



SAFETY DATA SHEET

ISOPROPYL ALCOHOL

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

Product name: ISOPROPYL ALCOHOL

Recommended use: Chemical for industry.

Manufacturer/Supplier: **MODERN CHEMICAL CO.,LTD.**
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2. HAZARDS IDENTIFICATION

Label elements

Pictogram



Signal word

Danger

Hazard statement(s)

- 1.) Highly flammable liquid and vapour.
- 2.) Causes skin irritation.
- 3.) May be fatal if swallowed and enters airways.
- 4.) May cause drowsiness or dizziness.
- 5.) Toxic to aquatic life with long lasting effects.
- 6.) May damage the unborn child. Suspected of damaging fertility.

Precautionary statement(s)

- 1.) Keep away from heat/sparks/open flames/hot surfaces. - No smoking.



- 2.) Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- 3.) Avoid release to the environment.
- 4.) IF SWALLOWED: call a doctor/physician. Do NOT induce vomiting.
- 5.) IF IN EYES: Rinse cautiously with water for 15 minutes.
- 6.) IF ON SKIN Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym: iso-Propanol, Dimethyl carbinol, 2-Propanol, IPA, Rubbing alcohol, Dimethyl carbinol, Sec-Propyl alcohol, Petrohol

Ingredients	% (w/w)	CAS NO.
ISOPROPYL ALCOHOL	100	67-63-0

4. FIRST AID MEASURES

General advice:

Show this safety data sheet to the doctor in attendance.

Inhalation:

Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.

Skin contact:

Remove contaminated clothing and wash affected skin with soap and water. Obtain medical attention. If signs of poisoning appear, treat as for inhalation. Wash contaminated clothing before re-use.

Eye contact:

If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.

Ingestion:

Rinse mouth. **Do not induce vomiting.** Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Extinguish with carbon dioxide, dry chemical, foam. In the event of fire, cool tanks with water spray.



Unsuitable Extinguishing Media:

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from Chemicals:

Vapors may form explosive mixture with air. Flash back possible over considerable distance.

Special protective equipment for fire-fighters:

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive pressure supplied air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

Environmental precautions:

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and work pits. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.

Methods and Material for Containment and Clean Up:

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

7. HANDLING AND STORAGE

Precautions for Safe Handling & Product Transfer:

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

Conditions for Safe Storage & Unsuitable Materials:

Keep tightly closed at room temperature in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible material. Store in original container. Electrical equipment should be protected to the appropriate standard.



8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: TWA/TLV: 400 ppm

TLV/STEL: 500 ppm

Appropriate Engineering Controls: The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents.

Individual Protection Measures

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated. Filter A (acc. To DIN 3181) for vapors of organic compounds.

Hand protection: Handle with gloves. In case full contact wear gloves from nitrile rubber material. The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Eye protection: Tightly sealed goggles.

Skin and body Protection: Chemical resistant apron/flame retardant antistatic protective clothing, heavy duty work shoes.

Hygiene measure: Ventilation hoods and fans required when working with organic solvents or in hot melt applications. Keep working clothes separately. Keep away from food, drink and animal feeding stuffs.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form, Color and Odor: liquid, colourless, characteristic	Evaporation rate : 300 (n-Bu Acetate=100)
Melting Point: -89°C	Specific gravity : 0.780-0.790 g/cm ³ at 15 °C
pH: N/A	Solubility in water : Soluble 230 g/l
Boiling point : 81.4-83.4 °C	Viscosity : 2.40 mPa.s at 20 °C
Vapour pressure: 33 mbar at 20 °C	Vapour density: 2.1 g/l
Lower explosion limits: 2.3 %Vol	Upper explosive limit: 12.7 %Vol
Auto-ignition temperature: 399 °C	Flash point: 12 °C
Odour threshold: N/A	Flammability (solid, gas): N/A
Decomposition temperature: N/A	Solubility in other solvents: N/A
n-octanol/water partition coefficient (log P_{ow}): 0.05	



