



I. Product and Supplier Information

Product Name: 99% Isopropyl Alcohol
 Product Number: 10701
 Product Synonyms: Iso-Propanol, 2-Hydroxy propane, Isopropyl Alcohol
 Chemical Family or Formula: Aliphatic Alcohol C H3 CHOH CH3 FW = 60.1

MSDS Number: UPSIsopropylAlcohol
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Supplier: Ultra Pure Solutions, Inc.
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Product Information: 831-632-2120
 Transportation Emergency: 800-424-9300

II. Composition and Information on Ingredients

CAS #	SARA 313 On? Dm*	Material or Component	%	RQ#	Exposure Limits		
					TWA*	STEL*	WEEL*
67-63-0	No NA	2-Propanol	100	None	400 ppm	500 ppm	

No component is listed in "Threshold and Biological Exposure Indices for 2002" from ACGIH except as noted above. Components listed in Title III Sec. 313 (EPCRA) are indicated by "Yes" above.

*TWA= Time Weighted Average; STEL= Short Term Exposure Limit; WEEL= Workplace Employee Exposure Level
 NE= Not Established A4= Not Classifiable as a Human Carcinogen BEI+ Biological Exposure Index exists for this materia
 Dm= De minimus A3 = Confirmed Animal carcinogen with Unknown Relevance to Humans.

III. Hazards Identification

OSHA Hazard Classification:
 Highly flammable

Routes of Entry: Skin, eyes, Inhalation, ingestion

Chemical Interactions: Avoid contact with all oxidizing agents, acids, acid chlorides, acid anhydrides, halogens, aluminum and aluminum alloys.

Medical Conditions Aggravated:
 No information.

Hazard Category Classifications and Ratings

Hazard Categories:	Health	Fire	Pressure	Reactivity	Reference 49 CFR 171.8 & 173, OSHA 29 CFR 1910.1200 and SARA 302/311/312/313.
Immediate	Yes	Yes	No	No	
Delayed	No	No	No	No	
HMIS Hazard Ratings: Health 1 Fire 3 Instability 0 Other B (Goggles, gloves)					
NFPA 704 Hazard Ratings: Health 1 Flammability 3 Reactivity 0 Special NA					
Hazard Ratings: Least: 0 Slight: 1 Moderate: 2 High: 3 Extreme: 4					

Immediate (Acute) Health Effects

Inhalation Toxicity:

Harmful if inhaled or swallowed.

Inhalation Irritation:

High concentrations or prolonged exposure can cause headaches, dizziness and nausea .

Skin Contact:

Skin contact may cause irritation from dehydration and de-fatting of the skin.

Skin Absorption:

No immediate responses.

Eye Contact

Liquid and vapor cause eye irritation, tearing and a burning sensation.

Ingestion Irritation:

Irritating.

Ingestion Toxicity:

Minimal toxicity. See Sec. XI.

Acute Target Organ Toxicity:

None noted.

Prolonged (Chronic) Health Effects

Carcinogenicity:

None.

Reproductive and Developmental Toxicity:

None noted.

Sensitization:

None known.

Inhalation:

Prolonged or repeated exposure may cause more severe irritation. May cause CNS effects.

Skin Contact:

Prolonged or repeated skin exposure may cause dermatitis.

Skin Absorption:

Prolonged or repeated skin exposure may cause dermatitis.

Ingestion:

Chronic ingestion unlikely. See Acute entry above.

General :

Prolonged or repeated exposure may cause all acute toxic symptoms described above.

Chronic Target Organ Toxicity:

None noted.

Supplemental Health Hazard Information:

No additional health information available.

IV. First Aid

Inhalation:

Remove individual to fresh air. If not breathing, give artificial respiration or oxygen as appropriate. Seek medical attention at once.

Skin Contact:

Flush skin with water for 15 minutes and remove contaminated clothing. Wash shoes and clothing before reuse.

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart.

Ingestion:

Immediately drink water to dilute. Induce vomiting. Consult a physician immediately.
Never give anything by mouth to an unconscious person.

