SECTION 1 Identification of the substance/preparation and of the company/undertaking

Trade name: Isopropyl Alcohol (ALL GRADES)
Synonyms: Isopropyl Alcohol, Dimethyl carbinol, Isopropanol

Company: RESEARCH PRODUCTS INC
6311 HIGHWAY 90 WEST
THEODORE, AL 36582
Telephone: 800-653-CHEM

FOR CHEMICAL EMERGENCY
CALL INFOTRAC – Day or Night
800-535-5053
Outside the United States – Collect 1-352-323-3500

SECTION 2 Hazards identification

Emergency Overview
Danger: Highly flammable
State of matter: liquid, colorless
Odor: aromatic

Potential environmental effects
Environmental precautions: Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

Potential health effects:
Acute effects
Eyes: Causes eye irritation.
Skin: Prolonged or repeated contact may dry skin and cause irritation.
Inhalation: May cause respiratory tract irritation.
Ingestion: Aspiration hazard if swallowed - can enter lungs and cause damage.

SECTION 3 Composition/information on ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>propan-2-ol; isopropyl alcohol; isopropanol</td>
<td>67-63-0</td>
<td>100.00</td>
</tr>
</tbody>
</table>

SECTION 4 First aid measures

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.
Inhalation: Move to fresh air in case of accidental inhalation of vapors. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.
Ingestion: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5 Fire-fighting measures

Flammability
Flash point 12 °C closed cup 18 °C open cup
Autoignition temperature 398.89 °C
Material Safety Data Sheet

Explosion limits
- Lower explosion limit: 2 % (V)
- Upper explosion limit: 12 % (V)

Fire/explosion
Flash back possible over considerable distance.

Hazardous combustion products
Carbon oxides

Suitable extinguishing media
Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO2)

Unsuitable Extinguishing media
No information available.

Protection measures and instructions
Wear self-contained breathing apparatus and protective suit.

Further information
Cool containers / tanks with water spray.

SECTION 6 Accidental release measures

Personal precautions
Keep people away from and upwind of spill/leak. Remove all sources of ignition. Do not breathe vapors or spray mist.

Environmental precautions
Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material and dispose of as hazardous waste.

Methods for cleaning up

SECTION 7 Handling and storage

Safe handling advice
Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Take precautionary measures against static discharge. Ensure all equipment is electrically grounded before beginning transfer operations.

Advice on protection against fire and explosion
Keep away from heat and sources of ignition. Use explosion-proof equipment.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.

SECTION 8 Exposure controls / personal protection

Engineering measures
Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment
- Eyes: Safety glasses with side-shields
- Skin: Protective suit
- Inhalation: In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene measures
Wash hands before, breaks and immediately after handling the product.

Protective measures
Wear suitable protective equipment.

Exposure Guidelines

Components
- ISOPROPYL ALCOHOL

Exposure limit(s)
- US. ACGIH Threshold Limit Values time weighted average 200 ppm
- US. ACGIH Threshold Limit Values Short term exposure limit 400 ppm
Material Safety Data Sheet

US. NIOSH: Pocket Guide to Chemical Hazards Recommended exposure limit (REL): 400 ppm (980 mg/m³)
US. NIOSH: Pocket Guide to Chemical Hazards Short term exposure limit 500 ppm (1,225 mg/m³)
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Permissible exposure limit 400 ppm (980 mg/m³)
US. OSHA Table Z-1-A (29 CFR 1910.1000) time weighted average 400 ppm (980 mg/m³)
US. OSHA Table Z-1-A (29 CFR 1910.1000) Short term exposure limit 500 ppm (1,225 mg/m³)
US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants Time Weighted Average (TWA) Permissible Exposure Limit (PEL): 400 ppm (980 mg/m³)
US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants Short term exposure limit 500 ppm (1,225 mg/m³)

PEL= Permissible Exposure Limits
TWA= Time Weighted Average (8 hr.)
TLV= Threshold Limit Value
STEL= Short Term Exposure Limit (15 min.)
EL= Excursion Limit
WEEL= Workplace Environmental Exposure Level

SECTION 9 Physical and chemical properties

State of matter: liquid
Color: colorless
Odor: aromatic
Form: liquid
Boiling point/boiling range: 82.22 °C
Flash point: 12 °C closed cup 18 °C open cup
Lower explosion limit: 2 %(V)
Upper explosion limit: 12 %(V)
Vapor pressure: 43.996 hPa at 20 °C
Solubility: completely soluble
Viscosity: 0.1 mm²/s
Viscosity, dynamic: 2.4 mPa.s
Melting point/range: -88.5 °C
Density: 0.785 g/cm³
pH: 7

SECTION 10 Stability and reactivity

Conditions to avoid: Heat, flames and sparks.
Hazardous decomposition products: Carbon oxides
Incompatible products: Strong oxidizing agents
Incompatible with acids.
Halogenated compounds
Hazardous reactions: Hazardous polymerisation does not occur.

