

# SAFETY DATA SHEETS

According to the UN GHS revision 10

## 1: Identification

### 1.1 GHS Product identifier

Product name Isopropyl Alcohol

### 1.2 Other means of identification

Product number 67-63-0

Other names Isopropyl Alcohol

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.

Uses advised against no data available

### 1.4 Supplier's details

Company Zhongshan Greenrock Technology Co., Ltd.

Address No. 138, Jinsan Avenue, Sanjiao Town, Zhongshan City, Guangdong Province, China

Telephone +86-2087066781

### 1.5 Emergency phone number

Emergency phone number +86-2087066781

Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## 2: Hazard identification

### 2.1 Emergency Overview

It is highly corrosive and can cause irreversible damage to the skin and eyes. If in contact, rinse immediately with plenty of water and seek medical help as soon as possible.

### 2.2 GHS Classification

Flammable liquids : Category 2

Serious eye damage/eye irritation : Category 2A

Specific target organ toxicity, single exposure; Narcotic effects : Category 3

### 2.3 GHS label elements, including precautionary statements

**Pictogram(s)****Signal word**

Danger

**Hazard statement(s)**

H225 Highly Flammable liquid and vapor

H319 Causes serious eye irritation

H336 May cause drowsiness or dizziness

**Precautionary statement(s)****Prevention**

P210 Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof [electrical/ventilating/lighting/...] equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

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

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

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

P264+P265 Wash hands [and ...] thoroughly after handling. Do not touch eyes.

**Response**

P319 Get medical help if you feel unwell.

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.

P337+P317 If eye irritation persists, Get medical help.

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

**Storage**

P405 Store locked up.

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

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

**Disposal**

P501 Dispose of contents/container to ...

## 2.4 Physical and chemical

Acidic or alkaline substances that react with metals to produce flammable hydrogen. May cause violent exothermic reactions when in contact with other substances. At high concentrations, they have strong oxidizing or reducing properties.

## 2.5 Health hazards

Skin contact: May cause severe burns, tissue necrosis, and scarring. Eye contact: May cause corneal damage, vision loss, or even blindness. Inhalation of vapor or mist may cause respiratory burns and pulmonary edema.

## 2.6 Environmental hazards

Leakage into the environment can change the pH value of soil and water, causing serious ecological damage. It is highly toxic to aquatic organisms and can cause the death of aquatic organisms and the

collapse of the ecosystem.

## 2.7 Other hazards which do not result in classification

no data available

## 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Isopropyl Alcohol	Isopropyl Alcohol	67-63-0	200-661-7	99%

## 4: First-aid measures

### 4.1 General advice

Stop contact immediately and remove contaminated clothing; rinse the exposed area with plenty of running water and seek medical attention immediately with the material's SDS. If the corrosive substance is acidic (such as sulfuric acid), neutralize it with a weak alkaline solution (such as 5% sodium bicarbonate) after rinsing. For alkaline corrosive substances (such as sodium hydroxide), neutralize them with a weak acidic solution (such as 1% acetic acid).

### 4.2 If inhaled

Move to fresh air and keep the airway open. If corrosive vapors (such as hydrochloric acid mist) are inhaled, immediately administer nebulized inhalation (normal saline + dexamethasone). If laryngeal edema or breathing difficulties occur, immediately perform a tracheotomy (requires professional operation) and seek medical attention.

### 4.3 In case of skin contact

Rinse with plenty of running water for 20-30 minutes (make sure to rinse thoroughly, especially between the fingers, in the armpits, and other folds). If blisters are present, do not prick them; instead, apply a sterile gauze compress (to avoid adhesion). Do not apply oily ointments to avoid affecting subsequent treatment.

### 4.4 In case of eye contact

Immediately flush with an eyewash or plenty of normal saline for 15-20 minutes (use a gentle flow to avoid direct exposure to the cornea); apply antibiotic eye ointment (such as erythromycin ointment) to the eyelids, wear a sterile eye patch, and seek immediate medical attention from an ophthalmologist.

