1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: Isopropyl Alcohol, 70% v/v
Product Form: Mixture
Other means of identification: CAS No. 67-63-0
Formula: C3H8O

Recommended use of the chemical and restrictions on use:
General purpose disinfectant, solvent

Supplier Details:
CANADA
maxill inc.
80 Elm St.
St. Thomas, ON, Canada, N5R 6C8

USA
maxill inc.
500 W. Main Street
Cortland, OH
44410

HK
maxill inc.
Rm C, 14/F, Golden Bear Ind. Centre,
66-82 Chai Wan Kok Street, Tsuen Wan, Hong Kong

Emergency Contact: maxill inc. 519-631-7370, HK (852) 2648-7828
24 hours: In Canada, CANUTEC: 613-996-6666
In USA/Canada, ChemTel: 1-800-255-3924, outside USA/Canada 1-813-248-0585

2. HAZARDS IDENTIFICATION

Flam. Liq. 2 H225
Eye Irrit. 2A H319
STOT SE 3 H336

GHS label elements, including precautionary statements

Signal Word: DANGER

Hazard statement(s)
H225 Highly flammable liquid and vapor.
H319 Causes serious eye irritation.
Isopropyl Alcohol 70%
SAFETY DATA SHEET

H336
Precautionary statement(s)
P501
P305 + P351 + P338 + P337 +
P313
P337 + P313
P304 + 340
P370 + P378
P312
P210
P233
P403
P405
P264
P280
P261
P271
May cause drowsiness or dizziness
Dispose of contents and container according to federal, state/provincial and municipal regulations.
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 attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
Call a doctor if you feel unwell
Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
Keep container tightly closed.
Store in a well-ventilated place.
Store locked up
Wash hands thoroughly after handling.
Wear eye protection.
Avoid breathing mist, spray, vapours
Use only outdoors or in a well-ventilated area

3. COMPOSITION AND INFORMATION ON INGREDIENTS
Chemical identity: Alcohol
Common name / Synonym: Isopropyl Alcohol 70%, 2-Propanol
CAS number: 67-63-0

<table>
<thead>
<tr>
<th>%</th>
<th>Material</th>
<th>CAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Isopropyl Alcohol (2-Propanol)</td>
<td>67-63-0</td>
</tr>
<tr>
<td>30</td>
<td>Water</td>
<td>7732-18-5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First-aid measures general:

First-aid measures after inhalation:
Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact:
Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists.
First-aid measures after eye contact:
Rinse immediately with plenty of water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion:

Symptoms/injuries after inhalation:

Symptoms/injuries after skin contact:
Dry skin.

Symptoms/injuries after eye contact:
Irritation of the eye tissue.

Symptoms/injuries after ingestion:

Chronic symptoms:

5. FIRE FIGHTING MEASURES
**Extinguishing Media**
**Suitable extinguishing media:** Water spray. Polyvalent foam. Alcohol-resistant foam. BC powder. Carbon dioxide.
**Unsuitable extinguishing media:** Solid water jet ineffective as extinguishing medium.

**Special hazards arising from the substance or mixture**
**Fire hazard:**
DIRECT FIRE HAZARD. Highly flammable. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

**Explosion hazard:**
DIRECT EXPLOSION HAZARD. Gas/vapour explosive with air within explosion limits. INDIRECT EXPLOSION HAZARD. may be ignited by sparks. Reactions with explosion hazards: see "Reactivity Hazard".

**Reactivity:**
Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (strong) oxidizers. Prolonged storage/in large quantities: may form peroxides.

**Advice for firefighters**
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel


For emergency responders

**Protective equipment**: Equip cleanup crew with proper protection.

**Emergency procedures**: Stop leak if safe to do so. Ventilate area.

**Environmental Precautions**

Prevent spreading in sewers.

Methods and material for containment and cleaning up

For containment:

Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapour with water curtain. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills.

Methods for cleaning up:

Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

7. HANDLING AND STORAGE

Precautions for safe handling:

Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away
from ignition sources/sparks. Observe normal hygiene standards. Keep container tightly closed. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

Hygiene Measures:

Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Conditions for safe storage, including any incompatibilities:

Incompatible products:

Oxidizing agent. silver nitrate. Sodium hypochlorite.

Incompatible materials:

Direct sunlight. Heat sources. Sources of ignition.

Heat and ignition sources:

KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.

Prohibitions on mixed storage:

KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. amines. halogens.

Storage area:

Store in a cool area. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. May be stored under nitrogen. Meet the legal requirements.

Special rules on packaging:

SPECIAL REQUIREMENTS: closing. with pressure relief valve. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials:


## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Source</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>US (OSHA PEL)</td>
<td>TWA</td>
<td>4000 ppm/980 mg/m³</td>
</tr>
<tr>
<td>US (ACGIH)</td>
<td>TWA</td>
<td>200 ppm</td>
</tr>
<tr>
<td>US (ACGIH)</td>
<td>STEL</td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

Appropriate engineering controls:
Isopropyl Alcohol 70%
SAFETY DATA SHEET

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: butyl rubber, nitrile rubber, viton, polyethylene/ethylenevinylalcohol. GIVE GOOD RESISTANCE: neoprene. GIVE LESS RESISTANCE: PVC, neoprene/natural rubber. GIVE POOR RESISTANCE: natural rubber, polyethylene, PVA.

Hand protection:

Gloves.

Eye protection:

Safety glasses.

Skin and body protection:

Protective clothing.

