Safety Data Sheet

1. Product Identifier and Company Identification

Product name : Isopropyl Alcohol; Isopropanol
HBCC SDS number : CI01000
Synonym : 2-Propanol, IPA, Sec-Propyl Alcohol, Sec-Propanol, Dimethylcarbinol
Product use and Restrictions : Refer to label or call
Manufacturer Contact Address :

Corporate Headquarters
Hill Brothers Chemical Company
1675 North Main Street
Orange, California 92867
714-998-8800
800-821-7234

Corporate Safety & Compliance
Hill Brothers Chemical Company
7121 West Bell Road, Suite 250
Glendale, Arizona 85308
623-535-9955 - Office
623-535-9944 - Fax

Emergency Telephone Number (Chemtrec) : 800-424-9300
Website : http://hillbrothers.com

2. Hazard Identification

Classification : Flammable Liquids – Category 2
Serious Eye Damage/Eye Irritation – Category 2A
Specific Target Organ Toxicity (SINGLE EXPOSURE)(Narcotic effects) – Category 3

Signal Word : Danger

Pictogram(s) :

Hazard Statements : H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.

Precautionary Statements

Response : P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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 + P313 - If eye irritation persists: Get medical advice/attention.

Prevention : P280 - Wear protective gloves: > 8 hours (breakthrough time): Natural rubber (latex). Wear eye or face protection: Recommended: Splash goggles.
P210 - Keep away from heat/sparks/open flames/hot surfaces and other ignition sources. No smoking.
P241 - Use explosion-proof electrical/ventilating/lighting and all material -handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands thoroughly after handling.

Storage : P405 - Store locked up.
P403 - Store in a well-ventilated place.
P235 - Keep cool.

Disposal : P501 - Dispose of contents and container in accordance with all local/regional/national and international regulation.

3. Composition/Information on Ingredients

CAS Number	Ingredient Name	Weight %
67-63-0	Isopropyl Alcohol	90-100

4. First Aid Measures

Summary of 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.

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

Effects of Overexposure : N/A

Summary of Acute Health Hazards : N/A

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.

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

Summary of Chronic Health : N/A

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.

5. Fire Fighting Measures

Extinguishing : 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 Exposure 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. Contact with strong oxidizers may cause fire or explosion.

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

Fire Fighting Procedures : 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.

NFPA Rating : Health - 1
Flammability - 3
Instability - 0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

Uniform Fire Code Rating : Class IB Flammable Liquid

6. Accidental Release Measures

Personal Precautions : **WARNING:** This is a flammable material. Handling equipment must be grounded to prevent sparking. Ventilate area of leak or spill. Shut off source of leak only if safe to do so. Wear appropriate respirator and protective clothing.

Emergency Procedures : Eliminate all ignition sources. Large spills: evacuate the area of unprotected personnel.

Methods of Containment And Clean-Up : Dike and contain. If vapor clouds form, water fog may be used to suppress; contain run-off, 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.

7. Handling and Storage

Safe Handling : Protect against physical damage. 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.
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.

Storage : Do not store or handle in aluminum equipment at temperatures above 120° F. 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.

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.

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.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits :

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

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

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.

Respiratory : 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.

9. Physical and Chemical Properties

Appearance: Colorless liquid	**Odor:** Like ethyl alcohol, sharp, somewhat unpleasant
Odor Threshold: 90 mg/cu m	**pH:** N/A
Melting Point: -89° C (-128° F)	**Initial Boiling Point/Range:** 82° C (180° F)
Flash Point: 12° C (54° F) CC	**Evaporation Rate (BuAc=1):** 2.83
Flammability in Air: Lower: 2% Upper: 12%	**Lower/Upper Explosive Limit:** 2.0%/12.7%
Vapor Pressure (mmHg): 44 @ 25° C (77° F)	**Vapor Density (Air=1):** 2.1
Specific Gravity @20C: 0.78-0.79	**Solubility in Water:** Miscible in Water
Decomposition Temperature: N/A	**Density at 20° C (60° F):** 6.5-6.6 lb/gal
% Volatiles (by volume at 21° C (70° F): 100%	**Autoignition Temperture:** 425° C (797° F)
Molecular Weight: 60.10 g/mol	**VOC:** N/A

10. Stability and Reactivity

Reactivity : N/A

Chemical Stability : Stable

Possibility of Hazardous Reactions or Polymerizations : Hazardous Polymerization will not occur

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

Incompatible Materials : Concentrated nitric and sulfuric acids, strong oxidizers, aldehydes, and halogen compounds. Do Not Store or Handle in Alumium 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.

