SAFETY DATA SHEET

1. IDENTIFICATION

1.1 Product identifier

Product Name: Isopropanol, IPA Alcohol
Product Number(s): 40769
Synonyms: Isopropyl Alcohol; 2-Propanol, Dimethylcarbinol
CAS #: 67-63-0

1.2 Recommended use of the chemical and restrictions on use

Uses: Solvent; Antiseptic; Deicing/antifreeze agent; Chemical feedstock, etc.
Restrictions: No data available

1.3 Name, address, and telephone number of the chemical manufacturer, Distributor, or other responsible party

Universal Oil
265 Jefferson Ave.
Cleveland, OH 44113
216-771-4300 Fax: 216-771-1845
sales@universaloil.com E-mail contact for SDS

1.4 Emergency telephone number

832-376-2026 24 HR Emergency Assistance
800-424-9300 24 HR CHEMTREC

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to 29 CFR §1910.1200 (d)

Flammable liquids (Category 2)
Eye irritation (Category 2)
Specific target organ toxicity - single exposure (Category 3)

2.2 Label elements

Labeling according to 29 CFR §1910.1200 (f)

Pictograms(s):

Signal word: **Danger**

Hazard statement(s):
Flammable liquid and vapour.
Causes serious eye irritation.
May cause drowsiness or dizziness.

Precautionary statement(s):
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, and lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing mist/vapors/spray.
Wash thoroughly after handling.
Do no eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

2.3 Other hazards **None**

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS #	EINECS	Index Numbe	Amount
ISOPROPYL ALCOHOL	67-63-0	200-661-7	603-117-00-0	100%

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice
IF exposed or concerned: Get medical advice/attention.
Show this this safety data sheet to the doctor in attendance.

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 Contact
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation occurs: Get medical advice/attention.

Eye Contact

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.

Ingestion

If swallowed, rinse mouth and rest. Call physician or poison control center immediately.

Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Acute

The substance and the vapor is irritating to the eyes and the respiratory tract .

Eye irritation signs and symptoms may include redness.

Respiratory irritation signs and symptoms may include cough, dizziness, drowsiness, headache, and sore throat.

Exposure can cause lowering of consciousness.

Delayed

Long term or repeated exposure to this material may defat the skin.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

5. FIRE FIGHTING MEASURES

5.1 Suitable Extinguishing Media

In case of fire: Use powder, alcohol resistant foam, water in large amounts, or carbon dioxide to extinguish.

Use water spray to cool fire exposed containers.

Unsuitable Extinguishing Media

No data available.

5.2 Specific hazards arising from the chemical

The vapor mixes well with air, explosive mixtures may be formed.

Vapor is heavier than air and may travel along the ground. Distant ignition is possible.

5.3 Special protective equipment and precautions for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

5.4 Further information

NFPA Rating:

Health:	1
Flammability:	3
Reactivity:	0

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Protective Measures

Evacuate spill area.

Isolate hazard area and deny entry to unnecessary or unprotected personnel. Stay upwind and keep out of low area. Remove all possible sources of ignition in the surrounding area.

Personal protection: see Section 8.

Ventilate contaminated area thoroughly shut off leaks if possible without personal risk.

6.2 Methods and material for containment and cleaning up

Collect leaking and spilled liquid in sealable glass containers as far as possible.

Absorb remaining liquid in sand or inert absorbent and remove to safe place.

6.3 Environmental precautions

Do NOT wash away into sewer. Do NOT let this chemical enter the environment.

Use appropriate containment of product and fire fighting water to avoid environmental contamination. Prevent from spreading or entering drains, ditches, or rivers by using sand, earth, or other appropriate barriers.

Notify authorities if any exposure to the general public or environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.

6.4 Reference to other sections

Refer to Section 8 for personal protection advice and Section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear protective gloves/protective clothing/eye protection/face protection.

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

Keep container tightly closed.

Avoid breathing vapors or mists. Avoid contact with eyes or skin.

Do no eat, drink or smoke when using this product.

Take precautionary measures against static discharge.

Use only non-sparking tools.

Use only outdoors or in a well-ventilated area.

Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep cool.

Keep container tightly closed.

Store locked up.

Ensure that all local regulations regarding handling and storage facilities are followed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Permissible Exposure Limits

Compound Name	CAS #	Value 1	Value 2	BEI/Skin Notation
ISOPROPYL ALCOHOL	67-63-0	ACGIH TWA: 200 ppm; ACGIH STEL: 400 ppm	OSHA TWA: 400 ppm	BEI: Acetone: 40 mg/L in urine [end of shift at end of workweek]

N.D. - No data available

ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: U.S. Occupational Health and Safety Administration
TWA: Time weighted average
STEL: Short Term Exposure Limit
BEI: Biological Exposure Determinants

8.2 Appropriate Engineering Controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures may include the following:

Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure limits. Local exhaust ventilation is recommended.

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

8.3 Personal Protective Equipment

Wear protective gloves/protective clothing/eye protection/face protection.

All personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers for more information.

Respiratory Protection

Use only with adequate ventilation. If engineering controls do not maintain airborne concentrations at a level which is adequate to protect worker health, an approved respirator should be used.

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection. Contact respirator supplier for specific recommendations.

For situations where high concentrations of vapors may be present, use an approved supplied air respirator operated in positive pressure mode.

Hand Protection

Where hand contact with this material may occur, use gloves that meet applicable standards. Suitable materials include Neoprene and Nitrile rubber.

Specific glove information is provided based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending upon the specific use conditions.

Contact glove manufacturer for advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves.

Eye Protection

Chemical splash goggles which meet the national standards should be used when handling this material.

Skin Protection

Chemical resistant apron or coat and gloves should be used when handling this material.

Specific Hygiene Measures

Do not eat, drink, or smoke when handling this material. Wash hands thoroughly after handling.

Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Monitoring Methods

Monitoring of the vapor concentrations of chemicals in the workplace may be required to confirm compliance with OEL and adequacy of exposure controls.

Sources for recommended air monitoring methods include:

USA: National Institute of Occupational Safety and Health (NIOSH): Manual of Analytical Methods, http://www.cdc.gov/niosh/nmam/nmammenu.html.

USA: Occupational Safety and Health Administration (OSHA): Sampling and Analytical Methods, http://osha.gov/dts/sltc/methods/toc.html.

Environmental Exposure Controls

Local guidelines for emissions limits for volatile substances must be observed for the discharge of exhaust air containing vapors.

See Sections 6, 7,12, and 13 for more information on environmental exposure controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

(a) Appearance	Form:	Liquid				
	Color:	Colorless				
(b) Odor		Pleasant				
(c) Odor threshold		90.00	mg/m^3			
(d) pH		No data available				
(e) Melting/freezing point		-88	°C	-126.2	°F	
(f) Initial boiling point and boiling range		82.3	°C	180.1	°F	
(g) Flash point		12	°C	53.6	°F	closed cup

(h) Evaporation rate	2	(Butyl acetate = 1)		
(i) Flammability (solid, gas)	No data available			
(j) Upper/lower flammability or explosive limits	2.0 - 12.7	volume % in air		
(k) Vapor pressure	45.4	mm Hg at 25°C		
(l) Vapor density	2.1	(Air = 1)		
(m) Relative density	0.79	(water = 1)		
(n) Solubility (ies) in water	Miscible			
(o) Partition coefficient: n-octanol/water	0.05			
(p) Auto-ignition temperature	399	°C	750.2	°F
(q) Decomposition temperature	No data available			
(r) Viscosity	2.04	Centipoise at 25° C		

9.2 Other information

Chemical formula	$C_3 H_8 O$
Molecular weight	60.1

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical Stability

This material is expected to be stable under normal conditions of use.
Hazardous polymerization will not occur.

10.3 Possibility of hazardous reactions

Reacts with strong oxidants.

10.4 Conditions to Avoid

No data available

10.5 Incompatible materials

Avoid contact with strong oxidizing agents. This material attacks some plastics, rubbers, and coatings.

10.6 Hazardous Decomposition Products

In the event of fire, oxides of carbon, hydrocarbons, fumes, and smoke may be produced.

11. TOXICOLOGICAL INFORMATION

11.1 Likely routes of exposure

Likely routes of exposure include: inhalation, eye and skin contact, and ingestion.

11.2 Signs and symptoms of exposure

Eye irritation signs and symptoms may include redness and pain.

Skin irritation signs and symptoms may include dryness and redness.

Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea, and loss of coordination.

Respiratory irritation signs and symptoms may include cough, drowsiness, headache, and sore throat.

11.3 Delayed and immediate effects/Chronic effects from short- and long-term exposure

Eye

Contact with eyes may cause redness. Serious/permanent damage is not expected to occur.

Skin

Contact with skin may cause dry skin.

Inhalation

Inhalation of this material may cause: cough, dizziness, drowsiness, sore throat, abdominal pain, labored breathing, nausea, vomiting, and unconsciousness.

Ingestion

Ingestion of this material may cause abdominal pain, labored breathing, nausea, vomiting, unconsciousness, cough, dizziness, drowsiness, and sore throat.

Chronic effects

Long term or repeated exposure to this material defats the skin.

Subchronic effects

This substance and vapor is irritating to the eyes and respiratory tract. The substance may cause effects on the central nervous system resulting in depression. Exposure far above the OEL may result in unconsciousness.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Reproductive toxicity

No data available.

