## SECTION-1: Identification of the substance / mixture and the company / undertaking

| | |
|---|---|
| **Catalogue Number** | CS-SS-26608 |
| **Product Name** | Isopropyl Alcohol |
| **CAS No.** | 67-63-0 |
| **Category** | Secondary Standards |
| **Synonyms** | 2-Hydroxypropane;<br>2-Propyl alcohol |
| **Brand** | Clearsynth Labs Ltd. |
| **Identified uses** | Laboratory Chemicals |
| **Uses advised against** | Not available |
| **Company** | Clearsynth Labs Ltd.<br>Mumbai, India |
| **Emergency Phone #** | +91-22-245045900 |
| **REACH No.** | Not available |

## SECTION 2: Hazards identification

**Disclaimer:** This is sample MSDS. Please email **sales@clearsynth.com** for more details.

### 2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Serious eye damage/eye irritation (Category 2)

### 2.2 Label Elements

**Signal Word:** Warning

**Hazard Statement(s)**

| Code | Statement |
|---|---|
| H225 | Not available |
| H319 | Causes serious eye irritation. |
| H336 | Not available |

| | |
|---|---|
| H318 | Causes serious eye damage. |
| H373 | Not available |
| H400 | Not available |
| H410 | Not available |
| H335 | Not available |
| H361 | Not available |
| H370 | Not available |
| H372 | Not available |
| H303 | Not available |
| H305 | Not available |
| H313 | Not available |

**Precautionary Statement(s)**

| Code | Statement |
|---|---|
| P210 | Not available |
| P233 | Not available |
| P240 | Not available |
| P241 | Not available |
| P242 | Not available |
| P243 | Not available |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P264+P265 | Not available |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P303+P361+P353 | Not available |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen |
| P319 | Get medical help if you feel unwell. |
| P337+P317 | If eye irritation persists: Get medical help. |
| P370+P378 | Not available |

| | |
|---|---|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P403+P235 | Not available |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulatio |
| P260 | Not available |
| P273 | Not available |
| P305+P354+P338 | Not available |
| P317 | Not available |
| P391 | Not available |
| P203 | Not available |
| P264 | Wash hands thoroughly after handling. |
| P270 | Not available |
| P308+P316 | Not available |
| P318 | Not available |
| P321 | Specific treatment (see … on this label). |
| P301+P316 | Not available |
| P301+P317 | Not available |
| P302+P317 | Not available |
| P331 | Not available |

## SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Isopropyl Alcohol
CAS Number : 67-63-0
Molecular Formula : C3H8O
Molecular Weight : 60.10
Parent Chemical : Isopropyl Alcohol
Synonyms : 2-Hydroxypropane;
2-Propyl alcohol
Concentration : Not available

## SECTION 4: First aid measures

SECTION 4: First-aid measures

Description of first aid measures
- General advice: Remove contaminated clothing and shoes. Seek medical attention if symptoms persist or are severe.
- Inhalation: Move person to fresh air. Keep at rest. If breathing is difficult, seek medical attention.
- Skin contact: Wash with plenty of water and soap. If irritation develops or persists, seek medical attention.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
- Ingestion: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

Most important symptoms/effects, acute and delayed
- May cause irritation to eyes, skin, and respiratory tract.
- Central nervous system effects (e.g., dizziness, drowsiness) may occur.
- Additional information: Not available.

Indication of immediate medical attention and special treatment needed
- Treat symptomatically.
- Special treatment: Not available.

## SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

Suitable extinguishing media
- Alcohol-resistant foam, dry chemical powder, carbon dioxide (CO2), water spray/fog.

Unsuitable extinguishing media
- Not available.

Specific hazards arising from the chemical
- Flammable liquid and vapor.
- Vapors may form explosive mixtures with air.
- Combustion may produce carbon oxides.

Special protective equipment and precautions for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Use water spray to cool unopened containers.
- Fight fire from a safe distance and protected location.

## SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
- Evacuate unnecessary personnel.
- Eliminate all ignition sources. Provide adequate ventilation.
- Avoid breathing vapors/mist. Avoid contact with skin and eyes.
- Use appropriate personal protective equipment (see Section 8).

Environmental precautions
- Prevent entry into drains, waterways, and soil.

- Environmental impact data: Not available.

Methods and materials for containment and cleaning up
- Contain spill with non-combustible absorbent material (e.g., sand, earth, vermiculite).
- Collect into suitable, properly labeled containers for disposal.
- Clean spill area with water; avoid creating ignition hazards.

