

260-0295A

MATERIAL SAFETY DATA SHEET  
EFFECTIVE DATE 4/01/94

Union Carbide Chemicals and Plastic Company  
Solvents and Coatings Materials Division

---

I. Identification

---

Product Name: Isopropanol anhydrous  
Chemical Name: Isopropyl Alcohol  
Chemical Family: Alcohols  
Formula: (CH<sub>3</sub>)<sub>2</sub>CHOH  
Molecular Weight: 60.10  
Synonyms: 2-Propanol: dimethyl carbinol  
CAS # and Name: 67-63-0  
2-Propanol

---

II. Physical Data

---

Boiling Point: 760 mm Hg: 82.26 C 180.07 F  
Specific Gravity (H<sub>2</sub>) = 1): 0.7864 at 20/20 C  
Freezing Point: -88.5 C -127.3 F  
Vapor Pressure at 20 C: 33 mm HG  
Vapor Density (Air = 1): 2.07  
Evaporation Rate  
(Butyl Acetate = 1): 2.88  
Solubility in Water by wt.: Complete at 20 C  
Appearance: Transparent colorless  
Odor: Characteristic  
Physical State: Liquid  
Percent Volatiles (by wt.): 100

---

III. Ingredients

---

%	Material	Exposure Limit
-100	Isopropanol	400 ppm TWA OSHA & ACGIH 500 ppm STEL OSHA & ACGIH

---

IV. Fire and Explosion Hazard Data

---

Flash Point: 53 F 12 C  
Tag Closed up ASTM D 56  
63 F 17 C  
Tag Open ASTM D 1310

Flammable Limits in Air  
% by volume: Lower: 2.0  
Upper: 12.7 @ 200 F

Chemical Name: Isopropanol Alcohol

---

IV. Fire and Explosion Hazard Data (Continued)

---

Extinguishing Media:

Apply alcohol-type or all-purpose-type foam by manufacture's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

Special Fire Fighting Procedures:

Use water spray to cool fire exposed containers and structures. Use water spray to disperse vapors: re-ignition is possible. Use self-contained breathing apparatus and protective clothing.

Unusual Fire and Explosion Hazards:

Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition or other ignition sources at locations distant from product handling point.

Vapors may settle in low or confined areas, or travel a long distance to an ignition source and flash back explosively.

This material may produce a floating fire hazard.

---

V. Health Hazard Data

---

Exposure Limit(s):                    Isopropanol,  
  - 400 ppm TWA OSHA & ACGIH  
  - 500 ppm STEL OSHA & ACGIH  
  Values from OSHA 29 CFR  
  1910.1000 table Z-1-A and ACGIH  
  1991-92.

Effects of Over Exposure

Swallowing:

Slightly toxic. May cause abdominal discomfort, nausea, vomiting and diarrhea. Loss of consciousness may occur. Drowsiness may occur.

---

V. Health Hazard Data (Continued)

---

Effects of Over Exposure (Continued)

Skin Absorption:

Effects may include those described for swallowing. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material.

Inhalation:

Low concentrations of vapor may cause irritation of the respiratory tract, experienced as nasal discomfort and discharge, with chest pain and coughing. High concentrations of vapor may cause headache and drowsiness.

Skin Contact:

Prolonged or repeated contact may cause defatting and drying of the skin.

Eye Contact: Corneal injury may occur.

Effects of Repeated Over Exposure: No adverse effects anticipated from available information.

Other Health Hazards: None currently known.

Medical Conditions Aggravated by Overexposure: Skin contact may aggravate an existing dermatitis.

Additional Toxicity Information: None currently known.

Emergency and First Aid Procedures

Swallowing:

If patient is conscious and has a gag reflex, give two glasses of water. Induce vomiting. Obtain medical attention without delay.

Page 4

Product Name: Isopropanol Anhydrous

Chemical Name: Isopropanol Alcohol

---

V. Health Hazard Data (Continued)

---

## Emergency and First Aid Procedures

### Skin:

Remove contaminated clothing. Wash skin with soap and water. Obtain medical attention if irritation persists. Wash clothing before reuse.

### Inhalation:

Remove to fresh air. Give artificial respiration if no breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

### Eyes:

Immediately flush eyes with water and continue washing for several minutes. Obtain medical attention.

