Safety Data Sheet

Section 1: Chemical Product and Company Identification

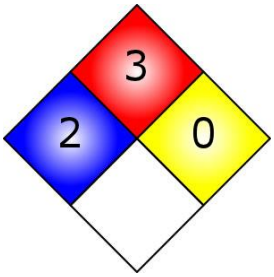
Cat#:A-I1G
Part Name: Isopropyl Alcohol
Supplier:
General Data Healthcare
4354 Ferguson Drive
Cincinnati, OH 45245 USA
Phone: 844.643.1129
24 hr. Emergency Contact 1.800.255.3924 International: 01.813.248.0585
(www.general-data.com/healthcare)

Identified uses: Solvent

Section 2: Hazards Identification

OSHA Hazards:
Flammable liquid, Target Organ Effect, Irritant

Target Organs:
Cardiovascular system, Gastrointestinal tract, Kidney, Liver, Nerves
NFPA



GHS label elements, including precautionary statements



Signal Word: DANGER!

Hazard statement(s)
H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

Precautionary statement(s)

P261 Avoid breathing dust/fumes/gas/mist/vapors.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P501 Dispose of contents and container to an approved waste disposal plant.
P240 Ground/bond container and receiving equipment.
P337 + P313 If eye irritation persists: Get medical attention.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking

P233 Keep container tightly closed.
P102 Keep out of reach of children.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P243 Take precautionary measures against static discharge.
P241 Use explosion-proof electrical, ventilating, and lighting equipment.
P242 Use only non-sparking tools.
P271 Use only outdoors or in a well-ventilated area.
P264 Wash hands thoroughly after handling.
P280 Wear protective gloves and eye and face protection

GHS Classification(s)
Eye irritation (Category 2)
Flammable Liquids (Category 2)
Specific target organ toxicity - single exposure (Category 3)

Other hazards which do not result in classification:

Potential Health Effects:

Organ	**Description**
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Skin	May be harmful if absorbed through skin. Causes skin irritation.

Section 3: Composition/Information on Ingredients

Chemical identity: Isopropyl Alcohol
Common name / Synonym: Isopropanol; Isopropyl Alcohol; 2-Propanol; sec-propyl alcohol; dimethylcarbinol; sec-propanol; Rubbing alcohol; 1-Methylethanol; IPA
99%
CAS number: 67-63-0
EINECS number: 200-661-7
ICSC number: 0554
RTECS #: NT8050000
UN #: 1219
EC #: 603-117-00-0

% Weight	Material	CAS
100	Isopropyl Alcohol	67-63-0

Section 4: First Aid Measures
General advice
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Skin
Wash skin with soap and copious amounts of water. Seek medical attention.
Inhalation
Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.
Eyes
Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.
Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

Section 5: Fire Fighting Measures

Suitable (and unsuitable) extinguishing media:
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):
Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Flammable Properties
Classification
OSHA/NFPA Class IB Flammable Liquid.
Flash point
12°C (53°F) - Closed Cup
Autoignition temperature
399°C (750°F

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:
Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnelto safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in lowareas.

Environmental precautions:
Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:
Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into convenient waste disposal container. Keep container closed.

Section 7: Handling and Storage

Precautions for safe handling:
Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.
Conditions for safe storage, including any incompatibilites:
Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8: Exposure Controls/Personal Protection
Control parameters, e.g., occupational exposure limit values or biological limit values:
Occupational Exposure Limits

Component	Source	Type	Value
Isopropyl Alcohol	US (ACGIH)	TWA	200 ppm
Isopropyl Alcohol	US (ACGIH)	STEL	400 ppm
Isopropyl Alcohol	US (OSHA	TWA	400 ppm

Appropriate engineering controls:
General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:
Respiratory protection:
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:
Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Section 9: Physical and Chemical Properties

Appearance (physical state, color, etc.) Liquid. Colorless.
Initial boiling point and boiling range 83°C (181°F)
Flash point 12°C (53°F) - Closed Cup
Upper / Lower flammability or explosive limits 2.0% (V) / 12.7% (V)
Vapor Density 2.1
Relative Density 0.785 g/cm3 at 25°C (77°F)
Auto-ignition temperature 399°C (750°F)
Formula (ISOPROPYL ALCOHOL) C3H8O
Molecular Weight (ISOPROPYL ALCOHOL) 60.1 g/mol