Specific target organ toxicity - single exposure

This material may cause dizziness and/or drowsiness.

Specific target organ toxicity - repeat exposure

No data available.

Aspiration hazard
No data available.

Potential health effects
Irritating to the respiratory system and eyes. Vapors may cause drowsiness and dizziness.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

11.4 Acute Toxicity Estimates

Compound Name	CAS #	TEST - SPECIES - RESULT
ISOPROPYL ALCOHOL	67-63-0	Oral LD50 - Rat: 5050 mg/kg; Dermal LD50 - Rabbit: 12,800 mg/kg

11.5 Carcinogenicity
This material is not carcinogenic according to IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), or OSHA (U.S. Occupational Health and Safety Administration).

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Compound Name	CAS #	TEST-SPECIES-RESULTS
ISOPROPYL ALCOHOL	67-63-0	LC 50 - Fish: 9640 mg/ L / 96 Hr; EC 50 - Crustaceans: 1400 mg/ L /48 Hr

12.2 Persistence and Degradability
This material is expected to be highly biodegradable.

12.3 Bioaccumulative potential
The potential for bioconcentration in aquatic organisms is low.

12.4 Mobility in soil
This material is expected to have high mobility in soil.

12.5 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product disposal
Recover or recycle if possible.

It is the responsibility of the waste generator to determine the physical characteristics and toxicity of the material generated in order to properly designate the waste classification and disposal methods in compliance with applicable regulations.

Do not dispose into the environment, in drains, or allow to enter waterways. Waste product should not be allowed to contaminate soil or water.

Dispose of contents/container to in accordance with local/regional/national/international regulations.

Container disposal

Follow all MSDS/label precautions even after container is emptied because they may retain product residues.

Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed.

Empty containers should be taken for recycling, recovery, or disposal through a suitable qualified or licensed contractor and in accordance with governmental regulations.

Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition as this may cause them to explode.

14. TRANSPORT INFORMATION

Land (U.S. DOT)

14.1	**UN number:**	1219
14.2	**Proper Shipping Name:**	Isopropanol
14.3	**Transport Hazard Class:**	3
14.4	**Packing Group:**	II
14.5	**Environmental Hazards:**	
	IMDG Marine pollutant:	No
14.6	**Special precautions for the user**	
	ERG (Emergency Response Guide) Number:	129
	Hazard Identification Number (HIN):	30

Sea (IMDG)

14.1	**UN number:**	1219
14.2	**Proper Shipping Name:**	Isopropanol
14.3	**Transport Hazard Class:**	3
14.4	**Packing Group:**	II
14.5	**Environmental Hazards:**	
	IMDG Marine pollutant:	No
14.6	**Special precautions for the user**	
	EMS:	F-E, S-D
	Hazard Identification Number (HIN):	30

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code

MARPOL Category: No data available

IBC Code: IBC02

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of 29 CFR §1910.1200

This material or all of its components are listed on the Inventory of Existing Chemical Substances under the Toxic Substance Control Act (TSCA) or are exempt from reporting.

FEDERAL REGULATORY LISTS:

Compound Name	CAS #	SARA 313	CERCLA	RCRA	CAA
ISOPROPYL ALCOHOL	67-63-0	N.L	N.L	N.L	N.L

N.L. - Not listed on regulatory list

CALIFORNIA REGULATIONS:

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

PENNSYLVANIA REGULATIONS:

The following product components are cited on the Pennsylvania Hazardous Substances List and/or the Pennsylvania Environmental Hazardous Substances List, and are present at levels which require reporting.

Compound Name	CAS #	LISTING	AMOUNT
ISOPROPYL ALCOHOL	67-63-0	PA RTK	100%

To the best of our knowledge, this product does not contain any components cited on the Pennsylvania Special Hazardous Substances List.

ADDITIONAL STATE REGULATIONS:

Components of this product are found on the following state lists.

Compound Name	CAS #	STATE LISTS
ISOPROPYL ALCOHOL	67-63-0	FL, MN, NJ, RI

CANADIAN REGULATIONS:

This material or all of its components are listed on the Canadian Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL).

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) classification for this product is:

B2 - Flammable liquid with a flash point of <37.8° C (100° F).

D2B - Eye or skin irritant.

Compound Name	CAS #	REPORTING LIMIT (%)
ISOPROPYL ALCOHOL	67-63-0	1.0

Refer elsewhere in the MSDS for specific warnings and safe handling information.

Refer to the employer's workplace education program.

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

16. OTHER INFORMATION

Reason for Issue: This revision updates SDS formatting according to OSHA Hazard Communications Standard (HCS) promulgated on June 17, 2015.

Approval date: June 17, 2015

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END OF SDS

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