Isopropyl Alcohol 70%

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Isopropyl Alcohol 70%
Synonyms: 2-Propanol, Isopropyl rubbing alcohol, IPA 70%
SDS Number: R-005
Product Code: 514591-pt; 514591-qt; 514591-1; 514591-5; 514591-30; 514591-55
Revision Date: 8/11/2015
Version: 1.0
Product Use: Industrial, manufacturing or laboratory use
Supplier Details: High Valley Products, Inc.
1134 West 850 North
Centerville, Utah 84014
Emergency: PERS: 800-633-8253
Phone: 801-295-9591
Email: sales@hvchemical.com
Web: www.hvchemical.com

2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):
- Physical, Flammable Liquids, 2
- Health, Serious Eye Damage/Eye Irritation, 2 A
- Health, Specific target organ toxicity - Single exposure, 3

GHS Label elements, including precautionary statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

- Flammable Gas
- Eye Irritation

GHS Hazard Statements:
- H225 - Highly flammable liquid and vapor
- H319 - Causes serious eye irritation
- H336 - May cause drowsiness or dizziness

GHS Precautionary Statements:
- 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/light/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 _ thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

<table>
<thead>
<tr>
<th>Cas#</th>
<th>%</th>
<th>Chemical Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-63-0</td>
<td>70%</td>
<td>Isopropyl alcohol</td>
</tr>
<tr>
<td>7732-18-5</td>
<td>30%</td>
<td>Water</td>
</tr>
</tbody>
</table>

4 FIRST AID MEASURES

Inhalation: If inhaled, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact: Promptly flush skin with water until all chemical is removed. Wash with soap and water. Get medical attention if needed.

Eye Contact: Flush with large amounts of water. Get immediate medical attention.

Ingestion: If swallowed, wash the mouth with plenty of water. If person is unconscious DO NOT give anything by mouth. DO NOT induce vomiting. Get medical attention.

5 FIRE FIGHTING MEASURES

Flash Point: 18.3ºC (64.9ºF)
Flash Point Method: Closed cup

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers.

Protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus and other protective clothing.

Specific hazards arising from the chemical:
Emits toxic fumes (carbon oxides) under fire conditions.

6 ACCIDENTAL RELEASE MEASURES

Environmental precautions: Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

Containment and clean up: Absorb spill with noncombustible absorbant material, then place in suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and clean up material in accordance with regulations.

7 HANDLING AND STORAGE

Handling Precautions: Use adequate ventilation. Wash thoroughly after handling. Avoid formation of aerosols.
Storage Requirements: Store in cool/dry well ventilated area. Keep away from incompatible materials.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment: Isopropyl alcohol (67-63-0) [70%]

Personal protective equipment
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).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves 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.

Full contact: Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 480 min Material tested: Camatril (KCL 730 / Aldrich Z677442, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.2 mm Break through time: 60 min Material tested: Dermatril P (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Isopropyl alcohol (67-63-0) [70%]

Components with workplace control parameters

<table>
<thead>
<tr>
<th>TWA</th>
<th>200 ppm</th>
<th>USA. ACGIH Threshold Limit Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEL</td>
<td>400 ppm</td>
<td>USA. ACGIH Threshold Limit Values</td>
</tr>
</tbody>
</table>

Eye & Upper Respiratory Tract irritation
Central Nervous System impairment
Not classifiable as a human carcinogen

USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

The value in mg/m3 is approximate.

USA. NIOSH Recommended Exposure Limits

USA. NIOSH Recommended Exposure Limits

Revision Date: 8/11/2015
SDS Number: R-005
PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Alcohol-like</td>
</tr>
<tr>
<td>Spec Grav./Density</td>
<td>0.84</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>-88.5°C (-127.3°F)</td>
</tr>
<tr>
<td>Flammability</td>
<td>Flammable</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Neutral</td>
</tr>
<tr>
<td>Evap. Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomp Temp</td>
<td>No data available</td>
</tr>
</tbody>
</table>

STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Stability</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under normal conditions.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Heat, flames and sparks. Extremes of temperature and direct sunlight.</td>
</tr>
<tr>
<td>Materials to Avoid</td>
<td>Aluminum, acids, oxidizing agents, halogenated compounds, acid anhydrides.</td>
</tr>
<tr>
<td>Hazardous Decomposition</td>
<td>Carbon oxides.</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

TOXICOLOGICAL INFORMATION

Isopropyl alcohol (67-63-0) [70%]

Information on toxicological effects

Acute toxicity:
LC50 Inhalation - rat - 8 h - 16000 ppm
LD50 Dermal - rabbit - 12,800 mg/kg
no data available

Skin corrosion/irritation: Skin - rabbit Result: Mild skin irritation

Serious eye damage/eye irritation: Eyes - rabbit Result: Eye irritation - 24 h

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:
This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (2-Propanol)
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.

Reproductive toxicity: no data available

Specific target organ toxicity - single exposure: May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available
Central nervous system depression, prolonged or repeated exposure can cause: Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects.

Kidney - Irregularities - Based on Human Evidence

ECOLOGICAL INFORMATION

Isopropyl alcohol (67-63-0) [70%]

Information on ecological effects

Toxicity:
- Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h.
- Toxicity to daphnia and EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h.
- Other aquatic invertebrates
  - Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h
- Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h.
- EC50 - Algae - > 1,000.00 mg/l - 24 h

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

DISPOSAL CONSIDERATIONS

Isopropyl alcohol (67-63-0) [70%]

Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

TRANSPORT INFORMATION

UN1219, Isopropanol or Isopropyl alcohol, 3, PGII
Component (CAS#) [%] - CODES

Isopropyl alcohol (67-63-0) [n/a%] MASS, NJHS, NRC, OSHAWAC, PA, SARA313, TSCA, TXAIR

Water (7732-18-5) [n/a%] TSCA

Regulatory CODE Descriptions

MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
NRC = Nationally Recognized Carcinogens
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TSCA = Toxic Substances Control Act
TXAIR = TX Air Contaminants with Health Effects Screening Level

OTHER INFORMATION

NFPA: Health = 1, Fire = 3, Reactivity = 0, Specific Hazard = n/a
HMIS III: Health = 1, Fire = 3, Physical Hazard = 0
HMIS PPE: E - Safety Glasses, Gloves, Dust Respirator

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