

Safety Data Sheet

Product name: Isopropyl alcohol

CAS No.: 67-63-0

Prepared in accordance with GB/T 16483, GB/T 17519

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: Linyi Tuohui New Materials Co., Ltd.
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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. Continue rinsing.

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: C₃H₈O
- 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

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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

- Appearancecolorless liquid
- Odouralcohol-like
- Odour Threshold1 ppm
- pHat 20 °C neutral
- Melting point/freezing pointMelting point/range: -89,5 °C
- Initial boiling point and boiling range82 °C
- Flash point12,0 °C - closed cup
- Evaporation rate3,0
- 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 density0,785 g/mL at 25 °C
- Water solubilityat 20 °C soluble
- Partition coefficient: n-octanol/waterlog Pow: 0,05 - Bioaccumulation is not expected.
- Autoignition temperature425,0 °C
- Decomposition temperatureDistillable in an undecomposed state at normal pressure.
- ViscosityViscosity, kinematic: No data available Viscosity, dynamic: 2,2 mPa.s at 20 °C
- Explosive propertiesNo data available
- Oxidizing propertiesNo data available
- λ_{max} : 260 nm A_{max} : 0.02
 λ : 280 nm A_{max} : 0.01

>Other safety information

Minimum ignition energy

0,65 mJ

Conductivity < 0,1 µS/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

Aspiration hazard

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 ($\log P_{ow} \leq 4$).

>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.

>Toxics Screening Level

The initial threshold screening level (ITSL) for isopropyl alcohol is 220 µg/m³ based on an annual averaging time.

>Other adverse effects

No data available

SECTION 13: Disposal considerations

>Waste treatment methods

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

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.