rail and domestic transport)

Hazardous materials table entry	Isopropanol or Isopropyl alcohol — 3, UN1219, PG II
Label codes	3
Special provisions (49 CFR 172.102)	IB2, T4, TP1
Packaging — exceptions	49 CFR 173.150
Packaging — non-bulk	49 CFR 173.202
Packaging — bulk	49 CFR 173.242
Quantity limitation — passenger aircraft/rail	5 L
Quantity limitation — cargo aircraft only	60 L
Vessel stowage	Location B
Limited quantity	Authorised under 49 CFR 173.150(b): inner packagings not exceeding 1.0 L, package gross mass not exceeding 30 kg. Limited quantity marking required in place of labels.
Reportable quantity (RQ)	Not listed — isopropanol has no CERCLA reportable quantity, so no "RQ" designation is required on the shipping paper or package.
ERG 2024 guide number	129 — Flammable liquids (polar / water-miscible / noxious)
Emergency response telephone	Required on the shipping paper under 49 CFR 172.604 — see Section 1.4
Placarding	FLAMMABLE placard required for bulk packagings and for non-bulk shipments where the aggregate gross weight of Table 2 materials is 454 kg (1,001 lb) or more.

14.3 IMDG Code (sea)

UN number / class / PG	UN 1219, Class 3, PG II
Proper shipping name	ISOPROPANOL (ISOPROPYL ALCOHOL)
EmS (emergency schedules)	F-E (fire) and S-D (spillage)
Segregation group	None assigned (Class 3 flammable liquids have no IMDG segregation group); segregate from oxidising agents
Marine pollutant	No
Limited quantity	1 L
Excepted quantity	E2
Stowage and segregation	Stowage category B. Segregate from oxidising agents (Class 5.1); keep away from sources of heat and ignition. Refer to the IMDG Code edition in force for the stowage category and segregation table.

14.4 IATA DGR / ICAO Technical Instructions (air)

UN number / class / PG	UN 1219, Class 3, PG II
Proper shipping name	Isopropanol (Isopropyl alcohol)

Passenger and cargo aircraft	Packing Instruction 353 — maximum net quantity 5 L per package
Cargo aircraft only	Packing Instruction 364 — maximum net quantity 60 L per package
Limited quantity (passenger aircraft)	Packing Instruction Y341 — maximum net quantity 1 L per package
Excepted quantity code	E2
ERG code (ICAO)	3L
Note	Packing instruction numbers change between editions of the IATA Dangerous Goods Regulations. Verify against the edition in force on the date of shipment before completing the Shipper's Declaration.

14.5 ADR / RID / ADN (European road, rail and inland waterway)

UN number / class / PG	UN 1219, Class 3, PG II
Classification code	F1 — flammable liquids, without subsidiary risk
Labels	3
Tunnel restriction code	(D/E)
Hazard identification number (Kemler)	33
Transport category / limited quantity	Transport category 2; limited quantity 1 L
Packing instructions	P001, IBC02
Note	Verify against the ADR/RID edition in force before shipment.

14.6 Shipping documentation example

UN1219, Isopropanol, 3, PG II — followed by the number and type of packages, total quantity, packaging authorisation, emergency response telephone number and, where applicable, the limited-quantity marking. No "RQ" designation applies.

The shipper is responsible for confirming that packaging is UN-performance tested and marked to the required standard, that all personnel involved are trained and certified under 49 CFR 172 Subpart H (and IATA/IMDG equivalents), and that the classification remains valid under the regulatory edition in force on the date of shipment.

15 SECTION 15: REGULATORY INFORMATION

15.1 United States federal regulations

Regulation	Status
TSCA (15 U.S.C. §2601 et seq.)	Isopropyl alcohol, CAS 67-63-0, is listed on the TSCA Chemical Substance Inventory with an "active" designation. No TSCA section 12(b) export notification requirement applies. Not subject to a section 5(a)(2) significant new use rule and not a TSCA 6(h) PBT substance.
OSHA Hazard Communication (29 CFR 1910.1200)	Classified as a hazardous chemical. This SDS is prepared to the HCS 2024 amendment (GHS Rev. 7), for which the compliance date for substances was 19 May 2026.
OSHA flammable liquids (29 CFR 1910.106)	Category 2 flammable liquid (flash point 12 °C / 53.6 °F, below 23 °C with an initial boiling point above 35 °C); Class IB flammable liquid under NFPA 30. Storage and handling requirements apply.
OSHA PSM (29 CFR 1910.119, App. A)	Not a listed highly hazardous chemical.
CERCLA section 103 (40 CFR 302.4)	Not listed as a hazardous substance; no reportable quantity is assigned. State and local release-reporting requirements may still apply.
EPCRA section 302 (40 CFR 355, App. A)	Not an extremely hazardous substance; section 302 emergency planning notification is not triggered by this product.
EPCRA sections 311 / 312 (40 CFR 370)	Reportable. Applicable hazard classes: flammable (liquids), serious eye damage or eye irritation (Category 2) and specific target organ toxicity (single exposure). Reporting threshold 10,000 lb on site at any one time.
EPCRA section 313 (TRI, 40 CFR 372)	Not listed as a substance in its own right; only the strong-acid manufacturing process for isopropyl alcohol is listed, which does not apply to a supplier of the finished product. No Toxics Release Inventory reporting requirement arises from this product.

