

**SAFETY DATA SHEET (SDS)****CHLORHEXIDINE ALCOHOL BLEND**

SAFETY DATA SHEET (SDS) according to
UN Transportation of Dangerous Goods,
UN Globally Harmonized System of classification and Labelling and EC Directives

SECTION 1. Identification – Chemical Product and Company

Trade Name	
Product Code	
Chemical Technical Name	Iso-propyl Alcohol – Chlorhexidine blend.
Proper Shipping Name	Alcohols NOS
UN Number	
CAS Number	Mixture,
GHS Product identifier	Alcohol
Chemical Family	Disinfectant
Recommended use of the Chemical	Hand Disinfection.
Restrictions of the Chemical	Reacts with oxidizers and acids.
Suppliers Details	
Address	
Telephone No	
e-mail	

SECTION 2. Hazards Identification

GHS Classification of the substance: Flammable Liquid, irritating eyes.

Hazard Class	Class 3	Flammable Liquid
Hazard Type	Hazard Category	GHS Hazard Statement
Acute toxicity oral	Not Classified	
Acute toxicity dermal	Not Classified	
Acute toxicity inhalation	Not Classified	
Respiratory sensitizer	Not Classified	
Skin corrosion/irritation	Not Classified	
Eye damage/ irritation	Category 2B	H320 Causes eye irritation
Aquatic Acute	Acute Category 3	H401 Harmful to Aquatic Life
Aquatic Chronic	Not Classified	
Flammable		H226 Flammable liquid and vapour



The most important adverse effects to know in emergency are –

GHS label elements, including precautionary Statements:



GHS 02 – Flammable

Signal word: Warning
H320 Causes eye irritation

Precautionary statements:

P210 Keep away from heat / sparks / open flames / hot surfaces – No smoking.
P235 Keep Cool.
P240 Ground / bond container and receiving equipment.
P241 Use explosion-proof electrical / ventilating / light / equipment.
P242 Use only non-sparking tools
P243 Take precautionary measures against static discharge
P261 Avoid breathing dust / fume / gas / mist / vapours / spray
P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using / handling this product
P391 Collect spillage
P501 Dispose of containers in accordance with regulations

Response:

P305 + P351 + P338 IF IN EYES rinse cautiously with water for several minutes, remove contact lenses if safe and easy to do, continue rinsing and get medical attention
P304 & P340 If INHALED and breathing is difficult – remove person to fresh air and get medical attention
P301 If SWALLOWED and feel unwell, get medical attention
Refer Sections 5, 6 and 8

Storage:

Refer Section 7
P403 + P233 Store in well ventilated place. Keep container tightly closed.
P405 Store locked up.

Special Labelling requirements – refer Section 14 for transport labels

SECTION 3. Composition / information on ingredients

Chemical Identity	Blend of alcohols and biocide
Other means of identity	Clear Light Pink Liquid
Common Name, synonyms, etc.	Blend of Iso Propyl alcohol and Chlorhexidine Gluconate

Ingredient name	UN Number	CAS number	%	Classification EC1272/2008
Isopropyl alcohol, ethyl alcohol blend		67-63-0 64-17-5	30-40	200-661-7 200-578-6
Chlorhexidine Gluconate		18472-51-0	1-5%	242-345-0



SECTION 4. First Aid Measures

Most important symptoms/effects, and necessary measures:

Product in eye – can cause serious eye damage / irritation. Flush eyes with water for 15 mins whilst holding eyelids open and remove any contact lens if safe to do so. Repeat rinsing if irritation persists and get medical attention. NB care must be taken to avoid contaminated rinsing's running back into the eyes.

Product on skin – can cause skin irritation, sensitizing to sensitive persons. Remove any contaminated clothing and wash affected area with running water for at least 20 mins. Wash contaminated clothing and shoes thoroughly before reuse.

Product ingested – do not induce vomiting, get victim to rinse mouth with water and then give at least 250 – 300ml water / milk to drink. If vomiting occurs, wipe mouth and give more water + get medical attention. NB if the victim is losing consciousness for any reason do NOT try to give anything by mouth!

Product inhaled or aspirated – May cause drowsiness or dizziness. Move patient to fresh air and if any breathing difficulty persists get immediate medical advice.

Most important symptoms and effects, both acute and delayed

Signs and Symptoms of Exposure: Giddiness, headache, dizziness and nausea.

Health Hazards (Acute and Chronic): Generally used as a rubdown. Vapor irritates eyes. High concentration of vapor can irritate respiratory tract, is anesthetic and may cause CNS depression.

Medical Conditions Generally Aggravated by Exposure: Pre-existing and respiratory disorders, may be aggravated by exposure. Exposure to solvent vapor concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system.

Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

SECTION 5. Fire-Fighting Measures.

Product is flammable: Has a very low flash point. Flash back possible over considerable distance. Use of water spray when fighting fire may be insufficient. Fire could produce irritating poisonous gas. Run off from fire control or dilution could cause pollution.

Suitable extinguishing media: Dry chemical, CO₂, water spray or alcohol-resistant foam.

Unsuitable extinguishing material: Do not use water jet

Small fires – immediate response action should quickly put out the fire.

Large fires – evacuate area, move containers out and away from fire if can be done safely without increasing risk. Isolate and contain fire as much as possible, and dike or use inert material for berm to contain any spilled materials and run-off water for later disposal. NB need to prevent run-off containing product from contaminating any water source as harmful to aquatic life.

