

SAFETY DATA SHEET

Creation Date 01-September-2009

Revision Date 13-October-2023

Revision Number 6

1. Identification

Product Name 2-Propanol

Cat No. : A461-1, A461-4, A461-212, A461-500

CAS-No 67-63-0
Synonyms Isopropanol; Isopropyl alcohol; IPA

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Importer/Distributor
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

Manufacturer
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

WHMIS 2015 Classification Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|------------|
| Flammable liquids | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |
| Specific target organ toxicity - (repeated exposure) | Category 2 |
| Target Organs - Kidney, Liver. | |

Label Elements

Signal Word
Danger

Hazard Statements
Highly flammable liquid and vapor

Causes serious eye irritation
May cause respiratory irritation
May cause drowsiness and dizziness
May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Use non-sparking tools
Take action to prevent static discharges

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Call a POISON CENTER/ doctor if you feel unwell
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|-------------------|---------|----------|
| Isopropyl alcohol | 67-63-0 | >95 |

4. First-aid measures

| | |
|--|--|
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur. |
| Inhalation | Remove to fresh air. Get medical attention. If not breathing, give artificial respiration. |
| Ingestion | Do NOT induce vomiting. Get medical attention. |
| Most important symptoms/effects | Difficulty in breathing. May cause central nervous system depression: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea |

Notes to Physician and vomiting
Treat symptomatically

5. Fire-fighting measures

| | |
|---|---|
| Suitable Extinguishing Media | CO ₂ , dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers. |
| Unsuitable Extinguishing Media | Water may be ineffective |
| Flash Point | 12 °C / 53.6 °F |
| Method - | Abel Closed Cup (BS 2000 Part 170, IP 170, AS/NZS 2106) |
| Autoignition Temperature | 425 °C / 797 °F |
| Explosion Limits | |
| Upper | 12 vol % |
| Lower | 2 vol % |
| Sensitivity to Mechanical Impact | No information available |
| Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂). peroxides.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

| | | | |
|---------------|---------------------|--------------------|-------------------------|
| Health | Flammability | Instability | Physical hazards |
| 2 | 3 | 0 | N/A |

6. Accidental release measures

| | |
|---|--|
| Personal Precautions | Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes or clothing. |
| Environmental Precautions | Should not be released into the environment. See Section 12 for additional Ecological Information. |
| Methods for Containment and Clean Up | Prevent further leakage or spillage if safe to do so. Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Keep in suitable, closed containers for disposal. |

7. Handling and storage

| | |
|-----------------|---|
| Handling | Wear personal protective equipment/face protection. Keep away from open flames, hot surfaces and sources of ignition. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe mist/vapors/spray. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. |
| Storage. | Keep away from heat, sparks and flame. Flammables area. Keep container tightly closed in a dry and well-ventilated place. Incompatible Materials. Strong oxidizing agents. Acids. Halogens. Acid anhydrides. |

8. Exposure controls / personal protection

Exposure Guidelines

| Component | Alberta | British Columbia | Ontario TWA/EV | Quebec | ACGIH TLV | OSHA PEL | NIOSH |
|-------------------|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---|---|
| Isopropyl alcohol | TWA: 200 ppm TWA: 492 mg/m ³ STEL: 400 ppm STEL: 984 mg/m ³ | TWA: 200 ppm STEL: 400 ppm | TWA: 200 ppm STEL: 400 ppm | TWA: 200 ppm STEL: 400 ppm | TWA: 200 ppm STEL: 400 ppm | (Vacated) TWA: 400 ppm (Vacated) TWA: 980 mg/m ³ (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m ³ TWA: 400 ppm TWA: 980 mg/m ³ | IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|----------------|---------------------|-----------------|---|
| Butyl rubber | > 480 minutes | 0.5 mm | Permeation rate < 0.9 µg/cm ² /min |
| Nitrile rubber | > 360 - 480 minutes | 0.35 - 0.55 mm | As tested under EN374-3 Determination of Resistance to Permeation by Chemicals |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to EN14387