## SECTION-7: Handling and storage

SECTION 7: Handling and storage

Precautions for safe handling
- Use only with adequate ventilation.
- Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
- Avoid breathing vapors/mist. Avoid contact with eyes and skin.
- Use non-sparking tools and explosion-proof equipment where required.
- Ground/bond container and receiving equipment.

Conditions for safe storage, including any incompatibilities
- Store in a cool, well-ventilated place.
- Keep container tightly closed.
- Store away from ignition sources and incompatible materials.
- Incompatible materials: Not available.

## SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

Control parameters
- Occupational exposure limits: Not available.

Appropriate engineering controls
- Provide local exhaust ventilation or general dilution ventilation to maintain airborne concentrations below applicable limits.
- Use explosion-proof ventilation/equipment where required.

Individual protection measures, such as personal protective equipment (PPE)
- Eye/face protection: Safety glasses with side shields or chemical splash goggles.
- Skin protection: Wear suitable chemical-resistant gloves. Protective clothing as needed.
- Respiratory protection: If ventilation is inadequate, use appropriate respiratory protection.
- Hygiene measures: Wash hands thoroughly after handling. Remove contaminated clothing and wash before reuse.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| Test | Result |
|---|---|
| Appearance | No data available |

| Test | Result |
|---|---|
| IR spectrum | No data available |
| pH | No data available |
| Solubility | No data available |

| Property | Value |
|---|---|
| a) Physical State | No data available |
| b) Color | No data available |
| c) Odor | No data available |
| d) pH | No data available |
| e) Vapour Pressure | No data available |
| f) Viscosity | No data available |
| g) Initial Boiling Point and boiling range | No data available |
| h) Melting Point / Freezing Point | No data available |
| i) Auto Ignition Temperature | No data available |
| j) Flash Point | No data available |
| k) Explosion Limit, Lower | No data available |
| l) Explosion Limit, Upper | No data available |
| m) Decomposition Temperature | No data available |
| n) Loss on Drying | No data available |
| o) Relative Density | No data available |
| p) Solubility (in DMSO) | No data available |
| q) Oxidizing Properties | No data available |

## SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

Reactivity
- Not available.

Chemical stability
- Stable under recommended storage conditions.

Possibility of hazardous reactions
- Not available.

Conditions to avoid
- Heat, sparks, open flames, and other ignition sources.

Incompatible materials
- Not available.

Hazardous decomposition products
- Carbon oxides.

## SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: The main target organs of aluminum are the central nervous system and bone. Aluminum binds with dietary phosphorus and impairs gastrointestinal absorption of phosphorus. The decreased phosphate body burden results in osteomalacia (softening of the bones due to defective bone mineralization) and rickets. Aluminum's neurotoxicity is believed to involve several mechanisms. Changes in cytoskeletal protein functions as a results of altered phosphorylation, proteolysis, transport, and synthesis are believed to be one cause. Aluminum may induce neurobehavioral effects by affecting permeability of the blood-brain barrier, cholinergic activity, signal transduction pathways, lipid peroxidation, and impair neuronal glutamate nitric oxide-cyclic GMP pathway, as well as interfere with metabolism of essential trace elements because of similar coordination chemistries and consequent competitive interactions. It has been suggested that aluminum's interaction with estrogen receptors increases the expression of estrogen-related genes and thereby contributes to the progression of breast cancer (A235), but studies have not been able to establish a clear link between aluminum and increased risk of breast cancer (A15468). Certain aluminum salts induce immune responses by activating inflammasomes. (L739, A235, A236) LC50 (rat) = 16,000 ppm/8H
- Skin corrosion/irritation: No data available.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: No data available.
- Carcinogenicity: The main target organs of aluminum are the central nervous system and bone. Aluminum binds with dietary phosphorus and impairs gastrointestinal absorption of phosphorus. The decreased phosphate body burden results in osteomalacia (softening of the bones due to defective bone mineralization) and rickets. Aluminum's neurotoxicity is believed to involve several mechanisms. Changes in cytoskeletal protein functions as a results of altered phosphorylation, proteolysis, transport, and synthesis are believed to be one cause. Aluminum may induce neurobehavioral effects by affecting permeability of the blood-brain barrier, cholinergic activity, signal transduction pathways, lipid peroxidation, and impair neuronal glutamate nitric oxide-cyclic GMP pathway, as well as interfere with metabolism of essential trace elements because of similar coordination chemistries and consequent competitive interactions. It has been suggested that aluminum's interaction with estrogen receptors increases the expression of estrogen-related genes and thereby contributes to the progression of breast cancer (A235), but studies have not been able to establish a clear link between aluminum and increased risk of breast cancer (A15468). Certain aluminum salts induce immune responses by activating inflammasomes. (L739, A235, A236) Inadequate information to assess carcinogenic potential
- Reproductive toxicity: No data available.
- STOT-single exposure: The main target organs of aluminum are the central nervous system and bone. Aluminum binds with dietary phosphorus and impairs gastrointestinal absorption of phosphorus. The decreased phosphate body burden results in osteomalacia (softening of the bones due to defective bone mineralization) and rickets.

