

# Part of Thermo Fisher Scientific

## SAFETY DATA SHEET

Creation Date 01-Sep-2009	Revision Date 12-Mar-2014	Revision Number 1
	1. Identification	
Product Name	Isopropanol, Molecular Biology Grade	
Cat No. :	BP2618-1; BP2618-4; BP2618-212; BP2618-500	
Synonyms	2-Propanol; IPA; Isopropyl alcohol; Propan-2-ol	
Recommended Use	Laboratory chemicals.	
Uses advised against No Information available Details of the supplier of the safety data sheet		
<b>Company</b> Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410	Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887	

### 2. Hazard(s) identification

### Classification

Tel: (201) 796-7100

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	ı (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 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	>95

### 4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.
Ingestion	Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects	Breathing difficulties. May cause central nervous system depression: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: 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	$\mathrm{CO}_{\text{2}},$ 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 Lower Sensitivity to Mechanical Impac Sensitivity to Static Discharge			

### **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 1	Flammability 3	<b>Instability</b> 0	Physical hazards N/A
	6. Accidental rel	ease measures	
Personal Precautions		uipment. Remove all sources of charges. Avoid contact with sk	•
Environmental Precautions	Should not be released into		in, eyes and clothing.
Methods for Containment and Up	with inert absorbent materia	al. Take precautionary measur	ve all sources of ignition. Soak up es against static discharges. Use a suitable, closed containers for
	7. Handling a	and storage	
Handling	sources of ignition. Use exp precautionary measures ag clothing. Do not breathe va	quipment. Keep away from op olosion-proof equipment. Use o jainst static discharges. Do not pors or spray mist. To avoid ig f the equipment must be grour	only non-sparking tools. Take t get in eyes, on skin, or on nition of vapors by static electricity
Storage		sed in a dry, cool and well-vent mmables area. Keep containe	tilated place. Keep away from heat r tightly closed in a dry and

### 8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isopropyl alcohol	TWA: 200 ppm STEL: 400 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 980 mg/m <sup>3</sup> (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m <sup>3</sup> TWA: 400 ppm TWA: 980 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Isopropyl alcohol	TWA: 400 ppm TWA: 985 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>	TWA: 200 ppm STEL: 400 ppm

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 Respiratory Protection	Wear appropriate protective gloves and clothing to prevent skin exposure. 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

7.11195100	in and chemical properties
Physical State	Liquid
Appearance	Colorless
Odor	Alcohol-like
Odor Threshold	No information available
рН	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
Relative Density	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	C3 H8 O
Molecular Weight	60.1

VOC Content(%)
Refractive index
Surface tension
Coefficient of expansion
Dielectric constant
Heat of vapourisation
Specific heat capacity
Thermal conductivity

59.9 % (EC/1999/13) 1.377 at 20 °C / 68 °F (ASTM D-1218) 22.7 mN/m at 20 °C / 68 °F 0.0009 / °C 18.6 at 20 °C / 68 °F 665 J/g 3 kJ/kg °C at 20 °C / 68 °F 0.137 W/m °C at 20 °C / 68 °F

### 10. Stability and reactivity

Reactive Hazard	None known, based on information available
Reactive Hazalu	
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 Product	<b>s</b> 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 Informa	ation							
Componen	t	LD50 Oral		D50 Dermal	LC50	nhalation		
Isopropyl alco	Isopropyl alcohol		5840 mg/kg (Rat) 13900 mg/kg (Rat) 12870 mg/kg (Rabbit)					
Toxicologically Synergistic Products		No information ava	ailable					
Delayed and immed	liate effects a	s well as chronic effe	cts from short an	d long-term expo	osure_			
rritation		Irritating to eyes ar	nd skin					
Sensitization		No information ava	ailable					
Carcinogenicity		The table below in	The table below indicates whether each agency has listed any ingredient as a carcino					
Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico		
Isopropyl alcohol	67-63-0	Not listed	Not listed	Not listed	Not listed	Not listed		
Autagenic Effects Reproductive Effect	ts	Mutagenic effects			als. In laboratory anima	ls.		
Developmental Effects		Developmental effe	Developmental effects have occurred in experimental animals.					
Teratogenicity		Teratogenic effects	Teratogenic effects have occurred in experimental animals.					
STOT - single expos STOT - repeated exp		Respiratory systen Kidney Liver	Respiratory system Central nervous system (CNS) Kidney Liver					
Aspiration hazard		No information ava	No information available					

Symptoms / effects,both acute and delayed	May cause central nervous system depression: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Endocrine Disruptor Information	No information available
Other Adverse Effects	See actual entry in RTECS for complete information.

12. Ecological information

### Ecotoxicity

. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Isopropyl alcohol	1000 mg/L EC50 > 72 h 1000 mg/L EC50 > 96 h	1400000 μg/L LC50 96 h 11130 mg/L LC50 96 h 9640 mg/L LC50 96 h	= 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	
TDG	
UN-No	UN1219
Proper Shipping Name	ISOPROPANOL
Hazard Class	3
Packing Group	II
UN-No Broner Shinning Name	UN1219
Proper Shipping Name Hazard Class	Isopropanol 3
Packing Group	
IMDG/IMO	II
UN-No	UN1219
Proper Shipping Name	Isopropanol (Isopropyl alcohol)
Hazard Class	3
Packing Group	
	15. Regulatory information

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL

Isopropyl alcohol	Х	Х	-	200-661-7	-	Х	Х	Х	Х	Х
Lawawala										

#### 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 Hazardous Categorization

Acute Health Hazard Chronic Health Hazard Fire Hazard Sudden Release of Pressure Hazard Reactive Hazard				
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

#### State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Isopropyl alcohol	Х	Х	Х	-	Х

### U.S. Department of Transportation

Reportable Quantity (RQ):	Ν
DOT Marine Pollutant	Ν
DOT Severe Marine Pollutant	Ν

### **U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

### Other International Regulations

Mexico - Grade

Serious risk, Grade 3

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class	B2 Flammable liquid D2B Toxic materials
	16. Other information
Prepared By	Regulatory Affairs Thermo Fisher Scientific Email: EMSDS.RA@thermofisher.com
Creation Date Revision Date Print Date Revision Summary	01-Sep-2009 12-Mar-2014 12-Mar-2014 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 on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.

### End of SDS