

SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

GHS Product identifier: 2-Propanol

Other means of identification

Synonyms: Isopropyl alcohol

Product No.: 3412, 5373, 5863, 5873, 5892, 5967, 5977, 5978, 5979, 5986, 7065, 8067, 8119, 8235, 9045, 9055, 9059, 9078, 9079, 9082, 9083, 9084, 9088, 9095, 9334, 9827, 9921

Intended Use: For Laboratory, Research or Manufacturing Use.

Details of the supplier of the safety data sheet:

Avantor Performance Materials, LLC
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Radnor, PA 19087

Telephone:

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8954 (24/7)

2 HAZARDS IDENTIFICATION

GHS classification:

Physical Hazards	Flammable liquids	Category 2
Health Hazards	Skin Corrosion/Irritation	Category 3
	Serious Eye Damage/Eye Irritation	Category 2A
	Specific Target Organ Toxicity - Single Exposure	Category 3 ¹
	Aspiration Hazard	Category 2

1. Narcotic effect.

GHS label elements

Symbol(s):



Signal Words:

Danger

Hazard Statement(s):

Highly flammable liquid and vapor.
Causes mild skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May be harmful if swallowed and enters airways.

Precautionary Statements

Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: 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. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. In case of fire: Use water spray, foam, dry powder or carbon dioxide for extinction.

Storage: Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Substance or Preparation:

Chemical name	CAS-No.	Concentration
Isopropyl alcohol	67-63-0	98 - 100%

4 FIRST AID MEASURES

General: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Skin Contact: Wash skin thoroughly with soap and water. Get medical attention if symptoms occur. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Likely Acute or Delayed Symptoms/Effects Harmful if swallowed. Narcotic effect. Irritating to eyes, respiratory system and skin.

Notes to the physician: Treat symptomatically. Symptoms may be delayed.

5 FIRE-FIGHTING MEASURES

Extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Unusual Fire & Explosion Hazards: Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Vapor from the solvent may accumulate in container headspace resulting in flammability hazard. Heat may cause the containers to explode.

Special fire fighting procedures: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Protective Measures: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Keep upwind. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid breathing mists or vapors. Ventilate closed spaces before entering them. See Section 8 of the SDS for Personal Protective Equipment.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

Spill Cleanup Methods: In case of leakage, eliminate all ignition sources. Use non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

7 HANDLING AND STORAGE

Handling: Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. Do not breathe mist or vapor.

Storage: Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a cool, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Appropriate Engineering Controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof ventilation equipment.

Exposure Limits:

Chemical name	Type	Exposure Limit Values	Source
Isopropyl alcohol	TWA	400 ppm 983 mg/m ³	Taiwan. OELs (Standards of Permissible Exposure Limits at Workplace, Notice No. 58463) (12 2003)
	STEL	500 ppm 1,228.75 mg/m ³	Taiwan. OELs (Standards of Permissible Exposure Limits at Workplace, Notice No. 58463) (06 2014)

Personal protective equipment (ppe):

Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with organic vapor cartridge.
Eye Protection:	Wear safety glasses with side shields (or goggles).
Hand Protection:	No data available.
Skin Protection:	Wear suitable protective clothing.
Hygiene measures:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.

9 PHYSICAL AND CHEMICAL PROPERTIES
Appearance

Physical state:	Liquid
Form:	Liquid
Color:	Colorless
Odor:	Alcohol
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	-88.5 °C
Boiling Point:	82.3 - 82.5 °C
Flash Point:	12 °C (Closed Cup)
Evaporation Rate:	21 (ether=1)2.9 (n-butyl acetate=1)
Flammability (solid, gas):	Class IB Flammable Liquid
Flammability Limit - Upper (%)-:	12 %(V)
Flammability Limit - Lower (%)-:	2.5 %(V)
Vapor pressure:	6.053 kPa (25 °C) 44 hPa (20 °C)
Vapor density (air=1):	2.1 (Air=1)
Relative density:	0.79 (20 °C)
Solubility(ies)	
Solubility in Water:	Miscible
Solubility (other):	benzene: Soluble chloroform: Miscible
Partition coefficient (n-octanol/water):	0.05
Autoignition Temperature:	399 °C
Decomposition Temperature:	No data available.

Viscosity: 2.4 mm²/s (20 °C)
Explosive properties: No data available.
Oxidizing properties: No data available.

