

Isopropanol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
 Date of issue: 06/09/2015 Revision date: 06/09/2015 Supersedes: 06/01/2015

SECTION 1: Identification

1.1. Identification

Product form : Substance
 Trade name : Isopropanol
 Chemical name : Isopropyl Alcohol
 CAS No : 67-63-0
 Product code : HP-040769-FP; HPF-040769 FP USP IPA; HPF-040941-FP
 Formula : C3H8O
 Synonyms : 2-Hydroxypropane / 2-Propyl alcohol / 2-Propanol / Isopropanol / Propan-2-ol / ISOPROPYL ALCOHOL / Propanol, 2-

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

Use of the substance/mixture : Solvent; Antiseptic; Deicing/antifreeze agent; Chemical feedstock, etc.

1.3. Details of the supplier of the safety data sheet

Florida Laboratories
 6245 Powerline Road
 Fort Lauderdale, FL 33309 - USA

1.4. Emergency telephone number

Emergency number : 24 HR CHEMTREC: 1-800-424-9300; 24 HR Emergency Assistance: 1-832-376-2026

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)



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)

: 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, gas, fume, spray, mist, vapors
 P264 - Wash hands thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P280 - Wear eye protection, protective clothing, protective gloves
 P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 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
 P312 - Call a doctor, a POISON CENTER if you feel unwell
 P337+P313 - If eye irritation persists: Get medical advice/attention

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P370+P378 - In case of fire: Use alcohol resistant foam, carbon dioxide (CO₂), dry extinguishing powder, Water spray 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 hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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 | Product identifier | % | GHS-US classification |
|---|--------------------|---------|--|
| Isopropyl Alcohol (Main constituent) | (CAS No) 67-63-0 | >= 99.8 | 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 general | : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). |
| First-aid measures after inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. |
| First-aid measures after skin contact | : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Consult an eye specialist. Get medical advice/attention. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. |

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

| | |
|-------------------------------------|--------------------------------------|
| Symptoms/injuries after inhalation | : May cause drowsiness or dizziness. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Foam, Dry powder, Carbon dioxide, Water spray, Sand. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|---|
| Fire hazard | : Highly flammable liquid and vapor. |
| Explosion hazard | : May form flammable/explosive vapor-air mixture. |

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Firefighting instructions | : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. |
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|------------------|---|
| General measures | : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. |
|------------------|---|

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

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6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Avoid breathing dust, fume, gas, mist, spray, vapors.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Use only non-sparking tools. Avoid breathing dust, fume, gas, mist, spray, vapors. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting. Ventilation equipment.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Ignition sources, incompatible materials. Keep in fireproof place. Keep container tightly closed.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight. Heat sources.

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 |
| ACGIH | Remark (ACGIH) | Eye & URT irr, CNS impair |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 980 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 400 ppm |

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Other information : Do not eat, drink or smoke during use.

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 : 36.61 ppm
90 mg/m³

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| | |
|---|--------------------------------------|
| pH | : No data available |
| Melting point | : No data available |
| Freezing point | : -88 °C ; -126.2 °F |
| Boiling point | : 82.3 °C ; 180.1 °F |
| Flash point | : 12 °C ; 53.6 °F closed cup |
| Relative evaporation rate (butyl acetate=1) | : 2.3 |
| Flammability (solid, gas) | : No data available |
| Explosion limits | : 2 - 12.7 vol % |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Vapor pressure | : 45.4 mm Hg at 25°C |
| Relative density | : 0.79 |
| Relative vapor density at 20 °C | : 2.1 |
| Specific gravity / density | : 0.785 g/cm ³ (at 20 °C) |
| Molecular mass | : 60.1 g/mol |
| Solubility | : Soluble in water. |
| Log Pow | : 0.05 (at 25 °C) |
| Auto-ignition temperature | : 399 °C ; 750.2 °F |
| Decomposition temperature | : No data available |
| Viscosity | : 2.04 cP at 25 °C |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| 9.2. Other information | |
| VOC content | : 99.95 % |

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

| Isopropyl Alcohol (67-63-0) | |
|------------------------------------|-----------------------------------|
| LD50 oral rat | 5050 mg/kg |
| LD50 dermal rabbit | 4059 mg/kg |
| LC50 inhalation rat (mg/l) | 72.6 mg/l/4h (Exposure time: 4 h) |
| ATE US (oral) | 5050.000 mg/kg body weight |
| ATE US (dermal) | 4059.000 mg/kg body weight |
| ATE US (vapors) | 72.600 mg/l/4h |
| ATE US (dust, mist) | 72.600 mg/l/4h |
| Skin corrosion/irritation | Not classified |

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| | |
|-----------------------------------|----------------------------------|
| 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 |
| 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 |
| Potential Adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. |
| Symptoms/injuries after inhalation | : May cause drowsiness or dizziness. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |

SECTION 12: Ecological information

12.1. Toxicity

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) |
| LC50 fish 2 | : 11130 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static]) |

12.2. Persistence and degradability

Isopropyl Alcohol (67-63-0)

| | |
|-------------------------------|--------------------|
| Persistence and degradability | : Not established. |
|-------------------------------|--------------------|

12.3. Bioaccumulative potential

Isopropyl Alcohol (67-63-0)

| | |
|---------------------------|--------------------|
| Log Pow | : 0.05 (at 25 °C) |
| Bioaccumulative potential | : Not established. |

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|---|
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. |
| Additional information | : Handle empty containers with care because residual vapors are flammable. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1219 Isopropanol, 3, II

UN-No.(DOT) : UN1219

Proper Shipping Name (DOT) : Isopropanol

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

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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

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

No additional information available

Transport by sea

UN-No. (IMDG) : 1219

Proper Shipping Name (IMDG) : ISOPROPANOL (ISOPROPYL ALCOHOL)

Class (IMDG) : 3 - Flammable liquids

Packing group (IMDG) : II - substances presenting medium danger

Air transport

UN-No. (IATA) : 1219

Proper Shipping Name (IATA) : Isopropanol

Class (IATA) : 3 - Flammable Liquids

Packing group (IATA) : II - Medium Danger

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

SARA Section 313 - Emission Reporting

1.0 % (only if manufactured by the strong acid process, no supplier notification)

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

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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)
Listed on INSQ (Mexican national inventory of Chemical Substances)
Listed on Turkish inventory of chemical

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 |

SECTION 16: Other information

Revision date : 06/09/2015

Other information : None.

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 |

SDS US (GHS HazCom 2012)

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