

## Chemical Safety Data Sheet MSDS / SDS

## Isopropyl acetate SDS

Revision Date:2024-04-25 Revision Number:1

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

Product name: Isopropyl acetate

CAS: 108-21-4

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

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Flammable liquids, Category 2

Eye irritation, Category 2

Specific target organ toxicity - single exposure, Category 3

### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H225 Highly flammable liquid and vapour

H319 Causes serious eye irritation

H336 May cause drowsiness or dizziness

### Precautionary statement(s)

### 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/lighting/...] equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P264 Wash ... thoroughly after handling.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

### Response

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

P370+P378 In case of fire: Use ... to extinguish.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P319 Get medical help if you feel unwell.

### Storage

P403+P235 Store in a well-ventilated place. Keep cool.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### **Other hazards which do not result in classification**

no data available

### **SECTION 3: Composition/information on ingredients**

#### **Substance**

Chemical name: Isopropyl acetate

Common names and synonyms: Isopropyl acetate

CAS number: 108-21-4

EC number: 203-561-1

Concentration: 100%

### **SECTION 4: First aid measures**

#### **Description of necessary first-aid measures**

##### **If inhaled**

Fresh air, rest. Refer for medical attention.

##### **Following skin contact**

Remove contaminated clothes. Rinse skin with plenty of water or shower.

##### **Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

##### **Following ingestion**

Rinse mouth. Do NOT induce vomiting. Rest. Refer for medical attention .

#### **Most important symptoms/effects, acute and delayed**

Vapors irritate eyes and respiratory tract; high concentrations can be anesthetic. Liquid irritates eyes but causes no serious injury; may cause dermatitis; no serious effects if swallowed. (USCG, 1999)

#### **Indication of immediate medical attention and special treatment needed, if necessary**

For basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 mL/kg up to 200 mL of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal .  
Esters and related compounds

### **SECTION 5: Firefighting measures**

#### **Suitable extinguishing media**

Extinguish with dry chem, /alcohol/ foam, or carbon dioxide. Water may be ineffective. Cool exposed containers with water.

#### **Specific hazards arising from the chemical**

Excerpt from ERG Guide 129 [Flammable Liquids (Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2016)

#### **Special protective actions for fire-fighters**

Use alcohol-resistant foam, foam, powder, carbon dioxide, fine water spray. In case of fire: keep drums, etc., cool by spraying with water.

### **SECTION 6: Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Remove all ignition sources. Evacuate danger area! Consult an expert! Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### **Environmental precautions**

Personal protection: filter respirator for organic gases and vapours adapted to the airborne concentration of the substance. Collect leaking and spilled liquid in sealable glass containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### **Methods and materials for containment and cleaning up**

1. Remove all ignition sources. 2. Ventilate area of spill or leak. 3. For small quantities, absorb on paper towels. Evaporate in a safe place (such as a fume hood). Allow sufficient time for evaporating vapors to completely clear the hood ductwork. Burn the paper in a suitable location away from combustible materials. Large quantities can be collected and atomized in a suitable combustion chamber.

## **SECTION 7: Handling and storage**

### **Precautions for safe handling**

NO open flames, NO sparks and NO smoking. Closed system, ventilation, explosion-proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling. See Chemical Dangers Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **Conditions for safe storage, including any incompatibilities**

Fireproof. Separated from oxidants. Cool. STORAGE TANKS ... SHOULD BE SITUATED IN A MOUNDED COMPOUND CONSTRUCTED TO RETAIN MAX QUANTITY OF LIQUID THAT COULD ESCAPE FROM TANKS; DRUMS & OTHER SMALLER RECEPTACLES ... SHOULD BE KEPT IN STOREROOM OF FIRE-RESISTANT CONSTRUCTION WITH MOUNDED & RAMPED DOORWAY TO PREVENT ESCAPE OF SPILT LIQUID.  
ESTERS

## **SECTION 8: Exposure controls/personal protection**

### **Control parameters**

### Occupational Exposure limit values

TLV: 100 ppm as TWA; 150 ppm as STEL.MAK: 420 mg/m<sup>3</sup>, 100 ppm; peak limitation category: I(2); pregnancy risk group: C

### Biological limit values

no data available

### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear safety spectacles.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

**Physical state:** Isopropyl acetate is a clear colorless liquid. Flash point 40°F. Vapors are heavier than air. Contact with the material may irritate skin, eyes or mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used as a solvent.

