

SECTION 1: IDENTIFICATION

1.1. IDENTIFICATION

Product form : Mixtures
Product name : Isopropanol, 70% v/v
CAS-No. : 67-63-0
Product code : LC15760
Formula : C₃H₈O

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Use of the substance/mixture : Disinfectant
Solvent
Recommended use : Household chemicals
Restrictions on use : Use with caution

1.3. SUPPLIER

HMBR Tools & Chemicals Ltd.
Road no. 1, Holding no. 13, Ward no. 40, Mirerbazar, Joydebpur, Gazipur.
Email: info@zeptoclean.com | Web: www.zeptoclean.com

1.4. EMERGENCY TELEPHONE NUMBER

Emergency number : ZEPTO: +880 1755648293

SECTION 2: HAZARD(S) IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Flammable liquids Category 2 H225
Serious eye damage/eye irritation Category 2A H319
Specific target organ toxicity (single exposure) Category 3 H335
Full text of H statements : see section 16

2.2. LABEL ELEMENTS

GHS US labeling

Hazard pictograms (GHS US)



Signal word (GHS US)

: Danger
: H225 - Highly flammable liquid and vapor
: H319 - Causes serious eye irritation
: H335 - May cause respiratory irritation

Precautionary statements (GHS US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P261 - Avoid breathing mist, spray, vapors
P264 - Wash exposed skin thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective clothing, protective gloves
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 chemical powder, alcohol-resistant foam, carbon dioxide (CO2) to extinguish
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to comply with local, state and federal regulations If inhaled: Remove person to fresh air and keep comfortable for breathing

2.3. OTHER HAZARDS

Other hazards not contributing to the classification : None

2.4. UNKNOWN ACUTE TOXICITY (GHS US)

Not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

Not applicable

3.2. MIXTURES

| Name | Product identifier | % | GHS-US classification |
|--------------------------------|--------------------|----|--|
| Isopropyl Alcohol (2-Propanol) | (CAS-No.) 67-63-0 | 70 | Flam. Liq. 2, H225 Eye Irrit. 2A, H319 STOT SE 3, H335 |
| Water | (CAS No) 7732-18-5 | 30 | Not classified |

Full text of hazard classes and H-statements : see section 16

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

| | |
|---------------------------------------|---|
| First-aid measures general | : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with labored breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink. |
| 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 | : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Give activated charcoal. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Doctor: gastric lavage. |

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

| | |
|--------------------------------------|--|
| Symptoms/injuries after inhalation | : EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous system depression. Dizziness. Headache. Narcosis. |
| Symptoms/injuries after skin contact | : Dry skin. |
| Symptoms/injuries after eye contact | : Irritation of the eye tissue. |
| Symptoms/injuries after ingestion | : AFTER ABSORPTION OF LARGE QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration. |
| Chronic symptoms | : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking of the skin. vSkin rash/inflammation. Impaired memory. |

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No additional information available

SECTION 5: FIRE-FIGHTING MEASURES

5.1. 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.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

- Fire hazard : DIRECT FIRE HAZARD. Highly flammable. Gas/vapor flammable with air within explosion limits. INDIRECT FIRE HAZARD. May be ignited by sparks. Gas/vapor 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.

5.3. ADVICE FOR FIREFIGHTERS

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective goggles. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. See "Material-Handling" to select protective clothing.
- Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosion-proof appliances and lighting equipment. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Stop leak if safe to do so. Ventilate area.

6.2. ENVIRONMENTAL PRECAUTIONS

Prevent spreading in sewers.

6.3. 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.