Aluminum's neurotoxicity is believed to involve several mechanisms. Changes in cytoskeletal protein functions as a results of altered phosphorylation, proteolysis, transport, and synthesis are believed to be one cause. Aluminum may induce neurobehavioral effects by affecting permeability of the blood-brain barrier, cholinergic activity, signal transduction pathways, lipid peroxidation, and impair neuronal glutamate nitric oxide-cyclic GMP pathway, as well as interfere with metabolism of essential trace elements because of similar coordination chemistries and consequent competitive interactions. It has been suggested that aluminum's interaction with estrogen receptors increases the expression of estrogen-related genes and thereby contributes to the progression of breast cancer (A235), but studies have not been able to establish a clear link between aluminum and increased risk of breast cancer (A15468). Certain aluminum salts induce immune responses by activating inflammasomes. (L739, A235, A236)
- STOT-repeated exposure: IDENTIFICATION: Isopropyl alcohol is an aliphatic alcohol hydrocarbon. It is prepared from propylene, which is obtained in the cracking of petroleum or by the reduction of acetone. It is a colorless liquid which is soluble in water, alcohol, ether, acetone, benzene and chloroform. It is insoluble in salt solutions. It has a slight odor resembling a mixture of ethanol and acetone and has a slight bitter taste. It is used in antifreeze, industrial solvent, solvent for gums, shellac, essential oils, in quick drying oils, creosote and resins; extraction of alkaloids; in quick drying inks; in denaturing ethyl alcohol; in body rubs, hand lotions, after shave lotions, cosmetics and pharmaceuticals; in manufacture of acetone, glycerol, isopropyl acetate; antiseptic; rubefacient ; and pharmaceutical aid. HUMAN EXPOSURE: Toxic effects include central nervous depression, liver, kidney, cardiovascular depression and brain damage. It can cause drowsiness, ataxia, stupor, coma and respiratory depression, irritation of mucous membranes and eyes, gastritis, gastric hemorrhage, vomiting, pancreatitis, cold clammy skin, hypothermia, miosis, tachycardia, slow and noisy respiration. High risk of circumstances of poisoning: Accidental ingestion of rubbing alcohols/toiletries by children. There is a potential exposure from dermal and inhalation exposure in children during isopropyl alcohol sponging for control of fever. Intentional ingestion for alcoholic effect or in suicide attempts. Occupational or accidental exposure to liquid or its vapor in industrial applications. Individuals exposed to isopropyl alcohol include the following: workers in the pharmaceutical industry, cosmetic industry, chemical industry, petroleum workers, laboratory workers, printers, painters and carpenters and cabinet makers. There is little absorption through intact skin. Isopropyl alcohol is a potent eye and skin irritant. 80% of an oral dose is absorbed within 30 minutes. Absorption is complete within 2 hours although this may be delayed in a large overdose. Alveolar concentration is correlated to the environmental concentration at any given time. Isopropyl alcohol is absorbed through intact skin on prolonged exposure. Isopropyl alcohol distributes in body water with an apparent volume of distribution of 0.6-0.7 L/kg. 20-50% of an absorbed dose is excreted unchanged. Most isopropyl alcohol is oxidized in the liver by alcohol dehydrogenase to acetone, formate and finally carbon dioxide. Acetone is slowly eliminated by the lung (40%) or kidney. Clinically insignificant excretion occurs into the stomach and saliva. Related keto acids are not produced in sufficient quantities to cause a severe metabolic acidosis. Inebriation, peripheral vasodilation has occurred. In children, hypoglycemia is particularly severe when poisoning following fasting, exercise or chronic malnutrition Lactic acidosis may occur in patients with severe liver disease, pancreatitis or receiving biguanide therapy or as a result of the hypovolemia which frequently accompanies severe intoxication. ANIMAL STUDIES: Isopropyl alcohol most closely follows first order kinetics, with a half life of 2.5 to 3.2 hours. The elimination half life of the active metabolite acetone is significantly prolonged to about 5 hours in rats. In rat hepatocytes the following has been observed: marked depletion of glutathione, increased malondialdehyde production, decreased protein sulfhydryls content and leakage of lactic dehydrogenase with loss of membrane activity.
- Aspiration hazard: /SIGNS AND SYMPTOMS/ SYMPTOMATOLOGY: 1. DIZZINESS, INCOORDINATION, HEADACHE, CONFUSION, STUPOR & COMA. 2. GASTROENTERITIS WITH VOMITING, HEMATEMESIS, & DIARRHEA. 3. HYPOTENSION, WITH OR WITHOUT BRADYCARDIA, & SOMETIMES ... CIRCULATORY COLLAPSE. 4. PERSISTENT COMA WITH HYPOTHERMIA. 5. DEATH BY RESP ARREST. 6. LATE MANIFESTATIONS: ASPIRATION PNEUMONIA; KIDNEY & LIVER DYSFUNCTIONS, WHICH ARE USUALLY

