



## MATERIAL SAFETY DATA SHEET

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- First Aid for Eye: Immediately flush with water for 15 minutes, including under eyelids. Seek medical attention if discomfort persists.
- First Aid for Skin: Wash off affected areas with plenty of soap and water. If discomfort or irritation persists contact a physician.
- First Aid for Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give
- First Aid for Ingestion: Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.
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### Section 5. Fire Fighting Measures

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- Flash Point (°F/°C): 65°F / 18.3°C (Closed Cup)
- Flammable Limit (vol%): Not available.
- Auto-ignition Temp. (vol%): Not available.
- Extinguisher Media: Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool, dilute spills to nonflammable mixtures, protect personnel attempting to stop leak and disperse vapors.
- Explosion: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Contact with strong oxidizers may cause fire or explosion. Vapors can flow along surfaces to distant ignition source and flash back. Sensitive to static discharge.
- Special Information: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operating in the pressure demand or other positive pressure mode.
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### Section 6. Accidental Release Measures

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- Spill or Release Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer. If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.
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### Section 7. Handling and Storage

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**Handling & Storing:** Protect against physical damage. Store in a cool, dry well ventilated location away from any area where the fire hazard may be acute. 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. 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.

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### Section 8. Exposure Controls / Personal Protective Equipment

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**Airborne Exposure Limits:** For Isopropyl Alcohol:  
OSHA Permissible Exposure Limit (PEL): 400 ppm (TWA)  
  
ACGIH Threshold Limit Value (TLV): 200 ppm (TWA), 400 ppm (STEL), A4-not classifiable as a human carcinogen.

**Ventilation System:** A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminate at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, most recent edition, for details.

**Personal Respirators (NIOSH Approved):** If the exposure limit is exceeded, a full face piece respirator with organic vapor cartridge may be worn up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

**Skin Protection:** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Neoprene and nitrile rubber are recommended materials.

**Eye Protection:** Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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### Section 9. Physical and Chemical Properties

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<b>Appearance @ 25°C:</b> Colorless crystal clear thin liquid	<b>Viscosity (RVT):</b> Not applicable
<b>Odor @ 25°C:</b> Characteristic	<b>Vapor Pressure:</b> Not available
<b>pH:</b> Not applicable	<b>Vapor Density:</b> Not available

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<b>Specific Gravity:</b>	~0.792	<b>Evaporation Rate:</b>	Not available
<b>Ignition:</b>	Not applicable		
<b>Melting Point:</b>	Not available		
<b>Boiling Point:</b>	Not available		
<b>Solubility in Water</b>	Miscible in water		

## Section 10. Stability and Reactivity

**Stability:** Stable under ordinary conditions of use and storage. Heat and sunlight can contribute to instability.

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Incompatibility (Materials to Avoid):**

Heat, flame, strong oxidizers, acetaldehyde, acids, chlorine, ethylene oxide, hydrogen palladium combination, hydrogen peroxide-sulfuric acid combination, potassium tertbutoxide, hypochlorous acid, isocyanates, nitro form, phosgene, aluminum, oleum and perchloric acid.

**Hazardous Polymerization:**

Will not occur.

**Conditions to Avoid:** Heat, flames, ignition sources and incompatibles.

## Section 11. Toxicological Information

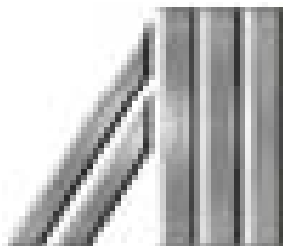
Isopropyl Alcohol Oral Rat LD50: 5045 mg/kg

Isopropyl Alcohol Skin Rabbit LD50: 12.8 gm/kg

Isopropyl Alcohol inhalation rat LC50: 16,000 ppm/8-hour; investigated as a tumorigen, mutagen, reproductive effector.

Ethyl Acetate Oral Rat LD50: 5620 mg kg-1

Ethyl Acetate Inhalation mouse LD50: 45 g m-3 2h



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Ethyl Acetate > 20 ml kg-1  
 Administration onto  
 Skin Rabbit LD50:

Ethyl Acetate 3000 mg kg-1  
 Subcutaneous Guinea  
 Pig LD50:

Ethyl Acetate 709 mg kg-1  
 intraperitoneal Mouse  
 LD50:

Acetone Oral Rat Oral rat LD50: 5800 mg/kg;  
 LD50:

Acetone Inhalation Rat 50,100mg/m3  
 LC50:

## Section 12. 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 ground water. When released into the soil, this material may biodegrade to a moderate extent. When released to water, 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 deposition.

### 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 13. Disposable Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed 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 federal, state and local requirements.

## Section 14. Transportation Information

### <DOT Information>

Proper Shipping Name (49CFR 172.101): Flammable Liquid n.o.s. (Isopropyl Alcohol, Acetone)  
 Hazard Class: 3

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UN/NA: UN1993  
Packing Group: II

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### Section 15. Regulatory Information

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*All information provided below is for Isopropyl Alcohol (67-63-0):*

**Federal Regulatory Status:**

**Resource Conservation & Recover Act (RCRA) Classification:**

D001 (Ignitable Hazardous Waste)

**Superfund Amendment & Reauthorization Act (SARA) Title III:**

SARA Hazard Categories (311/312): Fire Hazard. Immediate (Acute) Health Hazard.

SARA Toxic Release Inventory (TRI) (313): Isopropyl Alcohol (67-63-0): 99.25%

Toxic Substances Control Act (TSCA) Inventory Status:

This material is listed on the EPA TSCA Inventory of Chemical Substances.

**State Regulatory Status:**

The following chemical are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**New Jersey Right-To-Know Chemical List:**

Isopropyl Alcohol (67-63-0): 99.25%

**Pennsylvania Right-To-Know Chemical List:**

Isopropyl Alcohol (67-63-0): 99.25%

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### Section 16. Other Information

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Additional information available upon request.