6.4. REFERENCE TO OTHER SECTIONS

No additional information available

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

| | |
|-------------------------------|--|
| 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. |

7.2. 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-ignition | : 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 | : SUITABLE MATERIAL: stainless steel. monel steel. carbon steel. copper. nickel. bronze. glass. Teflon. polyethylene. polypropylene. zinc. MATERIAL TO AVOID: steel with rubber inner lining. aluminium. |

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

Isopropanol, 70% v/v (67-63-0)

| | | |
|-------|---------------------------------------|--|
| ACGIH | ACGIH TWA (ppm) | 200 ppm (2-propanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH | ACGIH STEL (ppm) | 400 ppm (2-propanol; USA; Short time value; TLV - Adopted Value) |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 980 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 400 ppm |
| IDLH | US IDLH (ppm) | 2000 ppm |
| NIOSH | NIOSH REL (TWA) (mg/m ³) | 980 mg/m ³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 400 ppm |
| NIOSH | NIOSH REL (STEL) (mg/m ³) | 1225 mg/m ³ |
| NIOSH | NIOSH REL (STEL) (ppm) | 500 ppm |


Isopropyl Alcohol (2-Propanol) (67-63-0)

| | | |
|-------|---------------------------------------|--|
| ACGIH | ACGIH TWA (ppm) | 200 ppm (2-propanol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value) |
| ACGIH | ACGIH STEL (ppm) | 400 ppm (2-propanol; USA; Short time value; TLV - Adopted Value) |
| OSHA | OSHA PEL (TWA) (mg/m ³) | 980 mg/m ³ |
| OSHA | OSHA PEL (TWA) (ppm) | 400 ppm |
| IDLH | US IDLH (ppm) | 2000 ppm |
| NIOSH | NIOSH REL (TWA) (mg/m ³) | 980 mg/m ³ |
| NIOSH | NIOSH REL (TWA) (ppm) | 400 ppm |
| NIOSH | NIOSH REL (STEL) (mg/m ³) | 1225 mg/m ³ |
| NIOSH | NIOSH REL (STEL) (ppm) | 500 ppm |

Water (7732-18-5)

Not applicable

8.2. EXPOSURE CONTROLS

| | |
|--|---|
| Appropriate engineering controls | : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. |
| Personal protective equipment | : Safety glasses. Gloves. Protective clothing. High gas/vapor concentration: gas mask with filter type A. |
|  | |
| 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. |

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Physical state | : Liquid |
| Appearance | : Liquid. |
| Color | : Colourless |
| Odor | : Alcohol odour Stuffy odour Mild odour |
| Odor threshold | : 3 - 610 ppm 8 - 1499 mg/m ³ |
| pH | : No data available |
| Melting point | : -88 °C |
| Freezing point | : No data available |
| Boiling point | : 82 °C (1013 hPa) |
| Critical temperature | : 235 °C |
| Critical pressure | : 47600 hPa |
| Flash point | : 12 °C |
| Relative evaporation rate (butyl acetate=1) | : 2.3 |
| Relative evaporation rate (ether=1) | : 21 |
| Flammability (solid, gas) | : No data available |
| Vapor pressure | : 44 hPa (20 °C) |
| Vapor pressure at 50 °C | : 60.2 hPa (25 °C) |
| Relative vapor density at 20 °C | : 2.1 |
| Relative density | : 0.88 |
| Relative density of saturated gas/air mixture | : 1.05 |
| Specific gravity / density | : 0.88 g/ml |
| Molecular mass | : 60.1 g/mol |
| Solubility | : Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in oils/fats. Soluble in chloroform. Water: Complete Ethanol: Complete Ether: Complete Acetone: soluble |
| Log Pow | : 0.05 (Weight of evidence approach; Other; 25 °C) |
| Auto-ignition temperature | : 399 °C |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : 2.5316 mm ² /s (25 °C) |
| Viscosity, dynamic | : 0.002 Pa.s (25 °C) |
| Explosion limits | : 2 - 13 vol % 50 - 335 g/m ³ |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Oxidizing properties | : None. |

9.2. OTHER INFORMATION

| | |
|--------------------------|---|
| Minimum ignition energy | : 0.65 mJ |
| Specific conductivity | : 5.8 µS/m |
| Saturation concentration | : 106 g/m ³ |
| VOC content | : 100 % |
| Other properties | : Gas/vapour heavier than air at 20°C. Clear. Volatile. |

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

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

10.2. CHEMICAL STABILITY

Stable under normal conditions.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

No additional information available

10.4. CONDITIONS TO AVOID

Direct sunlight. Heat. High temperature. Incompatible materials. Open flame. Sparks.