10. STABILITY AND REACTIVITY

- Chemical Stability:** Stable under recommended storage conditions.
- Reactions:** Highly flammable. Hygroscopic solvent for oils and rubber. Unsuitable working materials: Various plastics rubber. Explosible with air in a vaporous/gaseous state.
- Possibility of Hazardous Reactions:** No data available
- Conditions to avoid** Heat, Flames and sparks.
- Materials to be avoided:** Alkali metals, alkaline earth metals, aluminum in powder form, oxidizing agents, perchlorates, CrO₃, nitric acid, nitrogen oxides, hydrogen peroxide, organic nitro compounds, aldehydes, amines, fuming sulfuric acid, phosgene
- Hazardous Decomposition Products:** Carbon monoxides, Carbon dioxides

11. TOXICOLOGICAL INFORMATION

- Acute toxicity:** LD₅₀ Oral, rat - 5045 mg/kg
LC₅₀ Inhalation – rat - 46.5 mg/l - 4h
LD₅₀ Dermal, rabbit - 12800 mg/kg
LDLo Oral, human - 3570 mg/kg
- Sensitization:** After inhalation of vapors; Irritation symptoms in the respiratory tract, drowsiness. After skin contact: Degreasing effect on the skin, possibly followed by secondary inflammation. After eyes contact: Irritations. After accidental swallowing the substance may pose a risk of aspiration. Passage into the lung (vomiting) can result in a condition resembling pneumonia (chemical pneumonitis). After absorption : Headache, dizziness, inebriation unconsciousness, narcosis. After uptake of large quantities: respiratory paralysis, coma.
- Chronic toxicity:** Sensitization test (guinea pig) is negative. Noncarcinogenic in animal experiments. Mutagenicity (mammal cell test): Micronucleus negative. No impairment of reproductive performance in animal experiments. No teratogenic effect in animal experiments.
- Further toxicological information:** The product should be handled with the care usual when dealing with chemicals



12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish: LC₅₀ – L.macrochirus – 1400 mg/l - 96h

Toxicity to daphnia and other aquatic invertebrates:

EC₅₀ - Daphnia magna – 13299 mg/l - 48h

Toxicity to algae: IC₅ – Desmodesmus – 1000 mg/l – 7 d

Toxicity to bacteria: EC₅ – Ps. Putida – 1050 mg/l/ - 16 h

Biodegradability remark: Biodegradation 95% /21 d

Bioaccumulative potential: Distribution; log P(oct) 0.05 (experimental). No bioaccumulation is to be expected (log P o/w <1)

Mobility: No data available

Affected in any other way: No data available

13. DISPOSAL CONSIDERATIONS

Material Disposal: There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Container Disposal: Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. TRANSPORT INFORMATION

ADR/RID

UN-No: 1219

Class: 3

Packing group: II

Proper shipping name: ISOPROPANOL



IMDG

UN-No: 1219

Class: 3

Packing group: II

Ems: F-E S-D

Proper shipping name: ISOPROPANOL

IATA

UN-No: 1219

Class: 3

Packing group: II

Proper shipping name: ISOPROPANOL

15. REGULATORY INFORMATION

GHS – Labelling:

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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 vapors.

P264 Wash hand thoroughly after handling.

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

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.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYE: 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.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.



P370 + P378 In case of fire: Use carbon dioxide, dry chemical or foam for extinction.

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

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

P405 Store locked up.

Hazard symbol(s)

F Highly flammable liquid

X₁ Irritation

R - phrase(s)

R11 Highly flammable.

R36 Irritating to eyes.

R67 Vapor may cause drowsiness and dizziness.

S - phrase(s)

S 7 Keep container tightly closed.

S16 Keep away from sources of ignition - No smoking.

S24/25 Avoid contact with skin and eyes.

S26 In case of contacts with eyes, rinse immediately with plenty of water and seek medical advice.

16. OTHER INFORMATION

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