V. Fire Fighting Measures**Flammability Summary (OSHA):**

Extremely flammable.

Flammable Properties:

Flash Point: 12C
Autoignition Temperature: 750C
Upper Flammable/Explosive Limit, % in air 12
Lower Flammable/Explosive Limit, % in air 2.5

Fire/Explosion Hazards: Extremely dangerous! Vapor can travel distances to ignition sources and flash back.

Hot organic chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air.

Ignition may occur at temperatures below published autoignition or ignition temperatures. Ignition temperatures decrease with increasing vapor volume and vapor/air contact time and are influenced by pressure changes.

Ignition may occur at typical elevated temperature process conditions, especially in processes operating under vacuum if subjected to the sudden ingress of air, or with sudden escape of hot vapors into outside air.

Extinguishing Media:

Water spray, foam, dry chemical or CO2

Do not allow contaminated water to enter sewers or waterways.

Fire Fighting Instructions:

In case of fire, use normal fire fighting equipment including a NIOSH approved self-contained breathing breathing apparatus (SCBA). Use water to cool containers.

Hazardous Combustion Products:

Oxides of carbon.

VI. Accidental Release Measures**Personal Protection for Emergency Situations:**

Evacuate the area of all unnecessary personnel. Eliminate any ignition sources until the area is determined to be free from explosion and fire hazards. Contain the release and eliminate its source if this can be done safely.

Spill Mitigation Procedures**Air Release:**

Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste. Do not flush to sewer! US regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of stipulated quantities. US Coast Guard National Response Center is 800-424-8802.

Water Release:

This material is soluble in water. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste. Notify all downstream users of possible contamination.

Land Release:

Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container. Decontaminate all clothing and the spill area using a detergent and flush with large amounts of water. Contain all contaminated water for disposal and/or treatment.

Additional Spill Information:

Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel. Dispose of spill residues per guidelines under Section XIII, Disposal Considerations.

VII. Handling and Storage

Handling: Use with adequate ventilation. Vent containers before opening wide.

Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash with water. Avoid breathing vapor, mist or gas. Electrically ground all equipment when handling this product. Retained residue may make empty containers hazardous. USE CAUTION!

Storage

Keep container closed when not in use. Store in a cool area away from ignition sources and oxidizers.

Shelf Life Limitations:

See label or certificate of analysis for shelf life if applicable.

Incompatible Materials for Storage:

Refer to Section X, "Incompatible Materials."

VIII. Exposure Controls and Personal Protection

Ventilation:

Local exhaust ventilation or other engineering controls are normally preferred when handling or using this product. Otherwise, use general exhaust ventilation if that is sufficient for general worker safety and comfort. Explosion proof motors and fans are required. A NIOSH/MSHA approved air supplied respirator is advised in the absence of adequate environmental control.

Protective Equipment for Routine Use of Product

Respiratory Protection:

See previous paragraph. Material should be handled or transferred in an approved fume hood or with adequate ventilation.

Respirator Type(s):

Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin: Wear impervious gloves (butyl rubber, Viton, e.g.) to avoid skin contact. Follow good industrial hygiene practices. Eyes: Use chemical safety glasses with side shields, safety goggles and/or a full face shield where splashing is possible.

Protective Clothing Type: Impervious

Other: A safety shower and eye bath should be readily available.

Exposure Limit Data : See Section II

Chemical Name: NIOSH Level Immediately Dangerous to Life or Health:

No data on product.

IX. Physical Data

Physical State: Liquid
Color: Colorless
Odor: Mild alcohol odor

Molecular Weight: 60.10
pH (@ 25 Deg. C): Not applicable
Octanol/Water Coeff: No data

Solubility in Water: 100%
Bulk Density: Not applicable
Specific Gravity: .785

Vapor Density (Air = 1): 2.14
Vapor Pressure: (@ 20 Deg. C): 43.9 hPa
Evaporation Rate (Butyl acetate =1): NA

Volatiles % by vol.: 100
Boiling Point: 82.4C
Freezing Point: -89.5C

X. Stability and Reactivity**Stability and Reactivity Summary:**

Stable under normal conditions.

