

PAGE #:1 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

SECTION 1 - CHEMICAL IDENTIFICATION

PRODUCT NAME: ISOPROPYL ALCOHOL
 RPI CATALOG #: I67630-1L
 SUPPLIER'S NAME: Research Products International Corp.
 SUPPLIERS ADDRESS: 410 N Business Center Drive Mount Prospect, IL 60056
 EMERGENCY CONTACT: 1-800-424-9300
 OTHER INFORMATION: 847-635-7330

SECTION 2 - HAZARDS IDENTIFICATION

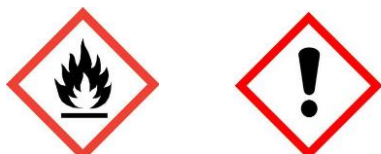
2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

H225	Flammable liquids	Category 2
H319	Serious eye damage/eye irritation	Category 2A
H336	Specific target organ toxicity, single	Category 3

2.2 GHS Label elements, including Hazard and Precautionary Statement(s)

Pictogram



Signal word: Danger

Hazard statement(s)

H225	Highly Flammable liquid and vapour
H319	Cause Serious Eye irritation
H336	May cause drowsiness or dizziness

Prevention, Response, Storage and Disposal Precautionary Statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling

PAGE #:2 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
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.
P501	Dispose of contents/ container to an approved waste disposal plant.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS Number	Concentration (%age)
Isopropyl Alcohol	67-63-0	100%

SECTION 4 - FIRST-AID MEASURES

4.1 Description of first aid measures

General advice: Consult a doctor and show this safety data sheet.

- i. **If inhaled:** Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.
- ii. **In case of skin contact:** Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.
- iii. **In case of eye contact:** Flush with copious amounts of water for at least 15 minutes. Consult a doctor.
- iv. **If swallowed:** Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed: Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

PAGE #:3 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

5.2 Special hazards arising from the substance or mixture: Incomplete combustion products, Oxides of carbon, Smoke, Fume.

FLAMMABILITY PROPERTIES

Flash Point [Method]: 12°C (54°F) [ASTM D-56]

Flammable Limits (Approximate volume % in air): LEL:2.0 UEL: 13

Autoignition Temperature: 399°C (750°F) [ASTM E659]

5.3 Precautions for fire-fighters: Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

5.4 Further information: No data available

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions: Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up: Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until after disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections: For required PPE see section 8. For disposal see section 13.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling: Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities: Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be grounded and bonded. Fixed storage containers, transfer containers and associated equipment should be grounded and bonded to prevent accumulation of static charge.

Storage Temperature: [Ambient]

Storage Pressure: [Ambient]

Suitable Containers/Packing: Tankers; Tank Trucks; Drums; Barges; Tank Cars.

Suitable Materials and Coatings (Chemical Compatibility): Carbon Steel; Stainless Steel; Polyester; Teflon; Polyethylene; Polypropylene; Epoxy Phenolic; Copper Bronze; Zinc; Vinyl's.

Unsuitable Materials and Coatings: Butyl Rubber; Natural Rubber; Ethylene-propylene-diene monomer (EPDM); Polystyrene; Aluminum; Cast iron; Monel

7.3 Specific end use(s): Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters: Components with workplace control parameters

Component	Limit / Standard	Source
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PAGE #:4 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

ISOPROPYL ALCOHOL	TWA	980 mg/m3	400 ppm	OSHA Z1
ISOPROPYL ALCOHOL	STEL	400 ppm		ACGIH
ISOPROPYL ALCOHOL	TWA	200 ppm		ACGIH

- ❖ **ACGIH:** American Conference of Governmental Industrial Hygienists
- ❖ **OSHA:** Occupational Safety and Health Administration
- ❖ **NOTE:** Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

Substance	Specimen	Sampling Time	Limit	Determinant	Source
ISOPROPYL ALCOHOL	Urine	End of shift at end of work wk	40 mg/l	Acetone	ACGIH BELs (BEIs)

8.2 Exposure Controls

- i. **Appropriate engineering controls:** Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal protective equipment

- i. **Eye/face protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- ii. **Skin 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
- iii. **Body Protection:** Wear appropriate protective clothing. Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- iv. **Respiratory Protection:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- v. **Control of environmental exposure:** Do not let product enter drains