### 4.5 If swallowed

Do not induce vomiting (to avoid secondary damage to the esophageal mucosa). If the substance is acidic, take milk or egg white orally (to protect the gastric mucosa). If the substance is alkaline, take diluted vinegar (1:10 ratio) orally. If you carry SDS, seek medical attention immediately for a gastroscopy.

### 4.6 Most important symptoms and effects, both acute and delayed

Acute symptoms: skin redness, swelling, blisters, ulcers, severe eye pain, photophobia, blurred vision, oral/esophageal burns, and difficulty swallowing; long-term effects: skin scarring, corneal scarring (possibly causing blindness), and esophageal stenosis.

#### **4.7 Protection of first-aiders**

Rescuers must wear corrosion-resistant chemical protective clothing, chemical protective gloves (made of fluororubber), chemical goggles and masks; stand upwind when flushing to avoid inhaling volatile corrosive gases; after contact, equipment must be cleaned with a neutralizer and then rinsed with clean water.

#### **4.8 Notes to physician**

Inform the doctor of the type of corrosive agent (acid/base), concentration, and duration of contact. Skin burns should be treated according to their depth (superficial II degree and above require skin grafting). Eye injuries should be checked for corneal epithelial integrity and, if necessary, corneal repair drugs (such as recombinant human epidermal growth factor) should be used.

### **5: Fire-fighting measures**

#### **5.1 Unsuitable extinguishing media**

Flammable gas: Do not use water (cannot cover the gas) or carbon dioxide (may cause flashback); Extremely flammable liquids (flash point 23°C): Avoid using high-pressure water (can easily spread the liquid and expand the fire).

#### **5.2 Specific hazards during fire fighting**

Flammable gases can easily reach their explosion limits when mixed with air (such as 4%-75% hydrogen), and will explode when exposed to fire, with strong shock waves; extremely flammable liquids are highly volatile, and their vapors can easily form explosive mixtures with a fast burning speed (such as ether).

#### **5.3 Hazardous combustion products**

Carbon monoxide and incomplete combustion products of hydrocarbons (such as aldehydes and ketones).

#### **5.4 Specific extinguishing methods**

Flammable gas: first shut off the leak source (when safe). If it cannot be shut off, use dry powder to extinguish the fire (to suppress combustion) and dilute the vapor with mist water (to prevent explosion). Extremely flammable liquid: use dry powder/foam (anti-solvent foam, such as ethanol) for small areas and cover large areas with foam (to isolate oxygen). Open flames are strictly prohibited from approaching.

#### **5.5 Special protective equipment for fire-fighters**

Wear anti-static work clothes, positive pressure air respirator, and chemical-resistant gloves; carry a combustible gas detector (to measure explosion limits); use explosion-proof tools during operation to avoid static sparks.

## 6: Accidental release measures

### 6.1 Protective measures for workers

Wear anti-static work clothes, anti-static gloves, and chemical goggles; wear a gas mask (organic vapor filter cartridge) for gases/volatile liquids; wear impact protection for aerosols.

### 6.2 Environmental protection measure

Liquids/aerosols are prevented from flowing into sewers/streams, and oil booms + oil absorbent cotton are used to pollute water bodies; gas leaks are monitored for concentration to prevent them from spreading to residential areas; solids are prevented from dust polluting the soil.

### 6.3 Containment methods for leaked chemicals

Gas: Shut off the leak source (when safe), and use explosion-proof fan to lead the leak to an open area; Liquid: Collect in anti-static container; Solid: Put non-sparking tools into anti-static container; Aerosol: Collect the leaked tank (no squeezing).

### 6.4 Cleanup methods for chemical spills

Liquid: absorb with a small amount of oil-absorbing cotton and transfer with a large amount of explosion-proof pump; Solid: transfer with spark-free tools (to prevent friction); Aerosol: leaking tanks are collected separately and disposed of professionally.