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

No information available.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

9. Physical and chemical properties

| | |
|--|---|
| Physical State | Liquid |
| Appearance | Colorless |
| Odor | Alcohol-like |
| Odor Threshold | No information available |
| pH | 7 1% aq. sol |
| Melting Point/Range | -89.5 °C / -129.1 °F |
| Boiling Point/Range | 81 - 83 °C / 177.8 - 181.4 °F @ 760 mmHg |
| Flash Point | 12 °C / 53.6 °F |
| Method - | Abel Closed Cup (BS 2000 Part 170, IP 170, AS/NZS 2106) |
| Evaporation Rate | 1.7 |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | 12 vol % |
| Lower | 2 vol % |
| Vapor Pressure | 43 mmHg @ 20 °C |
| Vapor Density | 2.1 @ 20 °C / 68 °F |
| Specific Gravity | 0.785 |
| Solubility | Miscible with water |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | 425 °C / 797 °F |
| Decomposition Temperature | No information available |
| Viscosity | 2.27 mPa.s at 20 °C |
| Molecular Formula | C ₃ H ₈ O |
| Molecular Weight | 60.1 |
| VOC Content(%) | 100% (Organic Carbon (by mass) = 59.9 %) (EC/1999/13) |
| Refractive index | 1.377 at 20 °C / 68 °F (ASTM D-1218) |
| Surface tension | 22.7 mN/m at 20 °C / 68 °F |
| Coefficient of expansion | 0.0009 / °C |
| Dielectric constant | 18.6 at 20 °C / 68 °F |
| Heat of vapourisation | 665 J/g |
| Specific heat capacity | 3 kJ/kg °C at 20 °C / 68 °F |
| Thermal conductivity | 0.137 W/m °C at 20 °C / 68 °F |

10. Stability and reactivity

| | |
|----------------------------------|--|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible Materials | Strong oxidizing agents, Acids, Halogens, Acid anhydrides |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂), peroxides |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information

Acute Toxicity

Product Information

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------|--------------------|---------------------|-----------------------|
| Isopropyl alcohol | 5045 mg/kg (Rat) | 12800 mg/kg (Rat) | 72.6 mg/L (Rat) 4 h |

| | | | |
|--|----------------------|--|--|
| | 3600 mg/kg (Mouse) | | |
|--|----------------------|--|--|

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes and skin

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-------------------|---------|------------|------------|------------|------------|------------|
| Isopropyl alcohol | 67-63-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system Central nervous system (CNS)
STOT - repeated exposure Kidney Liver

Aspiration hazard No information available

Symptoms / effects, both acute and delayed May cause central nervous system depression: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

. Do not empty into drains.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|-------------------|--|--|--|---|
| Isopropyl alcohol | EC50: > 1000 mg/L, 72h (Desmodesmus subspicatus) EC50: > 1000 mg/L, 96h (Desmodesmus subspicatus) | LC50: = 9640 mg/L, 96h flow-through (Pimephales promelas) LC50: > 1400000 µg/L, 96h (Lepomis macrochirus) LC50: = 11130 mg/L, 96h static (Pimephales promelas) LC50: = 10000000 µg/L, 96h (Daphnia) | = 35390 mg/L EC50 Photobacterium phosphoreum 5 min | 13299 mg/L EC50 = 48 h 9714 mg/L EC50 = 24 h |

Persistence and Degradability Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its volatility.

| Component | log Pow |
|-------------------|---------|
| Isopropyl alcohol | 0.05 |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and

national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1219
 Proper Shipping Name Isopropanol
 Hazard Class 3
 Packing Group II

TDG

UN-No UN1219
 Proper Shipping Name ISOPROPANOL
 Hazard Class 3
 Packing Group II

IATA

UN-No UN1219
 Proper Shipping Name Isopropanol
 Hazard Class 3
 Packing Group II

IMDG/IMO

UN-No UN1219
 Proper Shipping Name Isopropanol (Isopropyl alcohol)
 Hazard Class 3
 Packing Group II

15. Regulatory information

International Inventories

| Component | CAS-No | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS | ELINCS | NLP |
|-------------------|---------|-----|------|------|---|-----------|--------|-----|
| Isopropyl alcohol | 67-63-0 | X | - | X | ACTIVE | 200-661-7 | - | - |

| Component | CAS-No | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|-------------------|---------|-------|----------|------|------|------|------|-------|-------|
| Isopropyl alcohol | 67-63-0 | X | KE-29363 | X | X | X | X | X | X |

Legend:

X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|-------------------|---|--|---|
| Isopropyl alcohol | Part 1, Group A Substance Part 5, Individual Substances Part 4 Substance | | |

Other International Regulations

Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-------------------|---|---|---|
| Isopropyl alcohol | - | Use restricted. See item 75. (see link for restriction details) | - |

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS-No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|-------------------|---------|----------|------------------------------|---------------------------|--|
| Isopropyl alcohol | 67-63-0 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS-No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-------------------|---------|---|--|----------------------------|------------------------------------|
| Isopropyl alcohol | 67-63-0 | Not applicable | Not applicable | Not applicable | Annex I - Y42 |

16. Other information

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Revision Summary

This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS