

# Di-isopropyl ether



## Section 1: Chemical Product and Company Identification

**Product Name:** Di-isopropyl ether  
**Catalog Codes:** 153  
**Synonym:** 2-Isopropoxypropane  
Diisopropyl oxide, Isopropyl ether  
**Chemical Name:** Di-isopropyl ether  
**Chemical Formula:** C<sub>6</sub>H<sub>14</sub>O

**Contact Information:**  
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## Section 2: Composition and Information on Ingredients

### Composition:

| Name                | CAS No.  | % by Weight |
|---------------------|----------|-------------|
| Di-iso-propyl ether | 108-20-3 | 100%        |

### Toxicological Data on Ingredients:

Di-isopropyl ether: ORAL (LD50): Acute: 11610 mg/kg [Rat]. 11980 mg/kg [Rat]. 8470 mg/kg [Rat].  
DERMAL (LD50): Acute: 20000 mg/kg [Rabbit].

## Section 3: Hazards Identification

### Potential Acute Health Effects:

Very hazardous in case of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator). Inflammation of the eye is characterized by redness, watering, and itching.

### Potential Chronic Health Effects:

Very hazardous in case of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to lungs, the nervous system, mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 4: First Aid Measures

### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:**

Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.

**Serious Inhalation:**

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

**Ingestion:**

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

**Serious Ingestion:**

Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:**

Flammable.

**Auto-Ignition Temperature:**

443°C (829.4°F)

**Flash Points:**

CLOSED CUP: -28°C (-18.4°F). OPEN CUP: 2.61°C (36.7°F).

**Flammable Limits:**

LOWER: 1.4% UPPER: 7.9%

**Products of Combustion:**

These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:**

Flammable in presence of open flames and sparks. Slightly flammable to flammable in presence of oxidizing materials.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive to explosive in presence of oxidizing materials.

**Fire Fighting Media and Instructions:**

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

**Special Remarks on Fire Hazards:**

Not available.

**Special Remarks on Explosion Hazards:**

Not available.

## Section 6: Accidental Release Measures

### Small Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal.

### Large Spill:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk.

Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

### Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

### Storage:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

## Section 8: Exposure Controls/Personal Protection

### Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

### Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or Equivalent. Gloves.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### Exposure Limits:

TWA: 250 STEL: 310 (ppm) from ACGIH (TLV) TWA: 1050 STEL: 1300 (mg/m<sup>3</sup>) from ACGIH Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Ethereal.

**Taste:** Not available.

**Molecular Weight:** 102.18 g/mole  
**Colour:** Clear Colourless.  
**pH (1% soln/water):** Not available.  
**Boiling Point:** 68.5°C (155.3°F)  
**Melting Point:** -86°C (-122.8°F)  
**Critical Temperature:** Not available.  
**Specific Gravity:** 0.7257 (Water = 1)  
**Vapor Pressure:** 119 mm of Hg (@ 20°C)  
**Vapor Density:** 3.52 (Air = 1)  
**Volatility:** Not available.  
**Odor Threshold:** 0.017 ppm  
**Water/Oil Dist. Coeff.:** The product is equally soluble in oil and water;  $\log(\text{oil/water}) = 0$   
**Ionicity (in Water):** Not available.  
**Dispersion Properties:** Not available.  
**Solubility:** Very slightly soluble in cold water.

## Section 10: Stability and Reactivity Data

### Stability:

The product is stable.

### Instability Temperature:

Not available.

### Conditions of Instability:

Not available.

### Incompatibility with various substances:

Not available.

### Corrosivity:

Non-corrosive in presence of glass.

### Special Remarks on Reactivity:

Forms explosive peroxides on prolonged storage.

### Special Remarks on Corrosivity:

Not available.

### Polymerization:

No.

## Section 11: Toxicological Information

### Routes of Entry:

Dermal contact. Eye contact. Inhalation. Ingestion.

### Toxicity to Animals:

Acute oral toxicity (LD50): 8470 mg/kg [Rat]. Acute dermal toxicity (LD50): 20000 mg/kg [Rabbit].

### Chronic Effects on Humans:

The substance is toxic to lungs, the nervous system, mucous membranes.

### Other Toxic Effects on Humans:

Very hazardous in case of ingestion, of inhalation. Hazardous in case of skin contact (irritant, permeator).

**Special Remarks on Toxicity to Animals:**

Not available.

**Special Remarks on Chronic Effects on Humans:**

Not available.

**Special Remarks on other Toxic Effects on Humans:**

Not available.

## Section 12: Ecological Information

**Ecotoxicity:**

Not available.

**BOD5 and COD:**

Not available.

**Products of Biodegradation:**

Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:**

The products of degradation are more toxic.

**Special Remarks on the Products of Biodegradation:**

Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:**

Class 3: Flammable liquid.

**Identification:** Diisopropyl ether: UN1159 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Pennsylvania RTK: Isopropyl ether Massachusetts RTK: Isopropyl ether TSCA 8(b) inventory: Isopropyl ether

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):** CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

**DSCL (EEC):**

R11- Highly flammable. R38- Irritating to skin. R41- Risk of serious damage to eyes.

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard: 3**

**Reactivity: 0**

**Personal Protection: h**

**National Fire Protection Association (U.S.A.):**

**Health: 1**

**Flammability: 3**

**Reactivity: 1**

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

### **Section 16: Other Information**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall *Expresolv Limited* be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages.

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