

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: Isopropyl Alcohol
CAS No	: 67-63-0
Product code	: SG-1001-04568
Formula	: C3H8O
Synonyms	: 2-Hydroxypropane / 2-Propyl alcohol / 2-Propanol / Isopropanol / Propan-2-ol / ISOPROPYL ALCOHOL / Propanol, 2-
Other means of identification	: 2-Propanol Isopropanol sec-Propyl alcohol

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	: Laboratory chemicals Manufacture of substances
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1.3. Details of the supplier of the safety data sheet

Air Liquide USA LLC and its affiliates
9811 Katy Freeway, Suite 100
Houston, TX 77024 - USA
T 1-800-819-1704
www.us.airliquide.com

1.4. Emergency telephone number

Emergency number	: CHEMTREC: 1-800-424-9300
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SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 2	H225 -	Highly flammable liquid and vapour
Eye Irrit. 2A	H319 -	Causes serious eye irritation
STOT SE 3	H336 -	May cause drowsiness or dizziness

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US)



GHS02

GHS07

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

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

Precautionary statements (GHS-US)

: P202 - Do not handle until all safety precautions have been read and understood
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 mist, vapors
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective gloves, protective clothing
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P403 - Store in a well-ventilated place
P405 - Store locked up
P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Name : Isopropyl Alcohol
CAS No : 67-63-0

Name	Product identifier	%	GHS-US classification
Isopropyl alcohol	(CAS No) 67-63-0	> 99	Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H336

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact : Adverse effects not expected from this product.
First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation occurs, seek medical attention.
First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause drowsiness or dizziness.
Symptoms/injuries after skin contact : Adverse effects not expected from this product.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.
Symptoms/injuries upon intravenous administration : Not known.
Chronic symptoms : Adverse effects not expected from this product.

4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice. If breathing is difficult, give oxygen.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media : Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

Fire hazard : This product is flammable.
Explosion hazard : Product is not explosive. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity : None known.

5.3. Advice for firefighters

Firefighting instructions : In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.
Protection during firefighting : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Do not enter fire area without proper protective equipment, including respiratory protection.

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ensure adequate ventilation.

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment consistent with the site emergency plan.
Emergency procedures : Escape the danger area by the closest safe route. Close doors and windows of adjacent premises. Keep containers closed. Mark the danger area. Seal off low-lying areas. Keep upwind.

6.1.2. For emergency responders

Protective equipment : Standard protective clothing and equipment (e.g., Self Contained Breathing Apparatus) for fire fighters. Equip cleanup crew with proper protection.
Emergency procedures : Evacuate and limit access. Ventilate area. Remove ignition sources. Monitor concentration of released product. Consider the risk of potentially explosive atmospheres. Wear self-contained breathing apparatus when entering atmospheres of unknown contaminant concentration until proven to be safe.

6.2. Environmental precautions

Try to stop release if safe to do so.

6.3. Methods and material for containment and cleaning up

For containment : Try to stop release if safe to do so. Contain and collect spillages with non-combustible absorbent materials, e.g. vermiculite & sand.
Methods for cleaning up : Dispose of this material and its container in accordance with local regulations.

6.4. Reference to other sections

See also Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. In use, may form flammable vapor-air mixture.
Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Use only non-sparking tools.
Hygiene measures : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.
Storage conditions : Do not expose to temperatures exceeding 52°C (125°F). Keep container closed when not in use. Store in well ventilated area. Store locked up.
Incompatible products : None known.
Incompatible materials : Oxidizing materials. Air. Acetaldehyde. Acids. Ethylene oxide. Chlorine. Isocyanates.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Isopropyl Alcohol (67-63-0)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	400 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	400 ppm
Isopropyl alcohol (67-63-0)		
ACGIH	ACGIH TWA (ppm)	200 ppm
ACGIH	ACGIH STEL (ppm)	400 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	980 mg/m³
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Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

8.2. Exposure controls

Appropriate engineering controls	: Ensure exposure is below occupational exposure limits. Provide adequate general and local exhaust ventilation. Consider work permit system e.g. for maintenance activities.
Hand protection	: Wear chemically resistant protective gloves. 29 CFR 1910.138: Hand Protection.
Eye protection	: Wear safety glasses with side shields. 29 CFR 1910.133: Eye and Face Protection.
Skin and body protection	: Wear suitable protective clothing, e.g. - lab coats, coveralls or flame resistant clothing.
Respiratory protection	: None necessary during normal and routine operations. See Sections 5 & 6.
Thermal hazard protection	: None necessary during normal and routine operations.
Environmental exposure controls	: Dispose of contents/container in accordance with local/regional/national/international regulations. For further information refer to section 13.
Other information	: Wear safety shoes while handling containers. 29 CFR 1910.136: Foot Protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Colorless liquid.
Color	: Colorless
Odor	: alcohol-like
Odor threshold	: No data available
pH	: No data available
Melting point	: -90 °C
Freezing point	: No data available
Boiling point	: 83.25 °C
Critical temperature	: 236.15 °C
Flash point	: 12 °C
Relative evaporation rate (butyl acetate=1)	: 2.3
Flammability (solid, gas)	: See Section 2.1 and 2.2
Explosion limits	: LEL 2% - UEL 12.7%
Explosive properties	: Without adequate ventilation formation of explosive mixtures may be possible.
Oxidizing properties	: None.
Vapor pressure	: 44 mm Hg (at 25 °C)
Relative density	: No data available
Relative vapor density at 20 °C	: 2.08
Specific gravity / density	: 0.785 g/ml at 25 °C
Molecular mass	: 60.1 g/mol
Relative gas density	: Heavier than air
Solubility	: No data available
Log Pow	: 0.05 (at 25 °C)
Auto-ignition temperature	: 399 °C
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

Additional information	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
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SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under normal conditions.

