# SAFETY DATA SHEET

**Creation Date** 01-September-2009  
**Revision Date** 18-January-2018  
**Revision Number** 4

## 1. Identification

**Product Name** 2-Propanol

**Cat No.**

| A426F-1GAL; A426P-4; A426S-4; A426S-20; A426S-200 |

**CAS-No** 67-63-0

**Synonyms** 2-Propanol; IPA; Isopropyl alcohol; Propan-2-ol; Isopropanol

**Recommended Use** Laboratory chemicals.

**Uses advised against** Not for food, drug, pesticide or biocidal product use

## Details of the supplier of the safety data sheet

**Company** Fisher Scientific

**Importer/Distributor** Fisher Scientific

112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

**Manufacturer** 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

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

<table>
<thead>
<tr>
<th>Flammable liquids</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (single exposure)</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

**Target Organs** - Respiratory system, Central nervous system (CNS).

<table>
<thead>
<tr>
<th>Specific target organ toxicity - (repeated exposure)</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Organs - Kidney, Liver.</td>
<td></td>
</tr>
</tbody>
</table>

### 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
Use only non-sparking tools
Take precautionary measures against static discharges
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
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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>&gt;95</td>
</tr>
</tbody>
</table>

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
Move to fresh air. Obtain medical attention. If not breathing, give artificial respiration.

Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects
Breathing difficulties. May cause central nervous system depression: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Notes to Physician
Treat symptomatically

5. Fire-fighting measures
2-Propanol

Suitable Extinguishing Media
CO₂, dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.

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.

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and 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. Keep away from open flames, hot surfaces and sources of ignition. Use 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 vapors or spray mist. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Storage
Keep away from heat and sources of ignition. Flammables area. Keep container tightly closed in a dry and well-ventilated place.

8. Exposure controls / personal protection

<table>
<thead>
<tr>
<th>Component</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario TWAEV</th>
<th>Quebec</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
</table>
2-Propanol

<table>
<thead>
<tr>
<th>mg/m³</th>
<th>mg/m³</th>
<th>(Vacated) mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEL: 400 ppm</td>
<td>STEL: 500 ppm</td>
<td>TWA: 980 mg/m³</td>
</tr>
<tr>
<td>984 mg/m³</td>
<td>STEL: 1230 mg/m³</td>
<td>(Vacated) STEL: 500 ppm</td>
</tr>
<tr>
<td>980 mg/m³</td>
<td>STEL: 1225 mg/m³</td>
<td>TWA: 400 ppm</td>
</tr>
</tbody>
</table>

**Legend**
- ACGIH - American Conference of Governmental Industrial Hygienists
- OSHA - Occupational Safety and Health Administration
- NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or 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.

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butyl rubber</td>
<td>&gt; 480 minutes</td>
<td>0.5 mm</td>
<td>Permeation rate &lt; 0.9 µg/cm²/min</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td>&gt; 360 - 480 minutes</td>
<td>0.35 - 0.55 mm</td>
<td>As tested under EN374-3 Determination of Resistance to Permeation by Chemicals</td>
</tr>
</tbody>
</table>

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 before re-use. Wash hands before breaks and at the end of workday.

**9. Physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol-like</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>7  1% aq. sol</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-89.5 °C / -129.1 °F</td>
</tr>
</tbody>
</table>
### 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 (CO₂), peroxides

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Hazardous Reactions**

None under normal processing.

### 11. Toxicological information

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (mg/kg) (Rat)</th>
<th>LD50 Dermal (mg/kg) (Rat)</th>
<th>LC50 Inhalation (mg/L) (Rat) 4 h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>5840</td>
<td>13900</td>
<td>72.6</td>
</tr>
<tr>
<td></td>
<td>(Rat)</td>
<td>12870 (Rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>67-63-0</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>EC50: &gt; 1000 mg/L, 72h (Desmodesmus subspicatus)</td>
<td>LC50: &gt; 1400000 µg/L, 96h (Lepomis macrochirus)</td>
<td>= 35390 mg/L EC50 Photobacterium phosphoreum 5 min</td>
<td>13299 mg/L EC50 = 48 h 9714 mg/L EC50 = 24 h</td>
</tr>
<tr>
<td></td>
<td>EC50: &gt; 1000 mg/L, 96h (Desmodesmus subspicatus)</td>
<td>LC50: = 9640 mg/L, 96h flow-through (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50: = 11130 mg/L, 96h static (Pimephales promelas)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>0.05</td>
</tr>
</tbody>
</table>

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
15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>DSL</th>
<th>NDSL</th>
<th>TSCA</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>200-661-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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)).

<table>
<thead>
<tr>
<th>Component</th>
<th>Canada - National Pollutant Release Inventory (NPRI)</th>
<th>Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances</th>
<th>Canada’s Chemicals Management Plan (CEPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl alcohol</td>
<td>Part 1, Group A Substance</td>
<td>Part 5, Individual Substances</td>
<td></td>
</tr>
</tbody>
</table>

16. Other information

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

Creation Date      01-September-2009
Revision Date       18-January-2018
Print Date          18-January-2018
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