

SAFETY DATA SHEET

Creation Date 28-Jan-2010

Revision Date 13-Oct-2023

Revision Number 9

1. Identification

Product Name Isopropyl alcohol, 70% in water

Cat No. : A459-1; A459-20; A459-4; A459-500; XXA459N119; A459-200; XXA45910LI; NC1883130; NC1321602; NC2070308; NC2401443

Synonyms IPA; Isopropanol (70% aqueous solution)

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

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

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

Label Elements

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Avoid breathing dust/fume/gas/mist/vapors/spray
 Use only outdoors or in a well-ventilated area
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep cool

Inhalation

IF INHALED: 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

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

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

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS No | Weight % |
|-------------------|-----------|----------|
| Isopropyl alcohol | 67-63-0 | 64.7 |
| Water | 7732-18-5 | 35.3 |

4. First-aid measures

General Advice

If symptoms persist, call a physician.

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 soap and plenty of water. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

| | |
|--|--|
| Ingestion | Clean mouth with water and drink afterwards plenty of water. |
| Most important symptoms and effects | Difficulty in breathing. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting |
| Notes to Physician | 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 | 18 °C / 64.4 °F |
| Method - | No information available |
| Autoignition Temperature | 399 °C / 750.2 °F |
| Explosion Limits | |
| Upper | 12.7 vol % |
| Lower | 2.0 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. Vapors may form explosive mixtures with air.

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.

NFPA

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

6. Accidental release measures

| | |
|---|---|
| Personal Precautions | Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. |
| Environmental Precautions | Should not be released into the environment. See Section 12 for additional Ecological Information. |
| Methods for Containment and Clean Up | Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. |

7. Handling and storage

| | |
|-----------------|---|
| Handling | Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Ensure adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges. |
| Storage. | Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Flammables area. Incompatible Materials. Strong oxidizing |

agents. Strong acids. Metals.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH | Mexico OEL (TWA) |
|-------------------|-------------------------------|---|---|-------------------------------|
| Isopropyl alcohol | 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 | TWA: 200 ppm STEL: 400 ppm |

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

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type:

Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|--|---------------------------|
| Physical State | Liquid |
| Appearance | Colorless |
| Odor | Alcohol-like |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | -88 °C / -126.4 °F |
| Boiling Point/Range | 82 °C / 179.6 °F |
| Flash Point | 18 °C / 64.4 °F |
| Evaporation Rate | 1.7 (Butyl Acetate = 1.0) |
| Flammability (solid,gas) | Not applicable |
| Flammability or explosive limits | |
| Upper | 12.7 vol % |
| Lower | 2.0 vol % |
| Vapor Pressure | 20 mmHg @ 332°C |
| Vapor Density | 2.1 (Air = 1.0) |
| Specific Gravity | 0.7850 |
| Solubility | Miscible with water |
| Partition coefficient; n-octanol/water | No data available |

| | |
|---------------------------|--------------------------|
| Autoignition Temperature | 399 °C / 750.2 °F |
| Decomposition Temperature | No information available |
| Viscosity | No information available |

10. Stability and reactivity

| | |
|----------------------------------|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. |
| Incompatible Materials | Strong oxidizing agents, Strong acids, Metals |
| 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

Oral LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-------------------|--|---------------------|-----------------------|
| Isopropyl alcohol | 5045 mg/kg (Rat) 3600 mg/kg (Mouse) | 12800 mg/kg (Rat) | 72.6 mg/L (Rat) 4 h |
| Water | - | - | - |

Toxicologically Synergistic Products No information available

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

| | |
|-----------------|--|
| Irritation | Severe eye irritant |
| 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 |
| Water | 7732-18-5 | Not listed |

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Central nervous system (CNS)

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness,

| | |
|--|--|
| delayed | 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

| 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 |
| Hazard Class | 3 |
| Packing Group | II |

15. Regulatory information

United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-------------------|-----------|------|---|-----------------------------|
| Isopropyl alcohol | 67-63-0 | X | ACTIVE | - |
| Water | 7732-18-5 | X | ACTIVE | - |

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT) Not applicable

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component | CAS No | DSL | NDSL | EINECS | PICCS | ENCS | ISHL | AICS | IECSC | KECL |
|-------------------|-----------|-----|------|-----------|-------|------|------|------|-------|----------|
| Isopropyl alcohol | 67-63-0 | X | - | 200-661-7 | X | X | X | X | X | KE-29363 |
| Water | 7732-18-5 | X | - | 231-791-2 | X | X | | X | X | KE-35400 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

| Component | CAS No | Weight % | SARA 313 - Threshold Values % |
|-------------------|---------|----------|-------------------------------|
| Isopropyl alcohol | 67-63-0 | 64.7 | 1.0 |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-------------------|---------------|------------|--------------|----------|--------------|
| Isopropyl alcohol | X | X | X | - | X |
| Water | - | - | X | - | - |

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

Authorisation/Restrictions according to EU REACH

| Component | CAS No | 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 | 67-63-0 | - | Use restricted. See item 75. (see link for restriction details) | - |
| Water | 7732-18-5 | - | - | - |

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 |
| Water | 7732-18-5 | Listed | Not applicable | Not applicable | Not applicable |

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

| 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 |
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable | Not applicable |

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 28-Jan-2010

Revision Date 13-Oct-2023

Print Date 13-Oct-2023

Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

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