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.3. Possibility of hazardous reactions

Can form explosive mixture with air.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Oxidizing materials. Air. Acetaldehyde. Acids. Chlorine. Ethylene oxide. Isocyanates.

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	4396 mg/kg
LD50 dermal rabbit	12800 mg/kg
LC50 inhalation rat (ppm)	22624 ppm/4h (Exposure time: 8 h)
ATE US (oral)	4396.000 mg/kg body weight
ATE US (dermal)	12800.000 mg/kg body weight
ATE US (gases)	22624.000 ppmV/4h

Isopropyl alcohol (67-63-0)	
LD50 oral rat	4396 mg/kg
LD50 dermal rabbit	12800 mg/kg
LC50 inhalation rat (ppm)	22624 ppm/4h (Exposure time: 8 h)
ATE US (oral)	4396.000 mg/kg body weight
ATE US (dermal)	12800.000 mg/kg body weight
ATE US (gases)	22624.000 ppmV/4h

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

Isopropyl Alcohol (67-63-0)	
IARC group	3 - Not classifiable

Isopropyl alcohol (67-63-0)	
IARC group	3 - Not classifiable

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May cause drowsiness or dizziness.
Symptoms/injuries after skin contact : Adverse effects not expected from this product.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : Ingestion is not considered a potential route of exposure.
Symptoms/injuries upon intravenous administration : Not known.
Chronic symptoms : Adverse effects not expected from this product.

SECTION 12: Ecological information

12.1. Toxicity

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Isopropyl Alcohol (67-63-0)	
LC50 fish 1	9640 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	13299 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 other aquatic organisms 1	> 1000 mg/l (Exposure time: 96 h - Species: Desmodesmus subspicatus)
LC50 fish 2	11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
EC50 other aquatic organisms 2	> 1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

Isopropyl alcohol (67-63-0)	
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EC50 other aquatic organisms 2	> 1000 mg/l (Exposure time: 72 h - Species: Desmodesmus subspicatus)

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Isopropyl Alcohol (67-63-0)	
Log Pow	0.05 (at 25 °C)

Isopropyl alcohol (67-63-0)	
Log Pow	0.05 (at 25 °C)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer	: No known effects from this product.
Effect on the global warming	: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Contact supplier if guidance is required. Ensure that the emission levels from local regulations or operating permits are not exceeded. Disposal through controlled incineration or authorized waste dump.
Waste disposal recommendations	: Dispose of contents/container in accordance with local/regional/national/international regulations.

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
Transport hazard class(es) (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT)	: 3 - Flammable liquid



Packing group (DOT)	: II - Medium Danger
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 202
DOT Packaging Bulk (49 CFR 173.xxx)	: 242

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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.
Emergency Response Guide (ERG) Number	: 129
Other information	: No supplementary information available.

TDG

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

Transport by sea

UN-No. (IMDG)	: UN1219
Proper Shipping Name (IMDG)	: Isopropyl Alcohol
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: II - substances presenting medium danger

Air transport

UN-No. (IATA)	: UN1219
Proper Shipping Name (IATA)	: Isopropyl Alcohol
Class (IATA)	: 3 - Flammable Liquids

SECTION 15: Regulatory information

15.1. US Federal regulations

Isopropyl Alcohol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 % (only if manufactured by the strong acid process, no supplier notification)
Isopropyl alcohol (67-63-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 % (only if manufactured by the strong acid process, no supplier notification)

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.2. International regulations

CANADA

Isopropyl Alcohol (67-63-0)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 2 - Flammable Liquid

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Isopropyl alcohol (67-63-0)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 2 - Flammable Liquid

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

EU-Regulations

No additional information available

National regulations

Isopropyl Alcohol (67-63-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

Isopropyl alcohol (67-63-0)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Japanese ISHL (Industrial Safety and Health Law)

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations

Isopropyl Alcohol (67-63-0)

State or local regulations

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

Isopropyl alcohol (67-63-0)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Indication of changes

: Revised safety data sheet in accordance with OSHA final rule on GHS implementation promulgated March 26, 2012.

Other information

: This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product.

Full text of H-phrases:

Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

Isopropyl Alcohol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SDS US (GHS HazCom 2012)

This Safety Data Sheet is offered pursuant to OSHA's Hazard Communication Standard, 29 CFR, 1910.1200. Other government regulations must be reviewed for applicability to this product. To the best of Air Liquide USA LLC and its affiliates' knowledge, the information contained herein is reliable and accurate as of this date; however, accuracy, suitability or completeness are not guaranteed and no warranties of any type, either express or implied, are provided. The information contained herein relates only to this specific product. If this product is combined with other materials, all component properties must be considered. Data may be changed from time to time. Be sure to consult the latest edition.