Respiratory protection:

Wear gas mask with filter type A if conc. in air > exposure limit.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance (physical state, color, etc.)</td>
<td>Liquid. Colorless liquid / invisible vapor.</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odour, stuffy odour, mild odour</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>82 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>12 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>2.3 (butylacetate=1), 21 (ether=1)</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Flammable</td>
</tr>
<tr>
<td>Upper / Lower flammability or explosive limits</td>
<td>2 – 13 vol %, 50 – 335 g/m³</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>44 hPa, 229 hPa at 50°C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>2.1 at 20°C</td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.88 g/mL</td>
</tr>
<tr>
<td>Solubility (ies)</td>
<td>completely soluble</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not pertinent</td>
</tr>
<tr>
<td>Critical temperature</td>
<td>235°C</td>
</tr>
<tr>
<td>Critical Pressure</td>
<td>47600 hPa</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>399°C</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>60.10 g/mol</td>
</tr>
<tr>
<td>Minimum ignition energy</td>
<td>0.65 mJ</td>
</tr>
<tr>
<td>Specific conductivity</td>
<td>5.8 µS/m</td>
</tr>
<tr>
<td>Saturation concentration</td>
<td>106 g/m³</td>
</tr>
<tr>
<td>VOC content</td>
<td>100 %</td>
</tr>
<tr>
<td>Other properties</td>
<td>Gas/vapour heavier than air at 20°C. Clear. Volatile.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY
Reactivity

Upon combustion: CO and CO2 are formed. Violent to explosive reaction with (strong) oxidizer. Prolonged storage/in large quantities: may form peroxides.

Chemical Stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No additional information available

Conditions to avoid (e.g., static discharge, shock or vibration)


Incompatible materials

May react violently with alkalis. May react violently with acids.

Hazardous decomposition products

Carbon dioxide. Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Not classified

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
</tr>
<tr>
<td>LC50 inhalation rat (mg/l)</td>
</tr>
<tr>
<td>Water (7732-18-5)</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation:

Not classified

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

Not classified

Germ cell mutagenicity:

Not classified

Carcinogenicity:

Not classified

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
</tr>
</tbody>
</table>

Reproductive toxicity:

Not classified

Specific target organ toxicity (single exposure):

May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure):

Not classified

Aspiration hazard:

Not classified

Symptoms/injuries after inhalation:


Symptoms/injuries after skin contact:

Dry skin.

Symptoms/injuries after eye contact:

Irritation of the eye tissue.
Symptoms/injuries after ingestion:


Chronic symptoms:

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT:

---

**12. ECOLOGICAL INFORMATION**

**Toxicity**

Ecology - general: Classification concerning the environment: not applicable.

Ecology - air: TA-Luft Klasse 5.2.5.

Ecology - water: Ground water pollutant. Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia) (EC50 (48h) > 1000 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l). Inhibition of activated sludge.

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 fishes 1</td>
</tr>
<tr>
<td>EC50 Daphnia 1</td>
</tr>
<tr>
<td>LC50 fish 2</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
</tr>
<tr>
<td>Threshold limit algae 1</td>
</tr>
<tr>
<td>Threshold limit algae 2</td>
</tr>
</tbody>
</table>

**Persistence and degradability**

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
</tr>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
</tr>
<tr>
<td>Chemical oxygen demand (COD)</td>
</tr>
<tr>
<td>ThOD</td>
</tr>
<tr>
<td>BOD (% of ThOD)</td>
</tr>
</tbody>
</table>

**Bio-accumulative Potential**

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Pow</td>
</tr>
<tr>
<td>Bio-accumulative potential</td>
</tr>
</tbody>
</table>
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste disposal recommendations: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Additional information: LWCA (the Netherlands): KGA category 03. Hazardous waste according to Directive 2008/98/EC.

14. TRANSPORT INFORMATION

In accordance with DOT

Transport document description: UN1219 Isopropanol, 3, II
UN-No.(DOT): 1219
DOT NA no.: UN1219
DOT Proper Shipping Name: Isopropanol
Department of Transportation (DOT) Hazard Classes: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT): 3 - Flammable liquid

Packing group (DOT): II - Medium Danger
DOT Special Provisions (49 CFR 172.102): IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or
equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T4 - 2.65 178.274(d)(2) Normal.............. 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx): 4b;150
DOT Packaging Non Bulk (49 CFR 173.xxx): 202
DOT Packaging Bulk (49 CFR 173.xxx): 242
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27): 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75): 60 L
DOT Vessel Stowage Location: B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

Additional Information
Other information: No supplementary information available.
State during transport (ADR-RID): as liquid.

ADR
Transport document description: UN 1219 Isopropanol (isopropyl alcohol), 3, II, (D/E)
Packing group (ADR): II
Class (ADR): 3 - Flammable liquids
Hazard identification number (Kemler No.): 33
Classification code (ADR): F1
Tunnel restriction code: D/E

Transport by sea
UN-No. (IMDG): 1219
Class (IMDG): 3 - Flammable liquids
EmS-No. (1): F-E
15. REGULATORY INFORMATION

US Federal regulations

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>Listed on SARA Section 313 (Specific toxic chemical listings)</td>
</tr>
</tbody>
</table>

International Regulations

Canada

<table>
<thead>
<tr>
<th>Isopropanol 70% v/v 67-63-0</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHMIS Classification Regulated</td>
</tr>
</tbody>
</table>

EU-Regulations

No additional information available

Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11
Xi; R36
R67

16. OTHER INFORMATION:
INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Disclaimer

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