### 6.5 Measures to prevent the spread of leaks

Designate a 10-meter isolation zone and prohibit open flames/static equipment; set up fire barriers for liquids and anti-static isolation belts for gases; use explosion-proof ventilation to reduce concentration (explosion limit).

### 6.6 Container leakage treatment

Gas: Minor leaks should be sealed with anti-static sealant, serious leaks should be transferred after pressure relief; Liquid: Anti-static sealant should be used to seal, serious leaks should be transferred with explosion-proof pump; Aerosol: Do not squeeze, wrap in sealed bag.

### 6.7 Special considerations

Eliminate static electricity before operation; provide good ventilation to prevent gas accumulation; perform anti-static testing on tools; clean protective equipment and perform anti-static testing after leak treatment.

## 7: Handling and storage

### 7.1 Safe storage conditions

Store in a corrosion-resistant warehouse (the floor is epoxy resin coated, and the walls are acid/alkali-resistant tiles); the container is made of corrosion-resistant material (glass fiber reinforced plastic for acid corrosion, high-density polyethylene for alkaline corrosion), with a capacity of ?200L to prevent dumping; the warehouse is equipped with an emergency neutralization tank (volume ?5m<sup>3</sup>) and equipped with acid/alkali neutralizers (such as sodium carbonate, dilute acetic acid).

## 7.2 Storage precautions

Store them separately from materials that may come into contact with the skin (such as clothing and gloves) to avoid cross contamination. Use a corrosion-resistant forklift to transport containers and avoid impact. Check the humidity in the warehouse daily (>65%) to prevent moisture from exacerbating corrosion. In case of leakage, immediately absorb it with inert materials (such as sand) and then treat it with a neutralizer.

## 7.3 VCI Storage Grade

Level 2 (medium-high): Metal pipes and valves are coated with VCI anti-rust paint (acid/alkali resistant type) and maintained once every six months; VCI anti-rust blocks (such as urethane) are placed in the warehouse and replenished once every quarter to prevent corrosion of metal parts.

## 7.4 Recommended storage temperature

5-35°, avoid sudden temperature changes (such as moving directly from a low temperature environment to a high temperature environment); concentrated acids/bases must be kept at a temperature >30° to prevent temperature increases from causing increased container pressure; in winter, they must be protected from freezing (temperature >5°) to prevent the solution from freezing and cracking the container (if the label has a recommended storage temperature, follow the label).

## 7.5 Handling

For precautions see Safety Data Sheet section 2

Advice on safe handling : Work under hood. Do not inhale substance/mixture.

# 8: Exposure controls/personal protection

## 8.1 Respiratory protection

When exposed to corrosive vapors (such as hydrochloric acid mist and sulfuric acid mist), wear a powered air-purifying respirator (APF>50); in high-concentration environments, a positive pressure air respirator is required to avoid inhalation burns to the respiratory tract.

## 8.2 Recommended Filter type

For acidic corrosive substances, choose Type E filter cartridge (protects against acidic gases such as SO<sub>2</sub> and HCl); for alkaline corrosive substances, choose Type K filter cartridge (protects against ammonia and amines); if the product contains dust, add Type P2 filter cotton.

## 8.3 Eye/face protection

Wear chemical protective goggles + full-face mask. The mask must cover the chin. The lens should be made of polycarbonate (corrosion-resistant and impact-resistant). Check the sealing regularly.

## 8.4 Skin and body protection

Wear corrosion-resistant chemical protective clothing made of fluororubber or polytetrafluoroethylene (PTFE) to avoid direct skin contact; wear an apron (of the same material) with protection covering the chest to the knees.

## 8.5 Hand protection

Wear corrosion-resistant gloves. For acid corrosion, choose neoprene material; for alkaline corrosion, choose nitrile rubber material. The thickness of the gloves should be ≥0.5mm. Perform a water leakage test before use.

## 8.6 Hygiene measures

Immediately after the operation, rinse the skin with running water for 10 minutes. If there is stinging at the contact site, apply a neutralizer (5% sodium bicarbonate for acid and 1% acetic acid for alkali) for 5 minutes. Do not use irritating skin care products to avoid aggravating skin damage.

