

Material Safety Data Sheet

Revision Issued: 9/12/2011 Supersedes: 7/10/2007 First Issued: 4/10/86

Section I - Chemical Product And Company Identification

Product Name: Isopropanol

CAS Number: 67-63-0

HBCC MSDS No. CI01000



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Section II - Composition/Information On Ingredients

			Exposure Limits (TWAs) in Air		
Chemical Name	CAS Number	%	ACGIH TLV	OSHA PEL	STEL
Isopropanol	67-63-0	90-100	200 ppm	400 ppm	400 ppm

Section III - Hazard Identification

Summary of Acute Health Hazards

Ingestion: Slightly toxic. Ingestion of a large quantity may cause drowsiness and loss of consciousness. Stomach cramps, pain, nausea, vomiting, and diarrhea may also occur. The single lethal dose for a human adult = about 250 mls (8 ounces).

Inhalation: Low concentrations may cause mild irritation of eyes, nose, and throat. Concentrations above the TLV may result in headache and drowsiness. Exposure to high concentrations has a narcotic effect, producing symptoms of dizziness, drowsiness, headache, staggering, unconsciousness and possibly death.

Skin: Prolonged contact may cause redness, drying and cracking of skin.

Eyes: Causes slight to moderate irritation, with possible corneal injury and eye damage. Symptoms include stinging, tearing, redness, and swelling of eyes.

Signs and Symptoms of Exposure: Stomach and intestinal upset, central nervous system depression, lowered blood pressure, effects on heart rate, respiratory depression, lack of coordination.

Effects of Overexposure: N/A

Medical Conditions Generally Aggravated by Exposure: Persons with pre-existing skin disorders or impaired liver, kidney, or pulmonary function may be more susceptible to the effects of this agent.

Note to Physicians: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

Section IV - First Aid Measures

Ingestion: Give large amounts of water to drink. Never give anything by mouth to an unconscious person. GET PROMPT MEDICAL ATTENTION.

Inhalation: Remove victim to fresh air and provide oxygen if breathing is difficult. GET PROMPT MEDICAL ATTENTION.

Skin: Flush skin with water for at least 15 minutes. If irritation occurs, GET PROMPT MEDICAL ATTENTION.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. GET PROMPT MEDICAL ATTENTION.

Section V - Fire Fighting Measures

Flash Point: 12°C (54°F) CC **Autoignition Temperature:** 399°C (750°F)

Lower Explosive Limit: 2.0% **Upper Explosive Limit:** 12.7%

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, smoking, sparks, heaters, electrical equipment, static discharges, or other ignition sources at locations distant from handling point. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure. Contact with strong oxidizers may cause fire or explosion.

Extinguishing Media: Water spray, Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires; carbon dioxide or dry chemical media for small fires.

Special Firefighting Procedures: Use NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode, and protective clothing.

Section VI - Accidental Release Measures

WARNING: This is a flammable material. Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Ventilate area of leak or spill. Large spills: evacuate the area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak only if safe to do so. Dike and contain. If vapor clouds form, water fog may be used to suppress; contain runoff, remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal, flush area with water to remove trace residue; Dispose of flush solutions as above. For small spills: take up with an absorbent material and place in non-leaking containers; seal tightly for proper disposal.

Section VII - Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be severe. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be 'No Smoking' areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

Other Precautions: Do not store or handle in aluminum equipment at temperatures above 120°F. Small quantities of peroxides can form on prolonged storage. Exposure to light and/or air significantly increases the rate of peroxide formation. If evaporated to a residue, the mixture of peroxides and isopropanol may explode when exposed to heat or shock.

Section VIII - Exposure Controls/Personal Protection

Respiratory Protection: Self-contained breathing apparatus in high concentrations. For emergencies or instances where the exposure levels are not known, use a full-facepiece, positive-pressure, air-supplied respirator. Warning: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Ventilation: This product should be confined within closed equipment, in which case general (mechanical) room ventilation should be satisfactory. Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.

Protective Clothing: Avoid prolonged or repeated contact with skin. Wear chemical-resistant gloves and other clothing as required to minimize contact. Test data from published literature and/or glove and clothing manufacturers indicate the best protection is provided by nitrile, neoprene and natural rubber gloves.