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear Colorless Liquid	Vapor Pressure (At 20.0 °C)	4 kPa (30 mm Hg)
Odor	Alcohol	Vapor Density (Air = 1)	2 at 101 kPa [Calculated]
Boiling Point / Range	82°C (180°F)	Relative Density (At 15.0 °C)	0.79 [With respect to water]
Flash Point	12°C (54°F)	Water Solubility	Appreciable
Flammability limits (Approximate volume % in air)	LEL: 2.0 UEL: 13	Auto-Ignition Temperature	399°C (750°F)
Log Pow (n-Octanol/Water)	0.3 [Estimated]	Density (at 15 °C):	790 kg/m ³

PAGE #:5 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

Partition Coefficient)			(6.59 lbs/gal, 0.79 kg/dm ³)
Flammability limits (Approximate volume % in air)	LEL: 2.0 UEL: 13	Viscosity	1.8 cSt (1.8 mm ² /sec) at 40 °C 3.1 cSt (3.1 mm ² /sec) at 20°C
Log Pow (n-Octanol/Water Partition Coefficient)	0.3 [Estimated]	Oxidizing Properties	See Hazards Identification Section.
Pour Point	88°C (-126°F)	Coefficient of Thermal Expansion	0.00112 per °C [Calculated]

SECTION 10 - STABILITY AND REACTIVITY

Stability: Under normal storage conditions peroxides may accumulate and explode when subjected to heat or shock. Distillation or evaporation increases peroxide formation and increases the explosion hazard.

Hazardous Decomposition Products: Material does not decompose at ambient temperatures.

Hazardous Polymerization: Hazardous polymerization does not occur.

Conditions to Avoid: Avoid heat, sparks, open flames and other ignition sources.

Materials to Avoid: Aldehydes, Alkanolamines, Amines, Caustics, Chlorinated Compounds, Strong oxidizers.

SECTION 11 - TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECT

Hazard Class	Conclusion/ Remarks
Inhalation	
Acute Toxicity: (Rat) 6-hour(s) LC50 > 25000 mg/m ³ (Vapor)	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 403
Irritation: No end point data for material.	Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.
Ingestion	
Acute Toxicity (Rat): LD50 5840 mg/kg	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 401
Skin	
Acute Toxicity (Rabbit): LD50 13900 mg/kg	Minimally Toxic. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 402
Skin Corrosion/Irritation: Data available.	May dry the skin leading to discomfort and dermatitis. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 40
Eye	
Serious Eye Damage/Irritation: Data available.	Irritating and will injure eye tissue. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 405
Sensitization	

PAGE #: 6 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.: 1 REV Date : 03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

Respiratory Sensitization: No end point data for material.	Not expected to be a respiratory sensitizer.
Skin Sensitization: Data available.	Not expected to be a skin sensitizer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 406
Aspiration: Data available.	May be harmful if swallowed and enters airways. Based on physico-chemical properties of the material.
Germ Cell Mutagenicity: Data available.	Not expected to be a germ cell mutagen. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 471 474 476
Carcinogenicity: Data available.	Not expected to cause cancer. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 451
Reproductive Toxicity: Data available.	Not expected to be a reproductive toxicant. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 414 415 416
Lactation: No end point data for material.	Not expected to cause harm to breast-fed children.
Specific Target Organ Toxicity (STOT)	
Single Exposure: No end point data for material.	May cause drowsiness or dizziness.
Repeated Exposure: Data available.	Not expected to cause organ damage from prolonged or repeated exposure. Based on test data for the material. Test(s) equivalent or similar to OECD Guideline 413

OTHER INFORMATION (For the product itself)

Vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema

The following ingredients are cited on the lists below: None.

REGULATORY LISTS SEARCHED

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 - ECOLOGICAL INFORMATION

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY: Material -- Not expected to demonstrate chronic toxicity to aquatic organisms.

MOBILITY: Material -- Expected to remain in water or migrate through soil.

PERSISTENCE AND DEGRADABILITY

PAGE #:7 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

Biodegradation: Material -- Expected to be readily biodegradable.

Hydrolysis: Material -- Transformation due to hydrolysis not expected to be significant.