## 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Colourless liquid
<b>Colour</b>	Colorless liquid
<b>Odour</b>	Pleasant odor
<b>Melting point/freezing point</b>	7°C(lit.)
<b>Boiling point or initial boiling point and boiling range</b>	82°C(lit.)
<b>Flammability</b>	Class IB Flammable Liquid: Fl.P. below 22.78°C and BP at or above 37.78°C.Highly flammable.
<b>Lower and upper explosion limit/flammability limit</b>	Lower flammable limit: 2.0% by volume; Upper flammable limit: 12.7% by volume @ 200 deg F (93°C)
<b>Flash point</b>	12°C
<b>Auto-ignition temperature</b>	398.89°C
<b>Decomposition temperature</b>	When heated to decomposition it emits acrid smoke and fumes.
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	2.038 mPa s at 25°C
<b>Solubility</b>	In water:miscible
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	33 mm Hg ( 20 °C)
<b>Density and/or relative density</b>	0.785g/mLat 25°C(lit.)
<b>Relative vapour density</b>	2.1 (vs air)
<b>Particle characteristics</b>	no data available

## 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Preserve in tight containers, remove from heat.

### 10.3 Possibility of hazardous reactions

A very dangerous fire hazard when exposed to heat, flame or oxidizers. The vapour mixes well with air, explosive mixtures are easily formed. ISOPROPANOL reacts with air or oxygen to form dangerously unstable peroxides. Contact with 2-butanone increases the rate of peroxide formation. An explosive reaction occurs when it is heated with (aluminum isopropoxide + crotonaldehyde). Forms explosive mixtures with trinitromethane and hydrogen peroxide. Reacts with barium perchlorate to form a highly explosive compound. Ignites on contact with dioxygenyl tetrafluoroborate, chromium trioxide and potassium-tert-butoxide. Vigorous reactions occur with (hydrogen + palladium), nitroform, oleum, COCl<sub>2</sub>, aluminum triisopropoxide and oxidizing agents. Reacts explosively with phosgene in the presence of iron salts. Incompatible with acids, acid anhydrides, halogens and aluminum. Isopropanol can react with PCl<sub>3</sub>, forming toxic HCl gas. (Logsdon, John E., Richard A. Loke., "Isopropyl Alcohol." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 1996.).

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

During distillation of 2-propanol recovered from the reduction of crotonaldehyde with aluminium isopropoxide, a violent explosion occurred. This was attributed either to peroxidized diisopropyl ether (a possible by-product) or to peroxidized crotonaldehyde.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and fumes.

## 11: Toxicological information

### 11.1 Acute toxicity

Oral: LD50 Dog oral 4797 mg/kg

Inhalation: LC50 Mouse inhalation 53 mg/L 2 hr

Dermal: no data available

### 11.2 Skin corrosion/irritation

no data available

### 11.3 Serious eye damage/irritation

no data available

#### **11.4 Respiratory or skin sensitization**

no data available

#### **11.5 Germ cell mutagenicity**

no data available

#### **11.6 Carcinogenicity**

Evaluation: There is inadequate evidence for the carcinogenicity of isopropanol in humans. There is inadequate evidence for the carcinogenicity of isopropanol in experimental animals. Overall evaluation: Isopropanol is not classifiable as to its carcinogenicity to humans (Group 3).

#### **11.7 Reproductive toxicity**

no data available

#### **11.8 STOT-single exposure**

no data available

#### **11.9 STOT-repeated exposure**

no data available

#### **11.10 Aspiration hazard**

no data available

## **12: Ecological information**

### **12.1 Toxicity**

Toxicity to fish: LC50; Species: Lepomis macrochirus (Bluegill) length 40-50 mm; Conditions: static, 22°C; Concentration: >1400000 ug/L for 24-96 hr /formulation

Toxicity to daphnia and other aquatic invertebrates: EC50; Species: Daphnia magna (Water Flea) age <24 hr neonate; Conditions: freshwater, static, 21°C, pH 7.6; Concentration: 114 mM for 24 hr; Effect: intoxication, immobilization