Regulation	Status
Clean Air Act section 112 / 112(r)	Not a listed hazardous air pollutant and not a regulated substance under 40 CFR 68.130.
Clean Water Act section 311 (40 CFR 116/117)	Not designated as a hazardous substance under section 311. Not a section 307 priority pollutant or toxic pollutant.
RCRA (40 CFR 261)	Discarded unused product exhibits the ignitability characteristic (D001). Not P- or U-listed.
DEA / Chemical Diversion and Trafficking Act (21 CFR 1310)	Not a List I or List II regulated chemical.
FDA / USDA	Not supplied as a USP, FCC or NF material. Not for use in food, drug or cosmetic applications.
US Department of Homeland Security (6 CFR 27, App. A)	Not a chemical of interest.

15.2 United States state regulations

State list	Status
California Proposition 65	"Isopropyl alcohol manufacture using strong acids" is a listed process; the substance itself (isopropyl alcohol) is not listed under the Safe Drinking Water and Toxic Enforcement Act of 1986. No Proposition 65 warning is required for this product.
California — other	Cal/OSHA PEL 400 ppm TWA / 500 ppm STEL.
Massachusetts Right-to-Know	Listed (Substance List, 105 CMR 670).
New Jersey Right-to-Know	Listed (Hazardous Substance List; substance list). Flammable.
Pennsylvania Right-to-Know	Listed (Hazardous Substance List).
Rhode Island, Minnesota, Texas	Listed on the Rhode Island and Minnesota hazardous substance / right-to-know lists. Texas: no separate listing asserted in this sheet. Not listed: Illinois.

15.3 International regulations

Jurisdiction	Status
Canada	Classified under the Hazardous Products Regulations (SOR/2015-17) consistently with Section 2. Listed on the Domestic Substances List (DSL). Listed under NPRI (Part 1A).
European Union — CLP	Harmonised classification, Annex VI to Regulation (EC) No 1272/2008, Index No. 603-117-00-0: Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336. No specific concentration limits.
European Union — REACH	Registered substance. Not on the Candidate List of substances of very high concern and not subject to authorisation (Annex XIV). Annex XVII restriction entry 75 (tattoo inks) applies to the use of the substance in tattoo inks only. Supplier REACH registration number to be inserted before EU/EEA placement.
Seveso III (Directive 2012/18/EU)	Not named individually; captured under hazard category P5c (flammable liquids, Category 2 or 3 not covered by P5a/P5b): lower tier 5,000 t / upper tier 50,000 t.
Rotterdam / Stockholm / Montreal Conventions	Not listed under the PIC procedure, not a persistent organic pollutant and not an ozone-depleting substance.
Basel Convention	Annex I — Y42 (organic solvents excluding halogenated solvents) when exported as waste.
Chemical Weapons Convention	Not a scheduled chemical.
Chemical inventories	Listed on TSCA (USA), DSL (Canada), EC Inventory / REACH (EU), AICS/AIIC (Australia), IECSC (China), ENCS and ISHL (Japan), KECI (Korea), PICCS (Philippines), NZIoC (New Zealand), TCSI (Taiwan) and the Indian Chemical Inventory.
Mexico	Serious risk, Grade 3 (NOM-018-STPS). OEL (NOM-010-STPS): TWA 200 ppm; STEL 400 ppm.
Germany	Water Hazard Class WGK 1 (slightly hazardous to water).

15.4 Chemical safety assessment

A chemical safety assessment has been carried out for isopropyl alcohol under REACH by the registrant consortium. No exposure scenarios are annexed to this SDS; users placing the substance on the EU/EEA market should obtain the extended SDS from the registrant.

