

# Safety Data Sheet v1.1

UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS) compliant

## Section 1 (Identification):

**Product Description:** ISO propanol Alcohol based hand sanitizer  
**Trade name(s):** Avsan/ISO99, MEDsan/ISO99, K9san/ISO99, PETsan/ISO99  
**Product manufacturer:** Lessing Research Laboratories, chemical division, 1986/021266/23  
**Address:** P.O.Box 40012, Cleveland, 2022  
**Recommended use:** Used as hand sanitizer, spray on hands and rub vigorously for at least 30 seconds, wait for product to dry off before proceeding.  
**Uses advised against:** Do not add to detergents as a surface sanitizer.

## Section 2 (Hazard information):

### Hazard classification:

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

### GHS label elements, including precautionary statements



### Signal Word:

**DANGER**

### Hazard statements:

H225                            Highly flammable liquid and vapor.  
H319                            Causes serious eye irritation.  
H336                            May cause drowsiness or dizziness

### Precautionary statements:

P501                            Dispose of contents and container according to federal, state/provincial and municipal regulations.  
P305 + P351                 IF IN EYES: Rinse cautiously with water for several minutes.  
P337 + P313 + P338        If eye irritation persists: Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.  
P304 + P340                 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P370 + P378                 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.  
P312                            Call a doctor/physician if you feel unwell.  
P210                            Keep away from heat, sparks, open flames, and hot surfaces. No smoking.  
P233                            Keep container tightly closed.  
P403                            Store in a well-ventilated place.  
P405                            Store locked up.  
P264                            Wash hands thoroughly after handling.  
P280                            Wear eye protection.  
P261                            Avoid breathing mist, spray, vapours.  
P271                            Use only outdoors or in a well-ventilated area.

**Appearance:** light blue

**Physical State:** Liquid

**Odour:** odour of ISOpropanol

### Storage:

Store in a dry place at room temperature away from direct sunlight, do not expose to extreme heat.

### Disposal:

Dispose of contents/container only to an approved waste disposal plant.

### Section 3 (product composition):

Chemical name	CAS number	Percentage (w/w)
2-Propanol	67-63-0	70%
Glycerine	56-81-5	1 – 5%
NI-90	26027-38-3	1 – 5%
Hydrogen Peroxide	7722-84-1	< 0.5%
Blue Dye	57455-37-5	< 0.0007%
Water	7732-18-5	< 30%

**Appearance:** Light blue Aqueous solution  
**Physical State:** Liquid  
**Odour:** Odour of ISOpropanol

### Section 4 (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 laboured breathing:

half-seated.

Victim in shock:

On his/her 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 0861-555-777 (<http://www.sun.ac.za/poisoncentre>).

Consult a doctor/medical service if you feel unwell.

Ingestion of large quantities: Immediately to hospital. Note to physician: gastric lavage.

#### 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 HIGH 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 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 CO<sub>2</sub> are formed. Violent to explosive reaction with (strong) oxidizers. Prolonged storage/in large quantities: may form peroxides.

#### Advice for fire-fighters:

##### Fire fighting instructions:

Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.

##### Protection during fire-fighting:

Heat/fire exposure: use self-contained breathing apparatus and full protective gear.

Suitable extinguishing media:	Water, Foam, Carbon Dioxide CO <sub>2</sub>
Unsuitable extinguishing media:	No information
Specific Hazard arising from product:	No information

#### Explosive data:

Sensitivity to mechanical impact	None
Sensitivity to electrostatic discharge	None

#### Protective equipment and precautions:

As with all fires, use self-contained breathing apparatus and full protective gear. Cool product containers with flooding quantities of water until well after the fire is out.

## Section 6 (Accidental release measures):

### Personal precautions, protective equipment and emergency procedures:

#### For non-emergency personnel

Protective equipment: Gloves. Protective goggles. Protective clothing.

Large spills/in enclosed spaces: self contained breathing apparatus.

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.

#### For emergency responders'

Protective equipment: Equip clean-up 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. See section 7 for resistant 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 low impedance ground connection. 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 section 7 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.

## **Section 7 (Handling and storing measures):**

### **Precautions for safe handling:**

Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleansed 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-/explosion proof 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 packaging 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 (Personal protection/Exposure control):**

### **Appropriate engineering controls:**

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 concentration in air &gt; exposure limit.

See also section 11

**Section 9 (Physical and Chemical Properties):****Basic physical characteristics:****Appearance:** light blue**Physical State:** Liquid**Odour:** ISOpropanol odour**Chemical properties:**

pH	6.7-7.3
Melting Point/Range	No data
Boiling Point/Boiling Range	No data
Flash Point	No data
Evaporation rate	No data
Flammability (solid, gas)	No data
Partition coefficient: n-octanol/water	No data
Flammability Limits in Air	No data
upper flammability limit	No data
lower flammability limit	No data
Vapour Pressure	No data
Vapour Density	No data
Specific Gravity	0.89-0.94
Water Solubility	No data
Solubility in other solvents	No data
Auto-ignition Temperature	No data
Decomposition Temperature	No data
Viscosity	No data

Flammable Properties	Not flammable
Explosive Properties	Not explosive
Oxidizing Properties	No data

**Section 10 (Stability and Reactivity):**

<b>Reactivity</b>	Upon combustion: CO and CO <sub>2</sub> are formed. Violent to explosive reaction with (strong) oxidizer. Prolonged storage/in large quantities: may form peroxides..
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous reactions</b>	No additional information available.
<b>Incompatible materials</b>	May react violently with alkalis. May react violently with acids.
<b>Hazardous decomposition products</b>	Carbon dioxide. Carbon monoxide.