10.5. INCOMPATIBLE MATERIALS

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

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

Carbon dioxide. Carbon monoxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

Likely routes of exposure : Inhalation; Skin and eye contact
Acute toxicity : Not classified

| Isopropanol, 70% v/v (67-63-0) | |
|--------------------------------|---|
| LD50 dermal rabbit | 12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit) |
| LC50 inhalation rat (mg/l) | 73 mg/l/4h (Rat) |
| ATE US (oral) | 5045.000 mg/kg body weight |
| ATE US (dermal) | 12870.000 mg/kg body weight |
| ATE US (vapors) | 73.000 mg/l/4h |
| ATE US (dust, mist) | 73.000 mg/l/4h |

| Isopropyl Alcohol (2-Propanol) (67-63-0) | |
|--|---|
| LD50 dermal rabbit | 12870 mg/kg (Rabbit; Experimental value; Equivalent or similar to OECD 402; 16.4; Rabbit) |
| LC50 inhalation rat (mg/l) | 73 mg/l/4h (Rat) |
| ATE US (oral) | 5045.000 mg/kg body weight |
| ATE US (dermal) | 12870.000 mg/kg body weight |
| ATE US (vapors) | 73.000 mg/l/4h |
| ATE US (dust, mist) | 73.000 mg/l/4h |

| Water (7732-18-5) | |
|-------------------|-----------------------------|
| LD50 oral rat | ≥ 90000 mg/kg |
| ATE US (oral) | 90000.000 mg/kg body weight |

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

| Isopropanol, 70% v/v (67-63-0) | |
|--------------------------------|----------------------|
| IARC group | 3 - Not classifiable |

| Isopropyl Alcohol (2-Propanol) (67-63-0) | |
|--|----------------------|
| IARC group | 3 - Not classifiable |

| | |
|--|--|
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : May cause respiratory irritation. |
| Specific target organ toxicity – repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Symptoms/injuries after inhalation | : EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous system depression. Dizziness. Headache. Narcosis. |
| Symptoms/injuries after skin contact | : Dry skin. |
| Symptoms/injuries after eye contact | : Irritation of the eye tissue. |
| Symptoms/injuries after ingestion | : AFTER ABSORPTION OF LARGE QUANTITIES: Central nervous system depression. Headache. Dilation of the blood vessels. Low arterial pressure. Nausea. Vomiting. Abdominal pain. Disturbed motor response. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature fall. Slowing respiration. |
| Chronic symptoms | : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking of the skin. Skin rash/inflammation. Impaired memory. |

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

| | |
|-------------------|---|
| Ecology - general | : Not classified as dangerous for the environment according to the criteria of Directive 67/548/EEC. Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. |
| Ecology - air | : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of substances which may contribute to the greenhouse effect (Regulation (EC) No 842/2006). 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). Not harmful to algae (EC50 (72h) >1000 mg/l). Inhibition of activated sludge. |

Isopropanol, 70% v/v (67-63-0)

| | |
|-------------------------|--|
| LC50 fish 2 | 9640 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 2 | 13299 mg/l (EC50; Other; 48 h; Daphnia magna) |
| Threshold limit algae 1 | > 1000 mg/l (EC50; UBA; 72 h; Scenedesmus subspicatus) |

Isopropyl Alcohol (2-Propanol) (67-63-0)

| | |
|-------------------------|--|
| LC50 fish 2 | 9640 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Pimephales promelas; Flow-through system; Fresh water; Experimental value) |
| EC50 Daphnia 2 | 13299 mg/l (EC50; Other; 48 h; Daphnia magna) |
| Threshold limit algae 1 | > 1000 mg/l (EC50; UBA; 72 h; Scenedesmus subspicatus) |

12.2. PERSISTENCE AND DEGRADABILITY

Isopropanol, 70% v/v (67-63-0)

| | |
|---------------------------------|---|
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No test data on mobility of the substance available. |
| Biochemical oxygen demand (BOD) | 1.19 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 2.23 g O ₂ /g substance |
| ThOD | 2.4 g O ₂ /g substance |