**Colour:** Water-white liquid

**Odour:** Aromatic

**Melting point/freezing point:** -73.4°C

Boiling point or initial boiling point and boiling range:	85-91°C(lit.)
Flammability:	Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F.
Lower and upper explosion limit/flammability limit:	Lower: 1.8% by vol @ 38 deg C; Upper: 8% by vol
Flash point:	4°C
Auto-ignition temperature:	894°F
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	0.49 CENTIPOISE @ 25 DEG C
Solubility:	1 to 10 mg/mL at 68° F (NTP, 1992)
Partition coefficient n-octanol/water:	log Kow = 1.02
Vapour pressure:	47 mm Hg ( 20 °C)
Density and/or relative density:	0.872g/mL at 25°C(lit.)
Relative vapour density:	3.5 (vs air)
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Reacts violently with oxidizing materials. Attacks many plastics.

### **Chemical stability**

no data available

### **Possibility of hazardous reactions**

KEEP AWAY FROM HEAT & OPEN FLAME ... Dangerous fire hazard when exposed to heat, flame, or oxidizers. Moderately explosive when exposed to heat or flame. The vapour is heavier than air and may travel along the ground; distant ignition possible. ISOPROPYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound can react vigorously with nitrates, strong oxidizers, strong alkalis and strong acids. This chemical may also attack some forms of rubber, plastics and coatings. (NTP, 1992).

### **Conditions to avoid**

no data available

### **Incompatible materials**

Can react vigorously with oxidizing materials.

### **Hazardous decomposition products**

no data available

## **SECTION 11: Toxicological information**

### **Acute toxicity**

Oral: LD50 Rat oral 3.0 g/kg From table

Inhalation: no data available

Dermal: no data available

### **Skin corrosion/irritation**

no data available



**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance may be irritating to the eyes, skin and respiratory tract. Exposure far above the OEL could cause lowering of consciousness.

**STOT-repeated exposure**

The substance defats the skin, which may cause dryness or cracking.

**Aspiration hazard**

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

**SECTION 12: Ecological information****Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

A screening test using an activated mixed microbial sewage inoculum indicated that isopropyl acetate had a 5 day BOD of 38%(1). Isopropyl acetate, at an initial concn of 0.4-3.2 ug/l, had a 52.3% 5 day BOD when incubated with an acclimated mixed microbial culture(2). In a screening test using a settled sewage seed, 2.5 ppm isopropyl acetate was found to have a 5 day BOD of 12.7%, which increased to 40% after 10 days and 49.1% after 40 days(3). Isopropyl acetate was determined to have a 5 day BOD of 61% using a settled domestic wastewater seed, and BOD's of 72%, 74% and 76% after 10, 15 and 20 days, respectively(4). When the same inoculum was added to synthetic sea water, the 5, 10, 15 and 20 day BOD's were 14%, 39%, 43%, 49%, respectively(4).

### **Bioaccumulative potential**

An estimated BCF of 2 was calculated for isopropyl acetate(SRC), using a water solubility of 29,000 mg/l(1,SRC) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests that bioconcentration in aquatic organisms is low(SRC).

### **Mobility in soil**

The Koc of isopropyl acetate is estimated as approximately 15(SRC), using a measured water solubility of 29,000 mg/l(1) and a regression-derived equation(2,SRC). According to a classification scheme(3), this estimated Koc value suggests that isopropyl acetate is expected to have very high mobility in soil(SRC).

### **Other adverse effects**

no data available

## **SECTION 13: Disposal considerations**

### **Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be

punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: UN1220 (For reference only, please check.)

IMDG: UN1220 (For reference only, please check.)

IATA: UN1220 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: ISOPROPYL ACETATE (For reference only, please check.)

IMDG: ISOPROPYL ACETATE (For reference only, please check.)

IATA: ISOPROPYL ACETATE (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 3 (For reference only, please check.)

IMDG: 3 (For reference only, please check.)

IATA: 3 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: II (For reference only, please check.)

IMDG: II (For reference only, please check.)

IATA: II (For reference only, please check.)

### Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

### **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

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

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

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Do NOT take working clothes home.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any