16 SECTION 16: OTHER INFORMATION

16.1 Hazard rating systems

System	Rating	Notes
NFPA 704	Health 2 · Flammability 3 · Instability 0 · Special: none	Per the manufacturer's safety data sheet
HMIS® III	Health 2 · Flammability 3 · Physical hazard 0 · PPE: X	PPE code to be assigned by the employer based on the task



Rating scale 0 = minimal, 4 = severe. These ratings are supplementary and are not a substitute for the GHS classification in Section 2.

16.2 Full text of hazard statements referred to in this SDS

- H225 — Highly flammable liquid and vapour.
- H319 — Causes serious eye irritation.
- H335 — May cause respiratory irritation.
- H336 — May cause drowsiness or dizziness.

16.3 Abbreviations and acronyms

Abbreviation	Meaning
ACGIH	American Conference of Governmental Industrial Hygienists
ADR / RID / ADN	European agreements concerning the international carriage of dangerous goods by road / rail / inland waterway
CAS	Chemical Abstracts Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging
DNEL / PNEC	Derived no-effect level / predicted no-effect concentration
EmS	Emergency schedule (IMDG Code)
EPCRA	Emergency Planning and Community Right-to-Know Act
ERG	Emergency Response Guidebook (PHMSA / Transport Canada / SCT)
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
HCS	Hazard Communication Standard, 29 CFR 1910.1200
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA DGR	International Air Transport Association Dangerous Goods Regulations
IDLH	Immediately dangerous to life or health
IMDG	International Maritime Dangerous Goods Code
LC_{50} / LD_{50} / EC_{50}	Concentration / dose / effective concentration lethal or effective to 50 % of a test population
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PBT / vPvB	Persistent, bioaccumulative and toxic / very persistent and very bioaccumulative
PEL / REL / TLV	Permissible exposure limit / recommended exposure limit / threshold limit value
PG	Packing group
RCRA	Resource Conservation and Recovery Act
RQ / TPQ / TQ	Reportable quantity / threshold planning quantity / threshold quantity
SCBA	Self-contained breathing apparatus
STOT SE / RE	Specific target organ toxicity — single exposure / repeated exposure
TSCA	Toxic Substances Control Act

Abbreviation	Meaning
TWA / STEL	Time-weighted average / short-term exposure limit
WGK	Wassergefährdungsklasse (German water hazard class)

16.4 Key references

- 29 CFR 1910.1200, OSHA Hazard Communication Standard, as amended by the final rule of 19 July 2024 (89 FR 44144), aligning with GHS Revision 7.
- 49 CFR Parts 171–180, US DOT Hazardous Materials Regulations; Hazardous Materials Table, 49 CFR 172.101.
- 2024 Emergency Response Guidebook, Guide 129.
- IMDG Code and IATA Dangerous Goods Regulations, editions in force.
- 40 CFR 302.4, 40 CFR 355 Appendix A, 40 CFR 370, 40 CFR 372, 40 CFR 68.130 and 40 CFR 261.
- Regulation (EC) No 1272/2008 Annex VI, Index No. 603-117-00-0; Regulation (EC) No 1907/2006 Annex II.
- NIOSH Pocket Guide to Chemical Hazards, isopropyl alcohol; ACGIH TLVs and BEIs, current edition.
- Manufacturer safety data sheet for 2-propanol (US OSHA HCS 2024 format, revision 10, 18 December 2025) — source of the physical, toxicological and ecotoxicological test values reproduced here.
- ECHA registered substance dossier and PubChem CID 3776, isopropyl alcohol.

16.5 Revision information

Version	1.0
Date of issue	01 November 2026
Reason for revision	First issue under Highpuris LLC. Content prepared in the 16-section format of 29 CFR 1910.1200, Appendix D, with full US DOT 49 CFR transport detail, IMDG / IATA / ADR classification, and the complete Highpuris catalogue SKU list for isopropyl alcohol (2-propanol).
Sections revised	All — first issue
Prepared by	Regulatory Affairs, Highpuris LLC

16.6 Disclaimer

The information in this Safety Data Sheet is provided in good faith and is believed to be accurate as at the date of issue. It has been compiled from data on isopropyl alcohol (2-propanol) published by regulatory authorities, manufacturers and recognised technical sources, and relates only to the specific material identified in Section 1. It does not constitute a warranty, express or implied, of merchantability, fitness for a particular purpose or of any other kind, and Highpuris LLC accepts no liability for loss or damage arising from the handling or use of the product. The material may present hazards in combination with other substances or in processes not described here. It is the responsibility of the user to determine the suitability of this information for their own particular purpose, to comply with all applicable laws and regulations, and to ensure that the material is handled only by adequately trained personnel. Transport classifications, exposure limits and regulatory listings change. This document must be reviewed against the regulatory editions in force at the date of each shipment.

— END OF SAFETY DATA SHEET —

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