Isopropyl Alcohol (2-Propanol) (67-63-0)

| | |
|---------------------------------|---|
| Persistence and degradability | Readily biodegradable in water. Biodegradable in the soil. Biodegradable in the soil under anaerobic conditions. No test data on mobility of the substance available. |
| Biochemical oxygen demand (BOD) | 1.19 g O ₂ /g substance |
| Chemical oxygen demand (COD) | 2.23 g O ₂ /g substance |
| ThOD | 2.4 g O ₂ /g substance |

Water (7732-18-5)

| | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |
|-------------------------------|------------------|

12.3. BIOACCUMULATIVE POTENTIAL

Isopropanol, 70% v/v (67-63-0)

| | |
|---------------------------|--|
| Log Pow | 0.05 (Weight of evidence approach; Other; 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

Isopropyl Alcohol (2-Propanol) (67-63-0)

| | |
|---------------------------|--|
| Log Pow | 0.05 (Weight of evidence approach; Other; 25 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

Water (7732-18-5)

| | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |
|---------------------------|------------------|

12.4. MOBILITY IN SOIL**Isopropanol, 70% v/v (67-63-0)**

| | |
|-----------------|-------------------|
| Surface tension | 0.021 N/m (25 °C) |
|-----------------|-------------------|

Isopropyl Alcohol (2-Propanol) (67-63-0)

| | |
|-----------------|-------------------|
| Surface tension | 0.021 N/m (25 °C) |
|-----------------|-------------------|

12.5. OTHER ADVERSE EFFECTS

| | |
|------------------------------|---------------------------------------|
| Effect on the global warming | : No known effects from this product. |
| GWPmix comment | : No known effects from this product. |

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. 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. |
|------------------------|---|

SECTION 14: TRANSPORT INFORMATION**Department of Transportation (DOT)**

In accordance with DOT

| | |
|----------------------------------|---|
| Transport document description | : UN1219 Isopropanol, 3, II |
| UN-No.(DOT) | : UN1219 |
| Proper Shipping Name (DOT) | : Isopropanol |
| Transport hazard class(es) (DOT) | : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120 |
| Packing group (DOT) | : II - Medium Danger |
| Hazard labels (DOT) | : 3 - Flammable liquid |



| | |
|---|-------|
| DOT Packaging Non Bulk (49 CFR 173.xxx) | : 202 |
| DOT Packaging Bulk (49 CFR 173.xxx) | : 242 |

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 Quantity Limitations : 5 L
Passenger aircraft/rail (49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft : 60 L
only (49 CFR 175.75)

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.

Other information : No supplementary information available.

SECTION 15: REGULATORY INFORMATION

15.1. US FEDERAL REGULATIONS

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory
Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

| | | |
|--------------------------------|----------------|-----|
| Isopropyl Alcohol (2-Propanol) | CAS No 67-63-0 | 70% |
|--------------------------------|----------------|-----|

15.2. INTERNATIONAL REGULATIONS

CANADA

| Isopropanol, 70% v/v (67-63-0) | |
|--|--|
| WHMIS Classification | Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects |
| Isopropyl Alcohol (2-Propanol) (67-63-0) | |
| WHMIS Classification | Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects |

| Water (7732-18-5) | |
|----------------------|---|
| WHMIS Classification | Uncontrolled product according to WHMIS classification criteria |

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US STATE REGULATIONS

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

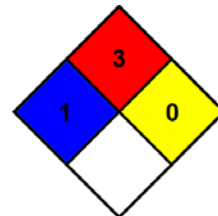
SECTION 16: OTHER INFORMATION

Revision date : 09/23/2015

Full text of H-phrases: see section 16:

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| H225 | Highly flammable liquid and vapour |
| H319 | Causes serious eye irritation |
| H335 | May cause drowsiness or dizziness |

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| NFPA health hazard | : 1 - Materials that, under emergency conditions, can cause significant irritation. |
| NFPA fire hazard | : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. |
| NFPA reactivity | : 0 - Material that in themselves are normally stable, even under fire conditions. |
| HMIS III Rating Health | : 1 Slight Hazard - Irritation or minor reversible injury possible |
| Flammability | : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC) |
| Physical | : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives. |
| Personal protection | : H H - Splash goggles, Gloves, Synthetic apron, Vapor respirator |



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