Section 10: Stability and Reactivity

Chemical Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapors may form explosive mixture with air.
Conditions to avoid (e.g., static discharge, shock or vibration)	Heat, flames, and sparks. Extreme temperatures and direct sunlight
Incompatible materials	Oxidizing agents, Acid anhydrides, Aluminium, Halogenated compounds, Acids
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. -Carbon oxides

Section 11: Toxicological Information

Product Summary:
Long-term exposure (2 years) to Isopropyl Alcohol via inhalation at concentrations up to 5000 ppm caused noexposure related increases in tumors in animals. This substance is not classified for carcinogenicity by IARC,OSHA, NTP, or the EPA.

Acute Toxicity:

LC50 (vapor)	Rat	**19,000 ppm**	**8 hours**
LD50 (oral)	Rat	**4,396 mg/kg**	
LD50 (oral)	**Mouse**	**3,600 mg/kg**	
LD50 (skin)	**Rabbit**	**12,870 mg/kg**	

Irritation:
Eyes (ISOPROPANOL)
Mildly irritating to the eye at an airborne concentration of 400 ppm, unpleasant at 800 ppm.

Skin
Slightly irritating to the skin. Repeated contact with neat product may dry the skin causing cracking and/or fissuring.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or

confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Other Hazards

Organ	Description
Eyes	Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury
Ingestion	Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. The probable oral lethal dose in humans is 240 ml (2696 mg/kg), but ingestion of only 20 ml (224 mg/kg) has caused poisoning.
Inhalation	Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.
Skin	May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin. Dermal absorption has been considered toxicologically insignificant.
Chronic	Prolonged exposure can be irritating to mucosal membranes, skin, respiratory system. Can cause liver and kidney damage.

Section 12: Ecological Information

Ecotoxicity (aquatic and terrestrial, where available):
Acute Fish Toxicity (ISOPROPANOL)
LC50 / 96 hours Pimephales promelas: 9,640 mg/L

Toxicity to Aquatic Plants (ISOPROPANOl)
EC50 / 72 hours Scenedesmus subspicatus > 1,000 mg/L

Toxicity to Microorganisms (ISOPROPANOL)
EC50 / 3 hours Activated sludge > 1,000 mg/L

Persistence and degradability:
Readily biodegradable (77% degraded in 10 days). Expected to be hydrolytically stable, but rapidly degraded following atmospheric releases.

Bioaccumulative potential:
Bioconcentration factor (BCF) of 3.16. (Predicted bioconcentration factor). Significant bioaccumulation is not expected based on predicted BCF of 3.16

Section 13: Disposal Considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Section 14: Transportation Data

Description of waste residues and information on their safe handling and methods of disposal:

UN number	UN1219
UN proper shipping name	Isopropanol
Transport hazard class(es)	3
Packing group (if applicable)	II

IMDG
UN-Number: UN1219 Class: 3 Packing Group: II
EMS-No: F-E, S-D
Proper shipping name: ISOPROPANOL
Marine pollutant: No

IATA
UN-Number: UN1219 Class: 3 Packing Group: II
Proper shipping name: UNIsopropanol

Section 15: Regulatory Information

Safety, health and environmental regulations specific for the product in question:
OSHA Hazards
Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA title III, Section 313: ISOPROPYL ALCOHOL (CAS# 67-63-0) Revision date: 1987-01-01.

SARA 311/312 Hazards
Acute Health Hazard

Chronic Health Hazard
Fire Hazard

CERCLA
No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA

Massachusetts Right To Know Components
Isopropyl Alcohol CAS-No. 67-63-0 Revision Date 1987-01-01

Pennsylvania Right To Know Components
Isopropyl Alcohol CAS-No. 67-63-0 Revision Date 1987-01-01

New Jersey Right To Know Components
Isopropyl Alcohol CAS-No. 67-63-0 Revision Date 1987-01-01

General Data Healthcare
California Prop 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

Disclaimer
General Data Healthcare believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, General Data Healthcare does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDSinformation may not be applicable. Information is correct to the best of our knowledge at the date of the SDSpublication.