

## SAFETY DATA SHEET

Creation Date 01-Sep-2009

Revision Date 18-Jan-2018

Revision Number 4

### 1. Identification

**Product Name** 2-Propanol

**Cat No. :** A415-4; A415-20

**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  
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 - 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 or dizziness  
May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not breathe 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

**Response**

Get medical attention/advice if you feel unwell

**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 CO<sub>2</sub>, 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 | >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**

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

**Ingestion**

Do not induce vomiting. Obtain medical attention.

**Most important symptoms and 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

**Suitable Extinguishing Media** CO<sub>2</sub>, 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 (CO<sub>2</sub>) 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**  
2

**Flammability**  
3

**Instability**  
0

**Physical hazards**  
N/A

### 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

### 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/m <sup>3</sup><br>(Vacated) STEL: 500 ppm<br>(Vacated) STEL: 1225 mg/m <sup>3</sup><br>TWA: 400 ppm<br>TWA: 980 mg/m <sup>3</sup> | IDLH: 2000 ppm<br>TWA: 400 ppm<br>TWA: 980 mg/m <sup>3</sup><br>STEL: 500 ppm<br>STEL: 1225 mg/m <sup>3</sup> | TWA: 400 ppm<br>TWA: 980 mg/m <sup>3</sup><br>STEL: 500 ppm<br>STEL: 1225 mg/m <sup>3</sup> |

### 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.

### 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

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

#### 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                                     | 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 <sub>3</sub> H <sub>8</sub> 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 <sub>2</sub> ), 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 | 5840 mg/kg ( Rat ) | 13900 mg/kg ( Rat )<br>12870 mg/kg ( Rabbit ) | 72.6 mg/L ( Rat ) 4 h |

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<br>(Desmodesmus subspicatus)<br>EC50: > 1000 mg/L, 96h<br>(Desmodesmus subspicatus) | LC50: > 1400000 µg/L, 96h<br>(Lepomis macrochirus)<br>LC50: = 9640 mg/L, 96h<br>flow-through (Pimephales promelas)<br>LC50: = 11130 mg/L, 96h<br>static (Pimephales promelas) | = 35390 mg/L EC50<br>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 (Isopropyl alcohol)  
 Hazard Class 3  
 Packing Group II

## 15. Regulatory information

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

**International Inventories**

| Component         | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Isopropyl alcohol | X    | X   | -    | 200-661-7 | -      |     | X     | X    | X    | X     | X    |

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

TSCA 12(b) Not applicable

**SARA 313**

| Component         | CAS-No  | Weight % | SARA 313 - Threshold Values % |
|-------------------|---------|----------|-------------------------------|
| Isopropyl alcohol | 67-63-0 | >95      | 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            |

**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

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**16. Other information**

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|                         |                                                                                                                                                                                                                                         |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Prepared By</b>      | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com                                                                                                                                                      |
| <b>Creation Date</b>    | 01-Sep-2009                                                                                                                                                                                                                             |
| <b>Revision Date</b>    | 18-Jan-2018                                                                                                                                                                                                                             |
| <b>Print Date</b>       | 18-Jan-2018                                                                                                                                                                                                                             |
| <b>Revision Summary</b> | 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**