SECTION 11 Toxicological information

Acute oral toxicity
LD50 rat: 5,045 mg/kg; literature value
LD50 rabbit: 6,410 mg/kg; literature value
Isopropyl Alcohol

Material Safety Data Sheet

**Acute inhalation toxicity**
LC50 rat: 16,000 mg/l; 8 h; literature value

**Acute dermal toxicity**
LD50 rabbit: 12,800 mg/kg; literature value

**Skin irritation**
rabbit: Mild skin irritation; literature value

**Eye irritation**
rabbit: Moderate eye irritation; literature value; Causes eye irritation.

**SECTION 12 Ecological information**

**Biodegradability**
Readily biodegradable.

**Ecotoxicity effects**
Toxicity to fish

\[ \text{LC50 Pimephales promelas: } > 6,000 \text{ mg/l; 96 h; (literature value)} \]

**SECTION 13 Disposal considerations**

**Waste Classification**

**Waste from residues/unused products**
In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. The product should not be allowed to enter drains, water courses or the soil.

**Uncleaned empty packaging**
Do not burn, or use a cutting torch on, the empty drum., Triple rinse containers., Can be offered for recycling, re-conditioning or puncture.

**SECTION 14 Transport information**

**DOT/49CFR**
UN 1219 Isopropanol, 3, II

**ADR**
UN 1219 Isopropanol, 3, II

**RID**
UN 1219 ISOPROPANOL, 3, II

**ADNR**
UN 1219 ISOPROPANOL, 3, II

**IMDG**
UN 1219 ISOPROPANOL, 3, II; EmS F-E, S-D

**ICAO/IATA**
UN 1219 Isopropanol, 3, II

**SECTION 15 Regulatory information**

**U.S. Federal Classifications:**
OSHA Hazards Flammable Liquid, Mild eye irritant
SARA 311/312 Fire Hazard, Acute Health Hazard

**U.S. Regulated Ingredients:**

**Hazard information reporting**
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required

**Components**
Propan-2-ol

| CAS-No. | 67-63-0 |

US. Massachusetts Commonwealth’s Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

**Components**
Propan-2-ol

| CAS-No. | 67-63-0 |

US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

**Components**
Propan-2-ol

| CAS-No. | 67-63-0 |
Isopropyl Alcohol

Material Safety Data Sheet

US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Components
Propan-2-ol

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

Components

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

Health
US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

Components
Not listed

Inventories
EU list of existing chemical substances
All chemical constituents are listed in: EU list of existing chemical substances (See chapter 3)

US TSCA Inventory
All chemical constituents are listed in: US TSCA Inventory (See chapter 3)

Australian Inv. of Chem. Substances AICS
All chemical constituents are listed in: Australian Inv. of Chem. Substances AICS (See chapter 3)

Canadian Domestic Substances List DSL
All chemical constituents are listed in: Canadian Domestic Substances List DSL (See chapter 3)

Jap. Inv. of Exist. & New Chemicals ENCS
All chemical constituents are listed in: Jap. Inv. of Exist. & New Chemicals ENCS (See chapter 3)

Korean Exist. Chemicals List ECL
All chemical constituents are listed in: Korean Exist. Chemicals List ECL (See chapter 3)

Philippines Inv. of Chem. Subst. PICCS
All chemical constituents are listed in: Philippines Inv. of Chem. Subst. PICCS (See chapter 3)

Inv. of Exist. Chem. Substances in China
All chemical constituents are listed in: Inv. of Exist. Chem. Substances in China (See chapter 3)

Other international regulations

WHMIS Classification
B2: Flammable Liquid
D2B: Toxic Material Causing Other Toxic Effects

SECTION 16 Other information

Hazard Ratings

<table>
<thead>
<tr>
<th></th>
<th>Health1</th>
<th>Flammability</th>
<th>Reactivity Hazard</th>
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<tbody>
<tr>
<td>HMIS</td>
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<td>3</td>
<td>0</td>
</tr>
<tr>
<td>NFPA</td>
<td>1</td>
<td>3</td>
<td>0</td>
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</tbody>
</table>

ALL INFORMATION PRESENTED HEREIN IS GIVEN IN GOOD FAITH AND IS BASED ON SOURCES AND TESTS CONSIDERED TO BE RELIABLE, BUT CANNOT BE GUARANTEED. IT IS THE END-USER’S FULL RESPONSIBILITY TO ACCEPT ANY AND ALL RISK FOR THE SAFETY, TOXICITY, HANDLING, STORAGE AND END-USE OF THE PRODUCT, AS WELL AS TO DETERMINE THE SUITABILITY OF THE PRODUCT FOR A SPECIFIC PURPOSE. WE MAKE ABSOLUTELY NO WARRANTY AS TO THE RESULTS TO BE OBTAINED IN USING THE PRODUCT; THEREFORE ALL RISKS MUST BE AND WILL BE ASSUMED BY THE END-USER.