### Notes to Physician:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

---

## VI. Reactivity Data

---

Stability: Stable  
Conditions to Avoid: None known

Incompatibility  
(Materials to Avoid):  
-Strong oxidizing agents  
-Halogens  
-Strong inorganic acids  
-Aldehydes  
-Halogen compounds

Page 5

Product Name: Isopropanol Anhydrous

Chemical Name: Isopropanol Alcohol

---

## VI. Reactivity Data (continued)

---

### Hazardous Combustion or Decomposition Products:

Burning can provide the following combustion products:  
-Carbon monoxide and/or carbon dioxide -Carbon monoxide is

highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.

Hazardous Polymerization: Will not occur.

Conditions to avoid: None known

---

#### VII. Spill or Leak Procedures

---

Steps to Be Taken if Material is Released or Spilled:

Extinguish and do not turn on any ignition source until the area is determined to be free from fire or explosion hazard. Wear suitable protective equipment. Avoid contact with eyes. Small spills can be flushed with large amounts of water, larger spills should be collected for disposal.

Waste Disposal Method:

Incinerate in a furnace where permitted under Federal, State, and local regulations.

At very low concentrations in water, this product is biodegradable in a biological wastewater treatment plant.

---

#### VII. Special Protection Information

---

Respertory Protection:

Use self-contained breathing apparatus in high vapor concentrations.

Ventilation:

General (mechanical) room ventilation is expected to be satisfactory where this product is stored and handled in closed equipment. Special local ventilation is needed at points where vapors can be expected to escape to the workplace air.

Page 6

Product Name: Isopropanol Anhydrous

Chemical Name: Isopropanol Alcohol

---

#### VII. Special Protection Information (Continued)

---

Protective Gloves: Plastic Rubber  
Eye Protection: Monogoggles  
Other Protective Equipment: Eye bath, safety shower

---

#### IX. Special Precautions

---

Precautions to be taken in handling and storage:

WARNING flammable. Causes eye irritation. Keep away from heat, sparks, and flame. Avoid contact with eyes. Keep container closed. Use with adequate ventilation. Wash thoroughly. FOR INDUSTRY USE ONLY.

Other Precautions:

PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical process without analysis of the actual process conditions.

Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further "Ignition Hazards of Organic Chemical Vapors".

TRANSFER HAZARD: Vapors of this product may be ignited by static sparks. Use proper bonding and grounding during liquid transfer as described in National Fire Protection Association document NFPA 77.

---

X. Regulatory Information

---

Status on Substance List

The concentration shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

---

FEDERAL EPA

---

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of  
Page 7

Product Name: Isopropanol Anhydrous  
Chemical Name: Isopropanol Alcohol

---

X. Regulatory Information (Continued)

---

Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 3024.

Components present in this product at a level which could require reporting under the statute are: None.

---

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires emergency planning based on Threshold Planning Quantities (TPQ's) and release reporting based on Reportable Quantities (RQ's) in 40 CFR 355 (used for SARA

302, 304, 311 and 312).

Components present in this product at a level which could require the reporting under the statute are: None.

---

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require the reporting under the statute are: None.

---

Toxic Substances Control Act (TSCA) Status: The ingredients of this product are on the TSCA inventory.

---

---

STATE RIGHT-TO-KNOW

---

California Proposition 65:

This product does not contain materials which the State of California has found to cause cancer, birth defects, or other reproductive harm.

---

Massachusetts Right-to-Know:

Substance List (MSL) Hazardous Substances and Extraordinary Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:

Page 8

Product Name: Isopropanol Anhydrous

Chemical Name: Isopropanol Alcohol

---

---

STATE RIGHT-TO-KNOW

---

Massachusetts Right-to-Know continued:

HAZARDOUS SUBSTANCES (=> 1%)

CHEMICAL	CAS NUMBER	UPPER BOND CONCENTRATION %
Isopropanol	67-63-0	100

---

Pennsylvania Right-to-Know

Hazardous Substance List (MSL) Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

HAZARDOUS SUBSTANCES (=> 1%)

CHEMICAL	CAS NUMBER	UPPER BOND CONCENTRATION %
Isopropanol	67-63-0	100

---

California SCAQMD RULE 443.1 VOC'S:

VOC 785 g/l; Vapor Pressure 33 mm Hg @ 20 C

---

Other Regulatory Information: None

---

Note:

The options expressed herein are those of qualified experts within Union Carbide. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of the use of the product are not under the control of Union Carbide, it is the user's obligation to determine conditions of safe use of the product.

Revised Sections: Section X: Regulatory Information

PC: 43062

F Number: C0110E