

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Trade name	: Isopropyl Alcohol
Chemical name	: 2-propanol
CAS-No.	: 67-63-0
Product code	: HF4002
Formula	: C3H8O
Synonyms	: IPA, 2-Propanol, Isopropanol, sec-Propyl alcohol, dimethyl carbinol

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Solvent
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#### 1.3. Supplier

Haltermann Solutions™  
 15600 W Hardy Rd.  
 Houston, TX 77060 - USA  
 T 1-800-969-2542  
 F 281-457-1469

#### 1.4. Emergency telephone number

Emergency number	: 24 HR CHEMTREC: 1-800-424-9300; Emergency Assistance: 1-800-969-2542 (8 AM to 5 PM CDT)
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### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture


##### GHS-US classification

Flammable liquids Category 2	H225	Highly flammable liquid and vapour
Eye irritation Category 2A	H319	Causes eye irritation
Specific target organ toxicity (single exposure) Category 3	H335	May cause respiratory irritation

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US)	: 
Signal word (GHS-US)	: Danger
Hazard statements (GHS-US)	: H225 - Highly flammable liquid and vapour H319 - Causes serious eye irritation H335 - May cause respiratory irritation
Precautionary statements (GHS-US)	: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking. P233 - Keep container tightly closed. P240 - Ground/Bond container and receiving equipment P241 - Use explosion-proof electrical, lighting, ventilating equipment P242 - Use only non-sparking tools. P243 - Take precautionary measures against static discharge. P261 - Avoid breathing dust, fume, gas, mist, spray, vapors. P264 - Wash hands thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear eye protection, protective clothing, protective gloves. P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse

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skin with water/shower  
P304+P340+P312 - If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor, a POISON CENTER if you feel unwell  
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.  
P370+P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/ container to an approved waste disposal plant.

### 2.3. Other hazards which do not result in classification

May form explosive peroxides.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Name	Product identifier	%
Isopropyl alcohol	(CAS-No.) 67-63-0	100

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a physician immediately. Show this material safety data sheet to the doctor in attendance.  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call in physician.  
First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
First-aid measures after eye contact : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.  
First-aid measures after ingestion : Immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : No further relevant information available.  
Symptoms/effects after eye contact : No further relevant information available  
Symptoms/effects after ingestion : No further relevant information available.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD. Highly flammable liquid and vapour. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapor spreads at floor level: ignition hazard.  
Explosion hazard : DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. May be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.  
Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

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### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective goggles. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus.
- Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosion-proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection. Do not breathe gas, fumes, vapor or spray.
- Emergency procedures : Stop leak if safe to do so. Ventilate area. If a major spill occurs, all personnel should be immediately evacuated, and the area ventilated.

#### 6.2. Environmental precautions

Prevent spreading in sewers.

#### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills
- Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling

#### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Additional hazards when processed : May form explosive peroxides.
- Precautions for safe handling : Use spark-/explosion proof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Keep container tightly closed.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work. Wash contaminated clothing before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Ground/bond container and receiving equipment.
- Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Handle and store under inert gas. Hygroscopic. Storage class (TRGS 510): 3: Flammable liquids

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Isopropyl Alcohol (67-63-0)		
ACGIH	Local name	Isopropyl Alcohol
ACGIH	ACGIH TWA	200 ppm
ACGIH	ACGIH STEL	400 ppm
NIOSH	NIOSH REL (TWA)	980 mg/m <sup>3</sup>
NIOSH	NIOSH REL (TWA)	400 ppm
NIOSH	NIOSH REL (STEL)	1225 mg/m <sup>3</sup>

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Isopropyl Alcohol (67-63-0)		
NIOSH	NIOSH REL (STEL)	500 ppm
OSHA	OSHA PEL (TWA)	980 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA)	400 ppm

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Protective gloves against chemicals (EN 374)

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Wear respiratory protection. High gas/vapor concentration: gas mask with filter type A

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Color	: Colorless
Odor	: characteristic, Alcohol odor, Stuffy odor Mild odor
Odor threshold	: No data available
pH	: No data available
Melting point	: -89.5 °C
Freezing point	: No data available
Boiling point	: 81.0 - 83.0 °C
Flash point	: 12.0 °C closed cup
Relative evaporation rate (butyl acetate=1)	: 3.0
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 43.2 hPa (at 20 °C)
Relative vapor density at 20 °C	: No data available
Relative density	: 0. 8 (at 20 °C)
Specific gravity / density	: 785 kg/m <sup>3</sup>
Molecular mass	: 60.1 g/mol
Solubility	: Miscible with water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in oils/fats. Soluble in chloroform. Water: miscible Ethanol: complete Ether: complete Acetone: soluble
Log Pow	: 0.05 (Weight of evidence approach, 25 °C)
Auto-ignition temperature	: 399 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: 2.532 mm <sup>2</sup> /s (25 °C)
Viscosity, dynamic	: 2.1 mPa·s (25 °C)
Explosion limits	: LEL: 2 vol % UEL: 13 vol %
Explosive properties	: No data available

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Oxidizing properties : No data available

### 9.2. Other information

Minimum ignition energy : 0.65 mJ  
Specific conductivity : 350000000 pS/m (25 °C)  
Saturation concentration : 106 g/m<sup>3</sup>  
VOC content : 100 %  
Other properties : Gas/vapour heavier than air at 20°C. Clear. Volatile.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Violent to explosive reaction with (strong) oxidizers. Prolonged storage/in large quantities: may form peroxides.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

May react violently with oxidants.