Other information

Molecular weight: 60.10 g/mol (C₃H₈O; CH₃CH(OH)CH₃)
Minimum ignition energy: 0.65 mJ

10 STABILITY AND REACTIVITY

Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: Heat, sparks, flames. Sunlight.
Incompatible Materials: Strong oxidizing agents. Acids. Isocyanates. Hydrogen peroxide (H₂O₂)
Sulfuric acid. Acetaldehyde. Acetylene. Chlorine. Aluminum. Ethylene Oxide
Hazardous Decomposition Products: Thermal decomposition may release oxides of carbon.

11 TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation: May cause irritation to the mucous membranes and upper respiratory tract.
May cause central nervous system effects.
Ingestion: Irritating. May cause nausea, stomach pain and vomiting.
Skin Contact: Prolonged or repeated skin contact may cause drying, cracking, or irritation.
Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity

Oral
Product: LD 50 (Rat): 5,045 - 5,840 mg/kg

Dermal
Product: LD 50 (Rabbit): 12,800 mg/kg

Inhalation
Product: LC 50 (Rat, 6 h): > 10000 ppm
LOAEL (Rat, 6 h): 5000 ppm

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation:
Product: Prolonged or repeated skin contact may cause drying, cracking, or irritation.

Serious Eye Damage/Eye Irritation:
Product: Causes serious eye irritation.

Respiratory or Skin Sensitization:

Product:	Not a skin nor a respiratory sensitizer.
Germ Cell Mutagenicity	
In vitro	
Product:	No mutagenic components identified
In vivo	
Product:	No mutagenic components identified
Carcinogenicity	
Product:	This substance has no evidence of carcinogenic properties.
Reproductive toxicity	
Product:	No components toxic to reproduction
Specific Target Organ Toxicity - Single Exposure	
Product:	Central nervous system. - Narcotic effect.
Specific Target Organ Toxicity - Repeated Exposure	
Product:	None known.
Aspiration Hazard	
Product:	No data available.
Specified substance(s)	
Isopropyl alcohol	No data available.
Other adverse effects:	None known.

12 ECOLOGICAL INFORMATION

General information:	Not applicable
Ecotoxicity	
Acute toxicity	
Fish	
Product:	LC 50 (Western mosquitofish (Gambusia affinis), 96 h): > 1,400 mg/l
Aquatic Invertebrates	
Product:	LC 50 (Water flea (Daphnia magna), 24 h): 10,000 mg/l
Chronic Toxicity	
Fish	
Product:	No data available.
Aquatic Invertebrates	
Product:	No data available.
Toxicity to Aquatic Plants	
Product:	No data available.
Persistence and Degradability	
Biodegradation	
Product:	Expected to be readily biodegradable.
BOD/COD Ratio	
Product:	No data available.
Bioaccumulative potential	

Product:	No data available on bioaccumulation.
Mobility in soil:	The product is partly soluble in water. May spread in the aquatic environment.
Results of PBT and vPvB assessment:	Not available.
Other adverse effects:	The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13 Disposal considerations

Disposal methods:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
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14 TRANSPORT INFORMATION

IMDG - International Maritime Dangerous Goods Code

UN Number:	UN 1219
UN Proper Shipping Name:	ISOPROPANOL
Transport Hazard Class(es):	3
Subsidiary risk label(s):	–
Packing Group:	II
Label(s):	3
Marine Pollutant:	Not a Marine Pollutant
EmS No.:	F-E; S-D

IATA

UN Number:	UN 1219
Proper Shipping Name:	Isopropanol
Transport Hazard Class(es):	3
Subsidiary risk label(s):	–
Packing Group:	II
Label(s):	3
Marine Pollutant	Not a Marine Pollutant

15 REGULATORY INFORMATION

Occupational Safety and Health Act
 Regulations for the Labeling and Hazard Communication of Hazardous Chemicals
 Regulations Governing Road Traffic Safety
 Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste
 Standards of Permissible Exposure Limits at Job Site

16 OTHER INFORMATION

Inventory Status

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Mexico INSQ:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Philippines PICCS:	On or in compliance with the inventory
Taiwan Chemical Substance Inventory:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory

Information Sources:

1. Sources of information used in preparing this SDS included one or more of the following: results from in house or supplier toxicology studies, information from the Toxicology Data Network (TOXNET), European Chemical Agency (ECHA) substance dossiers, IARC Monographs, US National Toxicology Program data, the Agency for Toxic Substances and Disease Registry, other manufacturer's SDSs and other sources, as appropriate.

Revision Information: Not relevant.

Issue Date: 03-01-2021

SDS No.:

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