**Section 11 (Toxicological Information):****Information on the likely routes of exposure**

<b>Inhalation</b>	Vapors may irritate throat and respiratory system.
<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	May cause irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Reproductive toxicity:</b>	Not classified
<b>Specific target organ toxicity (single exposure):</b>	May cause drowsiness or dizziness.
<b>Specific target organ toxicity (repeated exposure):</b>	Not classified
<b>Aspiration hazard:</b>	Not classified
<b>Symptoms/injuries after inhalation:</b>	EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Dry/sore throat. Central nervous system depression. Dizziness. Headache. Narcosis.
<b>Symptoms/injuries after skin contact:</b>	Dry skin.
<b>Symptoms/injuries after eye contact:</b>	Irritation of the eye tissue.
<b>Symptoms/injuries after ingestion:</b>	AFTER ABSORPTION OF HIGH 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.
<b>Chronic symptoms:</b>	ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Red skin. Dry skin. Itching. Cracking of the skin. Skin rash/inflammation. Impaired memory.

## Exposure data:

Glycerol CAS 56-81-5 general accepted exposure limit is 15mg/m<sup>3</sup>, please refer to local health and safety procedures.

Hydrogen Peroxide 7722-84-1 generally accepted international exposure limits are:

ACGIH TLV TWA: 1 ppm

OSHA PEL: TWA 1 ppm (1.4mg/m<sup>3</sup>)

NIOSH IDLH: 75 ppm

NIOSH REL TWA: 1 ppm (1.4 mg/m<sup>3</sup>)

Please refer to local health and safety procedures.

2-Propanol CAS 67-63-0 generally accepted international exposure limits are:

ACGIH TWA: 200 ppm STEL: 400ppm

NIOSH REL TWA: 400 ppm (980 mg/m<sup>3</sup>)

NIOSH REL STEL: 500 ppm (1225 mg/m<sup>3</sup>)

Please refer to local health and safety procedures.

## Toxicity data:

Information is included here for completeness as concentrations in product is lower than figures listed here.

Glycerol CA 56-81-5 LD Oral 50% 12600mg/kg, LD Dermal (rabbit) >10g/kg, Inhalation LD50 (rat) >2.75 mg/L/4H exposure.

2-Propanol CAS 67-63-0 LD Oral (rat) 5000mg/kg, Inhalation LD50 (rat) 10000mg/kg 6 hour exposure (Equivalent or similar to OECD 403).

Hydrogen Peroxide 7722-84-1 LD Oral 50% (rat) 225 mg/kg, inhalation LD50 (mouse) 2150 mg/kg

## Section 12 (ECOLOGICAL INFORMATION):

### Glycerine

56-81-5

Fish LC50 Oncorhynchus mykiss

51 - 57 mL/L, 96h static

EC50 Daphnia magna

> 500 mg/L, 24h exposure

Freshwater algae:

no data

**Persistence and degradability:** Readily biodegradable

**Persistence:** Persistence is unlikely

### Hydrogen Peroxide 7722-84-1

Fish LC50 Pimephales promelas

16.4mg/L 96H exposure

Fish LC50 Leuciscus idus

35.0mg/L 72H exposure

EC50 Daphnia pulex

2.4mg/L 48H exposure

EC50 Daphnia magna

7.7mg/L 24H exposure

EC50 Algae Skeletone macostatum

1.38mg/L 72H exposure

**Eco toxicity persistence and degradability:** Readily degradable in the environment.

**Persistence and degradability:** Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in fresh water ranged from 8 hours to 20 days, in air from 10 - 20 hours, and in soils from minutes to hours depending upon microbiological activity and metal contamination.

**Bioaccumulation Material:** may have some potential to bio-accumulate but will likely degrade in most environments before accumulation can occur.

**Mobility:** Will likely be mobile in the environment due to its water solubility but will likely degrade overtime.

**Other Adverse Effects:** Decomposes into oxygen and water. No adverse effects.

### 2-Propanol 67-63-0

Fish LC50 Pimephales promelas

9.64-10.0g/L 96H exposure (Equivalent or similar to OECD 203)

Fresh water algae:

no data

**Ecology -air:** Not included in the list of substances which may contribute to the greenhouse effect (IPCC).

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014).

Photo oxidation in the air. Not classified as dangerous for the ozone layer (Regulation (EC)

No 1005/2009).

**Ecology -water:** Not harmful to Crustacea. Not harmful to fishes. Groundwater pollutant. Inhibition of activated sludge.

Not harmful to algae. Not harmful to bacteria

## Section 13 (Disposal Considerations)

### Waste Disposal 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 waste water treatment plants.

## Section 14 (Transport Information)

Label:



Transport document description: UN1219 Isopropanol, 3, II  
Proper Shipping Name: Isopropanol

Department of Transportation (DOT) Hazard Classes:	Class 3 - Flammable and combustible liquid, no sub risk
Hazard labels (DOT):	3 - Flammable liquid
Packing group (DOT):	II - Medium Danger
TDG Classification:	CLASS 3: Flammable liquid.
ADR/RID Classification:	Flammable liquid A.
IMO/IMDG Classification:	CLASS 3.1: Flammable liquid (low flash point).
ICAO/IATA Classification:	CLASS 3: Flammable liquid.

## Section 15 (Regulatory Information)

HCS Classification: Flammable liquid having flash point lower than 37.8°C (100°F)  
Target organ effects.  
Sensitizing substance.  
Reproductive toxins.

International lists

- R43 – May cause sensitization by skin contact.
- R53 – May cause long-term adverse effects in the aquatic environment.
- R 61 – May cause harm to the unborn child.
- R36/38 – Irritating to eyes and skin.

## Section 16 (General scientific Information):

Formulation as per World Health Organization recommendations.

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.