Reactive Properties:

Sensitivity to mechanical shock: None
Hazardous Polymerization: Will not occur
Conditions to Avoid: High temperatures, exposure to heat, sparks, flame
Chemical Incompatibility: see Sec. III.
Incompatible materials: May attack some rubbers and plastics. Incompatible with aluminum and its alloy;
Hazardous Decomposition Products: CO, CO2
Decomposition Temperature: No data
Product May Be Unstable At Temperatures Above: No data

XI. Toxicological Information**Component Animal Toxicology**

Oral LD50 mg/kg value: 36000 (mus); 5045 (rat); 6410 (rbt)
 Dermal LD50 mg/kg value: 12,800 (rbt)
 Inhalation LC50/8 hr ppm value: 16,000 (rat)
 Product Animal Toxicity:

See above

Skin Irritation:

This material is expected to be moderately irritating.

Eye Irritation:

This material is expected to be severely irritating.

Reproductive and Developmental Toxicity:

None found.

Component Data:

All data refer to 2-propanol.

Mutagenicity:

None found.

Carcinogenicity:

IARC-3: Not classifiable as to carcinogenicity to humans.

XII. Ecological Information

Ecological Toxicity Values:

Dangerous to aquatic life in high concentrations.

Environmental fate: No potential for food chain concentration.

Environmental Toxicity: No data.

XIII. Disposal Considerations

CARE MUST BE TAKEN TO PREVENT ENVIRONMENTAL CONTAMINATION FROM THE USE OF THIS MATERIAL
 THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO DISPOSE OF UNUSED MATERIAL, RESIDUES
 AND CONTAINERS IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL LAWS

Waste Disposal Summary:

Product as supplied qualifies as "Unlisted Hazardous Waste D001" with the characteristic of ignitability.

Potential US EPA Waste Codes:

D001

Disposal Methods:

Dispose of in accordance with local, state and federal regulations for hazardous waste.

Components subject to land ban restrictions:

No components subject to land ban restrictions.

XIV. Transportation Information

Proper Shipping Name, Hazard Class, UN/NA Number Packing Group, Emergency Response Guide Number	
US Domestic DOT:	Isopropanol (Isopropyl alcohol)3, UN1219, PG II ERG 129
Labels required per 49 CFR 172.101:	Flammable
Size for "Limited quantity" per 49 CFR 173.150-.155:	1 quart max. in 66# max. container
Reportable Quantity ("RQ") per 49 CFR172.101:	None
Passenger air/ Rail	5 liter
Cargo air only:	60 liter
Vessel stowage:	B

XV. Regulatory Information

UNITED STATES:

Toxic Substances Control Act (TSCA):

The components of this product are listed on the TSCA Inventory of Existing Chemical Substances.

Pesticide acceptance indication: US EPA Registration Number:
Not applicable

Superfund Amendments and Reauthorization Act (SARA) Title III:
See Section III of this MSDS.

State Right-to-Know Regulations Status of Ingredients
No data.

XVI. Additional Information

MSDS REVISION STATUS: Revised to meet the ANSI standard of 16 sections.

THIS MATERIAL SAFETY DATA SHEET (MSDS) HAS BEEN PREPARED IN COMPLIANCE WITH THE FEDERAL OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200. THE INFORMATION IN THIS MSDS SHOULD BE PROVIDED TO ALL WHO WILL USE, HANDLE, STORE, TRANSPORT, OR OTHERWISE BE EXPOSED TO THIS PRODUCT. WE BELIEVE THIS INFORMATION TO BE RELIABLE AND UP TO DATE AS OF ITS PUBLICATION DATE, BUT MAKE NO WARRANTY THAT IT IS. IF THIS MSDS IS MORE THAN THREE YEARS OLD YOU SHOULD CONTACT THE SUPPLIER TO MAKE CERTAIN THAT THE INFORMATION IS CURRENT.

MSDS data source: Alfa-Aesar 4/15/99