

Chemical Safety Data Sheet MSDS / SDS

Isopropyl alcohol

Revision Date:2024-06-01 Revision Number:1

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

Product identifier

Product name : Isopropyl alcohol
CBnumber : CB8854102
CAS : 67-63-0
EINECS Number : 200-661-7
Synonyms : IPA,IsoPropyl Alcohol

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 400-158-6606

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continuerinsing.
P337+P313 IF eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use ... for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Hazard statements

H225 Highly Flammable liquid and vapour

H319 Causes serious eye irritation

H336 May cause drowsiness or dizziness

SECTION 3: Composition/information on ingredients

Substance

Product name	: Isopropyl alcohol
Synonyms	: IPA,IsoPropyl Alcohol
CAS	: 67-63-0
EC number	: 200-661-7
MF	: C ₃ H ₈ O
MW	: 60.1

SECTION 4: First aid measures

Description of first aid measures**General advice**

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media**Suitable extinguishing media**

Carbon dioxide (CO₂) Foam Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Carbon oxides Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

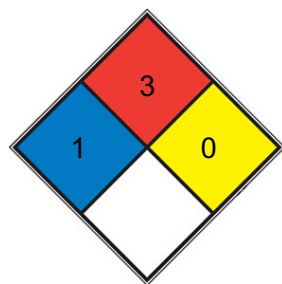
Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature

FIRE 3 conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

☐ SPEC.

☐ HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb?). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Handle and store under inert gas. Hygroscopic.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,4 mm Break through time: 480 min

Material tested: Camatril? (KCL 730 / Aldrich Z677442, Size M)

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Splash contact Material: Chloroprene

Minimum layer thickness: 0,65 mm Break through time: 120 min Material tested: KCL 720 Camapren?

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

Exposure limits

TLV-TWA 980 mg/m³ (400 ppm); STEL 1225 mg/m³ (500 ppm) (ACGIH); IDLH 12,000 ppm (NIOSH).

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	colorless liquid
Odour	alcohol-like
Odour Threshold	1 ppm
pH	at 20 °C neutral
Melting point/freezing point	Melting point/range: -89,5 °C
Initial boiling point and boiling range	82 °C
Flash point	12,0 °C - closed cup
Evaporation rate	3,0
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 13,4 %(V) Lower explosion limit: 2 %(V)
Vapour pressure	43 hPa at 20 °C
Vapour density	2,07
Relative density	0,785 g/mL at 25 °C
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	log Pow: 0,05 - Bioaccumulation is not expected.
Autoignition temperature	425,0 °C
Decomposition temperature	Distillable in an undecomposed state at normal pressure.

Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: 2,2 mPa.s at 20 °C
Explosive properties	No data available
Oxidizing properties	No data available
λ_{max}	λ : 260 nm Amax: 0.02
	λ : 280 nm Amax: 0.01

Other safety information

Minimum ignition energy

0,65 mJ

Conductivity < 0,1 $\mu\text{S/cm}$

Surface tension 20,8 mN/m at 25,0 °C

Relative vapor density

2,07

SECTION 10: Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

Reacts with air to form peroxides.

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

No data available

Conditions to avoid

Warming.

Incompatible materials

Acid anhydrides, Aluminum, Halogenated compounds, Acids, Strong oxidizing agents

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 5.840 mg/kg

(OECD Test Guideline 401)

LC50 Inhalation - Rat - male and female - 4 h - 37,5 mg/l (OECD Test Guideline 403)

LD50 Dermal - Rabbit - 12.800 mg/kg Remarks:

(RTECS)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Eye irritation

(OECD Test Guideline 405)

(Regulation (EC) No 1272/2008, Annex VI)

Respiratory or skin sensitization

Buehler Test - Guinea pig Result: negative

(OECD Test Guideline 406)

Germ cell mutagenicity

Ames test

Salmonella typhimurium Result: negative

In vitro mammalian cell gene mutation test Chinese hamster ovary cells

Result: negative

OECD Test Guideline 474

Mouse - male and female - Bone marrow

Result: negative

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation, Oral - May cause drowsiness or dizziness. - Central nervous system Remarks:

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2) Acute inhalation toxicity - Central nervous system

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Toxicity

LD50 orally in rats: 5.8 g/kg (Smyth, Carpenter)

SECTION 12: Ecological information

Toxicity

Toxicity to fish

flow-through test LC50 - Pimephales promelas (fathead minnow) - 9.640 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

(OECD Test Guideline 203)

EC50 - Daphnia magna (Water flea) - 13.299 mg/l - 48 h Remarks: (IUCLID)

Toxicity to algae

IC50 - Desmodesmus subspicatus (green algae) - > 1.000 mg/l - 72 h

Remarks: (IUCLID)

Toxicity to bacteria

EC5 - Pseudomonas putida - 1.050 mg/l - 16 h

Remarks: (Lit.)

Persistence and degradability

Biodegradability aerobic - Exposure time 5 d

Result: 53 % - Readily biodegradable. (Directive 67/548/EEC, Annex V, C.6)

Theoretical oxygen demand

2.400 mg/g Remarks: (Lit.)

Ratio BOD/ThBOD 49 %

Remarks: (IUCLID)

Bioaccumulative potential

No bioaccumulation is to be expected ($\log Pow \leq 4$).

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Incompatibilities

Incompatible with oxidizing agents such as hydrogen peroxide and nitric acid, which cause decomposition. Isopropyl alcohol may be salted out from aqueous mixtures by the addition of sodium chloride, sodium sulfate, and other salts, or by the addition of sodium hydroxide.

SECTION 14: Transport information

UN number

ADR/RID: 1219 IMDG: 1219

UN proper shipping name

ADR/RID: ISOPROPANOL IMDG: ISOPROPANOL IATA: Isopropanol

Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

Packaging group

ADR/RID: II IMDG: II IATA: II

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

No data available

SECTION 15: Regulatory information

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

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

EC Inventory: Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

SECTION 16: Other information

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

Other Information

Use of alcoholic beverages enhances the harmful effect.

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.