### 10.4. Conditions to avoid

Direct sunlight. High temperature. Incompatible materials. Open flame. Sparks.

### 10.5. Incompatible materials

Ammonia. Strong acids. Strong oxidizers.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Isopropyl Alcohol (67-63-0)	
LD50 oral rat	5840 mg/kg body weight
LD50 dermal rabbit	16400 mg/kg body weight
LC50 inhalation rat (ppm)	>10000 ppm
ATE US (oral)	5840 mg/kg body weight
ATE US (dermal)	16400 mg/kg body weight

Skin corrosion/irritation : Not classified  
Serious eye damage/irritation : Causes serious eye irritation  
Respiratory or skin sensitization : Not classified  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified  
Reproductive toxicity : Not classified  
Specific target organ toxicity – single exposure : May cause respiratory irritation.  
Specific target organ toxicity – repeated exposure : Not classified.  
Aspiration hazard : Not classified  
Symptoms/effects after inhalation : EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous system depression. Dizziness. Headache. Narcosis.  
Symptoms/effects after skin contact : Dry skin.  
Symptoms/effects after eye contact : Irritation of the eye tissue. Redness of the eye tissue.  
Symptoms/effects after ingestion : AFTER ABSORPTION OF LARGE QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration.  
Chronic symptoms : Red skin. Dry skin. Itching. Cracking of the skin. Skin rash/inflammation. Impaired memory.

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### SECTION 12: Ecological information

#### 12.1. Toxicity

- Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.
- Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC).  
Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014).  
Photooxidation in the air. Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
- Ecology - water : Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Inhibition of activated sludge. Not harmful to algae. Not harmful to bacteria.

Isopropyl Alcohol (67-63-0)	
LC50 fish 1	9640 – 10000 mg/l (Equivalent or similar to OECD 203, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)

#### 12.2. Persistence and degradability

Isopropyl Alcohol (67-63-0)	
Persistence and degradability	Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	1.19 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	2.23 g O <sub>2</sub> /g substance
ThOD	2.4 g O <sub>2</sub> /g substance

#### 12.3. Bioaccumulative potential

Isopropyl Alcohol (67-63-0)	
Log Pow	0.05 (Weight of evidence approach, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4)

#### 12.4. Mobility in soil

Isopropyl Alcohol (67-63-0)	
Surface tension	0.021 N/m (25 °C)
Log Koc	0.185 – 0.541 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- Waste disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Incinerate under surveillance with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
- Waste treatment methods : Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997

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### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1219 Isopropyl alcohol, 3, II  
UN-No.(DOT) : UN1219  
Proper Shipping Name (DOT) : Isopropyl alcohol  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 3 - Flammable liquid



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)  
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 4b;150  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L  
DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.  
Other information : No supplementary information available.

#### Transportation of Dangerous Goods

Transport document description : UN1219 ISOPROPANOL, 3, II  
UN-No. (TDG) : UN1219  
Proper Shipping Name (Transportation of Dangerous Goods) : ISOPROPANOL  
TDG Primary Hazard Classes : 3 - Class 3 - Flammable Liquids  
Packing group : II - Medium Danger  
Explosive Limit and Limited Quantity Index : 1 L  
Passenger Carrying Road Vehicle or Passenger Carrying Railway Vehicle Index : 5 L

#### Transport by sea

Transport document description (IMDG) : UN 1219 Isopropyl alcohol, 3, II  
UN-No. (IMDG) : UN1219  
Proper Shipping Name (IMDG) : Isopropyl alcohol  
Class (IMDG) : 3 - Flammable liquids  
Packing group (IMDG) : II - substances presenting medium danger  
EmS-No. (1) : F-E  
EmS-No. (2) : S-D

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### Air transport

Transport document description (IATA)	: UN 1219 Isopropyl alcohol, 3, II
UN-No. (IATA)	: 1219
Proper Shipping Name (IATA)	: Isopropyl alcohol
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: II - Medium Danger

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

<b>Isopropyl Alcohol (67-63-0)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Serious eye damage or eye irritation Health hazard - Specific target organ toxicity (single or repeated exposure)

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

### 15.2. International regulations

#### CANADA

<b>Isopropyl Alcohol (67-63-0)</b>	
No additional information available	

#### EU-Regulations

<b>Isopropyl Alcohol (67-63-0)</b>	
No additional information available	

#### National regulations

<b>Isopropyl Alcohol (67-63-0)</b>	
No additional information available	

### 15.3. US State regulations

<b>Isopropyl Alcohol (67-63-0)</b>	
U.S. - California - Proposition 65 - Carcinogens List	This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.
State or local regulations	No additional information available

## SECTION 16: Other information

Revision date : 09/09/2021

Full text of H-phrases:

H225	Highly flammable liquid and vapour
H319	Causes serious eye irritation
H335	May cause respiratory irritation

SDS US (GHS HazCom 2012)

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