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

AEROBIC: Degradation of isopropanol with municipal waste water for 5 and 20 days resulted in a theoretical oxygen demand (ThOD) of 7% and 70%, respectively(1). Degradation of 3, 7 and 10 mg/L of isopropanol with filtered sewage seed in fresh water resulted in a ThOD of 28% in 5 days and 78% in 20 days(2). In 2 other studies, the ThOD for isopropanol using domestic waste water was 66% and 74% in 5 days(1). Isopropanol was 99% degraded with acclimated activated sludge at 20°C (52 mg COD/g-hr rate)(3). Filtered sewage seed resulted in a ThOD of 49% and acclimated sewage seed resulted in a ThOD of 72% after 5 days(4). Degradation of isopropanol with sewage at 20°C for 5 days resulted in a ThOD of 58% (avg 4 results)(5). In domestic waste water, diluted with salt water, a ThOD of 13% in 5 days and 72% in 20 days was observed(1). Biodegradation of 3, 7, and 10 mg/L of isopropanol with filtered sewage

seed in salt water resulted in a ThOD of 13% in 5 days and a ThOD of 72% in 20 days(2). Isopropanol, present at 100 mg/L, reached 86% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test which determined isopropanol to be ready biodegradable(6).

### 12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for isopropanol(SRC), using a log Kow of 0.05(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of isopropanol can be estimated to be 1.5(SRC). According to a classification scheme(2), this estimated Koc value suggests that isopropanol is expected to have very high mobility in soil.

### 12.5 Other adverse effects

no data available

## 13: Disposal considerations

### 13.1 Disposal methods for waste chemicals

Acidic corrosives can be treated with alkaline neutralizers (such as sodium carbonate) until neutralized and then disposed of as ordinary waste. Alkaline corrosives can be treated with acidic neutralizers (such as dilute hydrochloric acid) until neutralized and then disposed of. Those that cannot be neutralized must be incinerated at high temperature or chemically decomposed by a professional unit. The container must be thoroughly cleaned before being disposed of.

### 13.2 Precautions

Neutralization reactions must be conducted in well-ventilated, dedicated facilities, with the reaction rate controlled to prevent splashing. Disposal personnel must wear corrosion-resistant protective gear. The pH value of the neutralized waste must be controlled between 6 and 9. Direct disposal of unneutralized corrosive materials is prohibited. Emergency pools must be established at the disposal site to prevent leakage and contamination.

## 14: Transport information

### 14.1 UN Number

ADR/RID: UN1219

IMDG: UN1219

IATA: UN1219

### 14.2 UN Proper Shipping Name

ADR/RID: ISOPROPANOL  
(ISOPROPYL ALCOHOL)

IMDG: ISOPROPANOL  
(ISOPROPYL ALCOHOL)

IATA: ISOPROPANOL  
(ISOPROPYL ALCOHOL)

### 14.3 Transport hazard class(es)

ADR/RID: 3

IMDG: 3

IATA: 3

### 14.4 Packing group, if applicable

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## 15: Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
Isopropyl Alcohol	Isopropyl Alcohol	67-63-0	200-661-7
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Australian Inventory of Industrial Chemicals (AIIC)			Not Listed.
Catalogue of Strictly Restricted Toxic Chemicals in China			Not Listed.
China Catalog of Hazardous chemicals 2015			Listed.
European INventory of Existing Commercial chemical Substances			Not Listed.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			Listed.
TSCA Inventory of Chemical Substances			Listed.

## 16: Other information

#### Information on revision

SDS Creation Date July 1, 2025

SDS Revision Date July 1, 2025

#### Abbreviations and acronyms in SDS

- 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%

### SDS 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/>

**Any questions regarding this Safety Data Sheet, Please send your inquiry to [sales@MolBest.com](mailto:sales@MolBest.com)**

---

*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 damage resulting from handling or from contact with the above product.*