MILD & TRANSIENT, BUT THE RENAL IMPAIRMENT MAY BE SERIOUS.

Likely routes of exposure
- IDENTIFICATION: Isopropyl alcohol is an aliphatic alcohol hydrocarbon. It is prepared from propylene, which is obtained in the cracking of petroleum or by the reduction of acetone. It is a colorless liquid which is soluble in water, alcohol, ether, acetone, benzene and chloroform. It is insoluble in salt solutions. It has a slight odor resembling a mixture of ethanol and acetone and has a slight bitter taste. It is used in antifreeze, industrial solvent, solvent for gums, shellac, essential oils, in quick drying oils, creosote and resins; extraction of alkaloids; in quick drying inks; in denaturing ethyl alcohol; in body rubs, hand lotions, after shave lotions, cosmetics and pharmaceuticals; in manufacture of acetone, glycerol, isopropyl acetate; antiseptic; rubefacient ; and pharmaceutical aid. HUMAN EXPOSURE: Toxic effects include central nervous depression, liver, kidney, cardiovascular depression and brain damage. It can cause drowsiness, ataxia, stupor, coma and respiratory depression, irritation of mucous membranes and eyes, gastritis, gastric hemorrhage, vomiting, pancreatitis, cold clammy skin, hypothermia, miosis, tachycardia, slow and noisy respiration. High risk of circumstances of poisoning: Accidental ingestion of rubbing alcohols/toiletries by children. There is a potential exposure from dermal and inhalation exposure in children during isopropyl alcohol sponging for control of fever. Intentional ingestion for alcoholic effect or in suicide attempts. Occupational or accidental exposure to liquid or its vapor in industrial applications. Individuals exposed to isopropyl alcohol include the following: workers in the pharmaceutical industry, cosmetic industry, chemical industry, petroleum workers, laboratory workers, printers, painters and carpenters and cabinet makers. There is little absorption through intact skin. Isopropyl alcohol is a potent eye and skin irritant. 80% of an oral dose is absorbed within 30 minutes. Absorption is complete within 2 hours although this may be delayed in a large overdose. Alveolar concentration is correlated to the environmental concentration at any given time. Isopropyl alcohol is absorbed through intact skin on prolonged exposure. Isopropyl alcohol distributes in body water with an apparent volume of distribution of 0.6-0.7 L/kg. 20-50% of an absorbed dose is excreted unchanged. Most isopropyl alcohol is oxidized in the liver by alcohol dehydrogenase to acetone, formate and finally carbon dioxide. Acetone is slowly eliminated by the lung (40%) or kidney. Clinically insignificant excretion occurs into the stomach and saliva. Related keto acids are not produced in sufficient quantities to cause a severe metabolic acidosis. Inebriation, peripheral vasodilation has occurred. In children, hypoglycemia is particularly severe when poisoning following fasting, exercise or chronic malnutrition Lactic acidosis may occur in patients with severe liver disease, pancreatitis or receiving biguanide therapy or as a result of the hypovolemia which frequently accompanies severe intoxication. ANIMAL STUDIES: Isopropyl alcohol most closely follows first order kinetics, with a half life of 2.5 to 3.2 hours. The elimination half life of the active metabolite acetone is significantly prolonged to about 5 hours in rats. In rat hepatocytes the following has been observed: marked depletion of glutathione, increased malondialdehyde production, decreased protein sulfhydryls content and leakage of lactic dehydrogenase with loss of membrane activity.