Eye Protection: Avoid contact with eyes. Wear chemical goggles if there is likelihood of contact with eyes. Maintain eye wash fountain and quick-drench facilities in work area.

Other Protective Clothing or Equipment: Use explosion-proof ventilation as required to control vapor concentrations. Eye wash fountains and safety showers should be available for emergency use.

Work/Hygienic Practices: Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible.

Section IX - Physical and Chemical Properties

Physical State: Liquid

pH: N/A

Melting Point/Range: : -89°C (-128°F) **Boiling Point/Range:** 82°C (180°F)

Appearance/Color/Odor: Colorless liquid; like ethyl alcohol, sharp, somewhat unpleasant

Solubility in Water: Miscible in Water

Vapor Pressure(mmHg): 44 @ 25°C (77°F)

Specific Gravity(Water=1): 0.79 @ 20°C/4°C

Molecular Weight: 60.10

Vapor Density(Air=1): 2.1

% Volatiles (by volume at 21°C (70°F): 100

How to detect this compound : Mild odor

Evaporation (N-Butyl Acetate=1): 2.83

Section X - Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will Not Occur

Conditions to Avoid: Avoid Heat, Sparks, and Flames. Sunlight can contribute to instability.

Materials to Avoid: Concentrated nitric and sulfuric acids, strong oxidizers, aldehydes, and halogen compounds. Do Not Store or Handle in Aluminum Equipment at temperatures above 120°F. Heat, flame, acetaldehyde, chlorine, ethylene oxide, hydrogen-palladium combination, hydrogen peroxide-sulfuric acid combination, potassium tert-butoxide, hypochlorous acid, isocyanates, nitroform, phosgene, oleum and perchloric acid.

Hazardous Decomposition Products: Burning may produce carbon monoxide and

carbon dioxide and unidentified organic compounds may be formed during combustion.

Section XI - Toxicological Information

Orat Rat LD50: 5045 mg/kg
Skin Rabbit LD50: 12.8 gm/kg
Inhalation Rat LC50: 16,000 ppm/8-Hour
Investigated as a tumorigen, mutagen, reproductive effector

Section XII - Ecological Information

Environmental Fate: When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material may leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released, this material is expected to quickly evaporate. When released into the water, this material is expected to have a half-life between 1 and 10 days. When released into water, this material may biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet disposition. Environmental Toxicity: The LC50/96-Hour values for Fish are over 100 mg/L. This material is not expected to be toxic to aquatic life.

Section XIII - Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed of in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with applicable local, county, state and federal regulations.

Section XIV - Transport Information

DOT Proper Shipping Name: Isopropanol or Isopropyl Alcohol
DOT Hazard Class/ I.D. No.: 3, UN1219, II

Section XV - Regulatory Information

Reportable Quantity: N/A
NFPA Rating: Health - 1; Flammability - 3; Instability - 0
0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme
Carcinogenicity Lists: No **NTP:** No **IARC Monograph:** No **OSHA Regulated:** Yes
Uniform Fire Code Rating: Class IB Flammable Liquid
SARA 311/312: Acute: Yes; Chronic: Yes; Fire: Yes; Pressure: No

Section 313 Supplier Notification: This product contains the following toxic chemical subject to the reporting requirements of SARA TITLE III Section 313 of the Emergency Planning and Community Right-To Know Act of 1986 and of 40 CFR 372:

<u>Chemical Name</u>	<u>% By Weight</u>
Isopropanol	90-100

Section XVI - Other Information

Synonyms/Common Names: 2-Propanol, IPA, Isopropanol, Isopropyl Alcohol, Sec-Propyl Alcohol, Sec-Propanol, Dimethylcarbinol

Chemical Family/Type: Alcohol

IMPORTANT! Read this MSDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This MSDS has been prepared according to the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The MSDS information is based on sources believed to be reliable. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, **Hill Brothers Chemical Company** makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Also, additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks prior to use, and then to exercise appropriate precautions for protection of employees and others.