# SAFETY DATA SHEET

**Creation Date** 28-Jan-2010 **Revision Date** 25-Mar-2020 **Revision Number** 7

## 1. Identification

**Product Name** **Isopropyl alcohol, 70% in water**

**Cat No. :** **A459-1; A459-20; A459-4; A459-500; XXA459N119; NC1321602; A459-200**

**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
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 ($CO_2$). 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 | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 2 | 3 | 0 | 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.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|---|---|---|---|---|
| Isopropyl alcohol | TWA: 200 ppm<br>STEL: 400 ppm | (Vacated) TWA: 400 ppm<br>(Vacated) TWA: 980 mg/m³<br>(Vacated) STEL: 500 ppm<br>(Vacated) STEL: 1225 mg/m³<br>TWA: 400 ppm<br>TWA: 980 mg/m³ | IDLH: 2000 ppm<br>TWA: 400 ppm<br>TWA: 980 mg/m³<br>STEL: 500 ppm<br>STEL: 1225 mg/m³ | TWA: 200 ppm<br>STEL: 400 ppm |

*Legend*

*ACGIH - American Conference of Governmental Industrial Hygienists*
*OSHA - Occupational Safety and Health Administration*
*NIOSH IDLH: 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.

**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 | 5840 mg/kg ( Rat ) | 13900 mg/kg ( Rat )<br>12870 mg/kg ( Rabbit ) | 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 | Not listed | Not listed | Not listed | Not listed |
| Water | 7732-18-5 | 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** Central nervous system (CNS)

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** 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**

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| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Isopropyl alcohol | EC50: > 1000 mg/L, 72h (Desmodesmus subspicatus)<br>EC50: > 1000 mg/L, 96h (Desmodesmus subspicatus) | LC50: = 9640 mg/L, 96h flow-through (Pimephales promelas)<br>LC50: > 1400000 µg/L, 96h (Lepomis macrochirus)<br>LC50: = 11130 mg/L, 96h static (Pimephales promelas) | = 35390 mg/L EC50 Photobacterium phosphoreum 5 min | 13299 mg/L EC50 = 48 h<br>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** - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

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

**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

## 16. Other information

**Prepared By** Regulatory Affairs
Thermo Fisher Scientific

Email: EMSDS.RA@thermofisher.com

| | |
|---|---|
| **Creation Date** | 28-Jan-2010 |
| **Revision Date** | 25-Mar-2020 |
| **Print Date** | 25-Mar-2020 |
| **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