

SAFETY DATA SHEET

1. Identification

Product identifier: Isopropyl Alcohol

Other means of identification

Synonyms: 2-Propanol, Dimethyl carbinol, sec-Propyl alcohol
Product No.: 3591, 3593, 3590, V566, V555, 9080, 9037, 3043, 3031, U298, H604, 3032, 0562

Recommended use and restriction on use

Recommended use: Not available.
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Manufacturer

Avantor Performance Materials, Inc.
3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone:

Fax: Customer Service: 855-282-6867
610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number: CHEMTREC: 1-800-424-9300 within US and Canada

CHEMTREC: 1-703-527-3887 outside US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids Category 2

Health Hazards

Serious Eye Damage/Eye Irritation Category 2A
Specific Target Organ Toxicity - Category 3
Single Exposure

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Highly flammable liquid and vapor.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Target Organs:

Narcotic effect.

Precautionary Statement
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 only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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 INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician 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.

Unknown toxicity - Health

Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
ISOPROPYL ALCOHOL		67-63-0	100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information:

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

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.

Inhalation:

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

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

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed. Treat symptomatically.

5. Fire-fighting measures

General Fire Hazards: Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

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

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

Specific hazards arising from the chemical: 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 protective equipment and precautions for firefighters

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.

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

Methods and material for containment and cleaning up: Eliminate all ignition sources if safe to do so. Use only 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.

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

7. Handling and storage

Precautions for safe 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 only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: 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

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
ISOPROPYL ALCOHOL	TWA	200 ppm 492 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	STEL	400 ppm 984 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
ISOPROPYL ALCOHOL	STEL	400 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	200 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2-Propanol	TWA	200 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
	STEL	400 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
ISOPROPYL ALCOHOL	TWAEV	200 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEV	400 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

2-Propanol	8 HR ACL	200 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	400 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
ISOPROPYL ALCOHOL	TWA	400 ppm 983 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	500 ppm 1.230 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
ISOPROPYL ALCOHOL	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	400 ppm	US. ACGIH Threshold Limit Values (2011)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
ISOPROPYL ALCOHOL (acetone: Sampling time: End of shift at end of work week.)	40 mg/l (Urine)	ACGIH BEL (03 2013)

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ISOPROPYL ALCOHOL (acetone: Sampling time: End of shift at end of work week.)	40 mg/l (Urine)	ACGIH BEL (03 2013)

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	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. Use explosion-proof ventilation equipment.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	Chemical resistant gloves
Skin protection:	Wear suitable protective clothing and gloves.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.

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:

Odor of rubbing alcohol

Odor threshold:

No data available.

pH:

No data available.

Melting point/freezing point:

-88,5 °C

Initial boiling point and boiling range:

82 °C (101,3 kPa)

Flash Point:

12 °C (Closed Cup)

Evaporation rate:

2,8 n-butyl acetate=1

Flammability (solid, gas):

Class IB Flammable Liquid

Upper/lower limit on flammability or explosive limits
Flammability limit - upper (%):

12 %(V)

Flammability limit - lower (%):

2,5 %(V)

Explosive limit - upper (%):

No data available.

Explosive limit - lower (%):

No data available.

Vapor pressure:

6,0 kPa (25 °C)

Vapor density:

2,1 AIR=1

Relative density:

0,7850 (4 °C)

Solubility(ies)
Solubility in water:

Miscible with water.

Solubility (other):

No data available.

Partition coefficient (n-octanol/water):

0,05

Auto-ignition temperature:

399 °C

Decomposition temperature:

No data available.

Viscosity:

No data available.

Other information
Molecular weight:

60,1 g/mol (C₃H₈O)

10. Stability and reactivity

Reactivity:

No dangerous reaction known under conditions of normal use.

Chemical 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. Acetaldehyde. Acids. Chlorine. Ethylene Oxide. Hydrogen peroxide (H₂O₂). Sulfuric acid. Isocyanates. Aluminum.

Hazardous Decomposition Products:

Thermal decomposition may release oxides of carbon.

11. Toxicological information

Information on likely routes of exposure

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

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): 5.045 mg/kg
Dermal	
Product:	LD 50 (Rabbit): 12.800 mg/kg
Inhalation	
Product:	No data available.

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:	No data available.

Respiratory or Skin Sensitization	
Product:	Not a skin sensitizer.

Carcinogenicity	
Product:	This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

ISOPROPYL ALCOHOL	Overall evaluation: 1. Carcinogenic to humans. Overall evaluation: 3. Not classifiable as to carcinogenicity to humans.
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US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

ACGIH Carcinogens:

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

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: May be harmful if swallowed and enters airways.

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

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 hazards to the aquatic environment:

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

Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log K_{ow})
Product: Log K_{ow}: 0,05

Mobility in Soil:	The product is partly soluble in water. May spread in the aquatic environment.
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 instructions:	Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.
Contaminated Packaging:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG

UN Number	UN1219
Proper Shipping Name	ISOPROPANOL
Class	3
Packing Group	II
Label(s)	3
Subsidiary risk label	—

IMDG

UN Number:	UN 1219
UN Proper Shipping Name:	ISOPROPANOL
Transport Hazard Class(es)	
Class:	3
Label(s):	3
EmS No.:	F-E, S-D
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	—

IATA

UN Number:	UN 1219
Proper Shipping Name:	Isopropanol
Transport Hazard Class(es)	
Class:	3
Label(s):	3
Marine Pollutant:	No
Packing Group:	II
Special precautions for user:	—

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Not Regulated

Export Control List (CEPA 1999, Schedule 3)

Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. Canadian Environmental Protection Act (CEPA). National Pollutant Release Inventory (NPRI) (Parts 1-4)

Not Regulated

Greenhouse Gases

Not Regulated

Controlled Drugs and Substances Act

Not Regulated

Precursor Control Regulations

Not Regulated

International regulations
Montreal protocol

not applicable

Stockholm convention

not applicable

Rotterdam convention

not applicable

Kyoto protocol

not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision
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Issue Date:	27.10.2015
Revision Date:	No data available.
Version #:	1.0
Further Information:	No data available.

Disclaimer:

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