Symptoms related to the physical, chemical and toxicological characteristics
- IDENTIFICATION: Isopropyl alcohol is an aliphatic alcohol hydrocarbon. It is prepared from propylene, which is obtained in the cracking of petroleum or by the reduction of acetone. It is a colorless liquid which is soluble in water, alcohol, ether, acetone, benzene and chloroform. It is insoluble in salt solutions. It has a slight odor resembling a mixture of ethanol and acetone and has a slight bitter taste. It is used in antifreeze, industrial solvent, solvent for gums, shellac, essential oils, in quick drying oils, creosote and resins; extraction of alkaloids; in quick drying inks; in denaturing ethyl alcohol; in body rubs, hand lotions, after shave lotions, cosmetics and pharmaceuticals; in manufacture of acetone, glycerol, isopropyl acetate; antiseptic; rubefacient ; and pharmaceutical aid. HUMAN EXPOSURE: Toxic effects include central nervous depression, liver, kidney, cardiovascular depression and brain damage. It can cause drowsiness, ataxia, stupor, coma and respiratory depression, irritation of mucous membranes and eyes, gastritis, gastric hemorrhage, vomiting, pancreatitis, cold clammy skin, hypothermia, miosis, tachycardia, slow and noisy respiration. High risk of circumstances of poisoning: Accidental ingestion of rubbing

alcohols/toiletries by children. There is a potential exposure from dermal and inhalation exposure in children during isopropyl alcohol sponging for control of fever. Intentional ingestion for alcoholic effect or in suicide attempts. Occupational or accidental exposure to liquid or its vapor in industrial applications. Individuals exposed to isopropyl alcohol include the following: workers in the pharmaceutical industry, cosmetic industry, chemical industry, petroleum workers, laboratory workers, printers, painters and carpenters and cabinet makers. There is little absorption through intact skin. Isopropyl alcohol is a potent eye and skin irritant. 80% of an oral dose is absorbed within 30 minutes. Absorption is complete within 2 hours although this may be delayed in a large overdose. Alveolar concentration is correlated to the environmental concentration at any given time. Isopropyl alcohol is absorbed through intact skin on prolonged exposure. Isopropyl alcohol distributes in body water with an apparent volume of distribution of 0.6-0.7 L/kg. 20-50% of an absorbed dose is excreted unchanged. Most isopropyl alcohol is oxidized in the liver by alcohol dehydrogenase to acetone, formate and finally carbon dioxide. Acetone is slowly eliminated by the lung (40%) or kidney. Clinically insignificant excretion occurs into the stomach and saliva. Related keto acids are not produced in sufficient quantities to cause a severe metabolic acidosis. Inebriation, peripheral vasodilation has occurred. In children, hypoglycemia is particularly severe when poisoning following fasting, exercise or chronic malnutrition Lactic acidosis may occur in patients with severe liver disease, pancreatitis or receiving biguanide therapy or as a result of the hypovolemia which frequently accompanies severe intoxication. ANIMAL STUDIES: Isopropyl alcohol most closely follows first order kinetics, with a half life of 2.5 to 3.2 hours. The elimination half life of the active metabolite acetone is significantly prolonged to about 5 hours in rats. In rat hepatocytes the following has been observed: marked depletion of glutathione, increased malondialdehyde production, decreased protein sulfhydryls content and leakage of lactic dehydrogenase with loss of membrane activity.

## SECTION 12: Ecological information

SECTION 12: Ecological information

Toxicity
- No data available.

Persistence and degradability
- No data available.

Bioaccumulative potential
- No data available.

Mobility in soil
- No data available.

Other adverse effects
- No data available.

## SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

Waste treatment methods
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains.
- Incineration or disposal via licensed waste contractor may be appropriate.
- Waste code: Not available.

## SECTION 14: Transport information

SECTION 14: Transport information

UN number
- Not available.

UN proper shipping name
- Not available.

Transport hazard class(es)
- Not available.

Packing group
- Not available.

Environmental hazards
- Not available.

Special precautions for user
- Keep away from ignition sources. Transport in tightly closed containers.

Transport in bulk according to Annex II of MARPOL and the IBC Code
- Not available.

## SECTION 15: Regulatory information

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
- Not available.

Chemical inventories
- Not available.

## SECTION 16: Other information

SECTION 16: Other information

Product identification
- Product name: Isopropyl Alcohol
- CAS No.: 67-63-0
- Catalog No.: CS-SS-26608
- Synonyms: 2-Hydroxypropane; 2-Propyl alcohol
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Revision information
- Revision date: Not available.
- Version: Not available.

Disclaimer

- The information provided is believed to be accurate based on available data, but no warranty is expressed or implied. Users should determine suitability for their particular purpose and comply with applicable regulations.

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