11. Toxicological Information

Acute and Chronic Effects : N/A

Routes of Exposure

Inhalation : Yes
Ingestion : Yes
Skin : Yes
Eyes : Yes

Symptoms related to Physical, Chemical & Toxicological Characteristics : N/A

Numerical Measures of Toxicity : Oral Rat LD_{50}: 5045 mg/kg
Skin Rabbit LD_{50}: 12.8 gm/kg
Inhalation Rat LC_{50}: 16,000 ppm/8-Hour
Investigated as a tumorigenic, mutagenic, reproductive effector

Chronic Toxicity : N/A

Carcinogenicity : N/A

Product Name: Isopropanol					
ACGIH	**IARC**	**EPA**	**NIOSH**	**NTP**	**OSHA**
No	No	No	No	No	Yes

TARGET ORGANS : N/A

12. Ecological Information

Ecotoxicity : 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 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.

Persistence and Degradability : When released into water, this material may biodegrade to a moderate extent. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.

Bioaccumulative Potential : N/A

Product/Ingredient	Log $_{Pow}$	BCF	Potential
-	-	-	-

Mobility in Soil : 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.

13. Disposal Considerations

Disposal of Container : 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.

14. Transport Information

UN# : UN1219
Proper Shipping Name : Isopropanol or Isopropyl Alcohol
Hazard Class/Division : 3
Packing Group : II
Marine Pollutant : No
Special Provisions : IB2, T4, TP1
Emergency Response Guidebook : 2012 ERG, Guide 129, pages 196-197
Placard Advisory :

15. Regulatory Information

SARA 302 Extremely Hazardous Substances (EHS) : No chemical in this product is listed as an Extremely Hazardous Substance (EHS) under Section 302 of EPCRA.

SARA 304 Extremely Hazardous Substances (EHS) Release Notification : No chemical in this product is listed as an Extremely Hazardous Substance (EHS) which, if released to the environment in quantities at or above the substance's Reportable Quantity (RQ), would require reporting to the SERC and LEPC under Section 304 of EPCRA.

SARA 311/312 Hazards :

SARA 311/312 Hazards				
Acute	**Chronic**	**Flammability**	**Pressure**	**Reactivity**
Yes	Yes	Yes	No	No

SARA 313 Reportable Chemicals : This product contains the following chemical(s) subject to annual emissions, transfers, and/or waste management reporting under the Community-Right-to-Know provisions of EPCRA Section 313, also known as the Toxic Release Inventory (TRI) Report or Form R:
Isopropanol, CAS #67-63-0

CERCLA Hazardous Substances : No chemical in this product is listed as a CERCLA hazardous substance subject to the National Response Center (NRC) release reporting requirements.

Clean Air Act (CAA) Section 112(r) Air Pollutants : No chemical in this product is listed as an air pollutant under the U.S. Clean Air Act, Section 112(r) (40 CFR 61).

California Prop 65 Chemicals : This product does not contain any chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

Hazard Label Warning : This product requires the following hazard label warning:
Flammable, Class 3

TSCA (Toxic Substances Control Act) : All chemical substances in this product are listed on the U.S. TSCA Inventory List.

ACRONYMS:

CAS # – Chemical Abstract Services Registry Number
CFR – Code of Federal Regulations
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act
EPCRA – Emergency Planning and Community Right-to-Know Act
LEPC – Local Emergency Planning Committee
SERC – State Emergency Response Commission

16. Other Information

Revision date : 05/14/2015
Supersedes : 09/12/2011
First Issue : 04/10/1986

Chemical Family/Type : Alcohol

Section(s) changed since last revision : MSDS to First Issue SDS Conversion

IMPORTANT! Read this SDS 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 SDS has been prepared in accordance with the Globally Harmonized System of Chemical and Labeling of Chemicals (GHS) Fifth Edition and the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The SDS information is based on sources believed to be reliable. Available 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. 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 and exercise appropriate precautions for protection of employees and others prior to use.