Photolysis: Material -- Transformation due to photolysis not expected to be significant.

Atmospheric Oxidation: Material -- Expected to degrade at a moderate rate in air

OTHER ECOLOGICAL INFORMATION: VOC (EPA Method 24): 6.551 lbs/gal

ECOLOGICAL DATA

Ecotoxicity:

Test	Duration	Organism Type	Test Results
Aquatic - Acute Toxicity	8 day(s)	Alga	LOEC 1000 mg/l: data for the material
Aquatic - Acute Toxicity	24 hour(s)	Daphnia magna	LC50 9714 mg/l: data for the material
Aquatic - Acute Toxicity	96 hour(s)	Pimephales promelas	LC50 9640 mg/l: data for the material

Persistence, Degradability and Bioaccumulation Potential:

Media	Test Type	Duration	Test Results
Octanol-Water	Calculated		log Kow 0.05: material
Water	Ready Biodegradability	5 day(s)	Percent Degraded 53: material

SECTION 13 - DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. 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 suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 - TRANSPORT INFORMATION

	UN#	Proper Shipping Name	Hazard Class	Packaging Group
DOT	1219	ISOPROPANOL	3	II
TDG	1219	ISOPROPANOL	3	II
IATA	1219	ISOPROPANOL	3	II
IMDG/IMO	1219	ISOPROPANOL	3	II

SECTION 15 - REGULATORY INFORMATION

PAGE #:8 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

OSHA HAZARD COMMUNICATION STANDARD: This material is considered hazardous in accordance with OSHA HazCom 2012, 29 CFR 1910.1200.

Listed or exempt from listing/notification on the following chemical inventories: AICS, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

SARA (311/312) REPORTABLE GHS HAZARD CLASSES: Flammable (gases, aerosols, liquids, or solids), Serious eye damage or eye irritation, Specific Target Organ toxicity (single or repeated exposure)

SARA (313) TOXIC RELEASE INVENTORY: This material contains no chemicals subject to the supplier notification requirements of the SARA 313 Toxic Release Program.

The following ingredients are cited on the lists below:

Chemical Name	CAS Number	List Citations
ISOPROPYL ALCOHOL	67-63-0	1, 4, 13, 16, 17, 18, 19

REGULATORY LISTS SEARCHED

1 = ACGIH ALL	4 = OSHA Z	7 = TSCA 5e	10 = CA P65 CARC	13 = IL RTK	16 = MN RTK	19 = RI RTK
2 = ACGIH A1	5 = TSCA 4 10	8 = TSCA 6	11 = CA P65 REPRO	14 = LA RTK	17 = NJ RTK	
3 = ACGIH A2	6 = TSCA 5a2	9 = TSCA 12b	12 = CA RTK	15 = MI 293	18 = PA RTK	

Code key: CARC=Carcinogen; REPRO=Reproductive

USA FEDERAL REGULATION

SARA 311/312 HAZARDOUS CATEGORIZATION

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	Yes	No	No

HMIS Rating

Health hazard	Chronic Health Hazard	Flammability	Physical Hazard
2	*	3	1

NFPA Rating

Health hazard	Fire Hazard	Reactivity Hazard
2	3	0

STATE RIGHT TO KNOW

Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
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PAGE #:9 OF 9	PRODUCT SAFETY DATA SHEET RESEARCH PRODUCTS INTERNATIONAL	ISSUE DATE: 12/15/14	REV.:1 REV Date :03/27/2020
DOCUMENT # : F/RPI/QC 7.7.3-02	Product Name: ISOPROPYL ALCOHOL		RPI ITEM NO: I67630-1L

Listed	N/A	Listed	N/A	N/A
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California Proposition 65: This product does not contain any Proposition 65 chemicals.

US DEPARTMENT OF TRANSPORTATION

REPORTABLE QUANTITY (RQ)	DOT MARINE POLLUTANT	DOT SEVER MARINE POLLUTANT
NO	No	No

U.S. DEPARTMENT OF HOMELAND SECURITY: This product does not contain any DHS chemicals.

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

This SDS complies with the requirements of Regulation (EC).

SECTION 16 - OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Research Products International Corp. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. This product is sold for laboratory research and development purposes use only.