Special hazards - Use water to keep containers cool to prevent pressure build up and possible explosion which could be caused through pressure build up

Protective clothing - Wear full protective clothing and self-contained, positive breathing apparatus for large fires – get professional emergency response where very large.

Refer to the ERG - Emergency Response Guide 2016 and SANS

NB: prompt actions can prevent spread of small fires but Large fires involving chemicals require professional Emergency Response.

**SECTION 6. Accidental Release Measures.**

Personal precautions - Wear personal protection before attempting to respond and contain or cleanup spills. Refer section 8

Environmental precautions - Do not allow spills to enter drains or waterways. Do not dispose large volumes of any chemical into watercourses or sewers, as components are environmental hazards.

Clean-up methods

Small Spills: wear protective clothing and gloves to contain and recover any spills. Wash contaminated area with plenty of water to remove any residues. .

Large Spills: stop source of leaks if possible, and prevent entry into waterways, sewers or basements. Seal off area and contain by diking with soil or other inert material. Recover as much as possible and then apply an inert material such as sawdust or commercial absorbent to absorb the remainder. Collect in suitable containers and then wash and scrub away the residue.

GHS Disposal Precautionary Statement - P501 dispose of spilt product, waste and containers in accordance with SA National and / or regional Regulations refer National Environmental Management Waste Act - NEM: WA, it's Regulations and local by-laws. This informs permitted Waste Facilities and Service providers see the South African Waste Information Centre

SECTION 7. Handling and Storage

Precautions for safe handling – wear appropriate personal protective equipment – see Section 8.

Eating, drinking and smoking shall be prohibited in areas where chemicals are handled, stored or processed. Workers must wash hands before eating, drinking or smoking to remove any chemicals that could be ingested or inhaled and should remove contaminated clothing and protective equipment before entering eating areas.

Storage requirements: Store in a cool place out of direct sun and avoid sources of potential contamination.

Handling precautions: Keep drums tightly closed when not in use. Avoid contact with skin, eyes or clothing. Avoid breathing mist. Handle as a corrosive liquid, wear rubber gloves if likely to come into skin contact.

Conditions for Safe Storage - refer SANS 10263: The Warehousing of dangerous goods, and **10263 - Part 8** The storage and handling of corrosive substances, for more specific information and relevant regulations and recognised practices for storage, warehousing and handling.

GHS Precautionary Statement P 406 store in corrosion resistant containers.

Suitable storage materials

PVC – Poly Vinyl Chloride, HDPE – High Density Polyethylene, PP – Polypropylene

Product Labels – Blue label including description, application, Hazards, precautions & batch no + Transport see S 14

Product Shelf life – 12 months from date of manufacture.

SECTION 8. Exposure controls / personal protection

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

Ingredient name	%	Exposure limits – OHS Act South Africa 1993
ISO propyl Alcohol 85%	30-40	ACGIH TWA 200ppm , ACGIH STEL 400ppm OSHA TWA 400ppm (980mg/m ³) OSHA STEL 500ppm NIOSH TWA 400ppm (980mg/m ³) NIOSH ST 500ppm (1225mg/m ³)
Chlorhexidine Gluconate	1-5	No information

Engineering control measures: Local ventilation should be available if mists are produced.

Personal protection – respiratory: Unlikely route of exposure, but if mists are encountered could be irritating to the respiratory tract, use NIOSH approved respirator.

Personal protection – hand: skin irritant thus avoid contact with this chemical. Wear rubber gloves.

Personal protection – eye: eye irritant thus wear safety glasses with side shields at all times. Contact lenses should not be worn.




Personal protection – skin: skin irritant thus wear overalls, safety shoes/boots and apron. Skin inflammation is characterized by itching, scaling, reddening or occasionally blistering.

Personal protection – ingestion: Very hazardous in case of ingestion. Restrict access to unauthorized persons. Wash hands after contact. Avoid inhalation.

Other protection - A safety shower and eye wash facility should be nearby and ready for use.



SECTION 8. Exposure controls / personal protection

Gloves	Eye Protection	Running water	Dust masks
Rubber / PVC	Goggles/Shield 	Access 	Dust Mask 

SECTION 9. Physical and chemical properties

Appearance	Clear Light Pink Liquid
Odour	Characteristic medicinal odour. Resembling alcohol.
Odour Threshold	Not known
pH	6.50-7.50 (6.90) undiluted
Density	0.95 – 1.05
Initial boiling point / range	Alcohol - The lowest known value is 232.5°C
Melting / Freezing point / range	Alcohol -May start to solidify at -88.5°C
Flash Point	Alcohol - Lowest known value closed cup 11.67°C Open Cup – 18.3°C
Explosive Properties	Vapors may form explosive mixtures with air.
Flammability	Flammable
Viscosity	Alcohol - Highest known value is 2.4 cP Weighted average 2.26 cP
% Volatile by volume	Alcohol - 100% v/v Weighted average 100%
Solubility – water	Easily soluble in cold / hot water methanol, diethyl ether Partial in n-octanol
Foam Ability	Not Applicable
Working temperature	10 – 50°C
Phosphates	Absent
Hard water behavior	Sequesters, broad spectrum
Surface compatibility	No precipitation of solids or separation
Biodegradability	ISO Propyl Alcohol is readily biodegradable
Products of combustion	Carbon Oxides (CO, CO ₂)

SECTION 10. Stability and Reactivity

Chemical Stability	Product is stable under normal operating and temperature conditions Product is fast evaporating keep in sealed containers out of direct sunlight.
Reactivity	Product reacts with oxidizers.
Conditions to Avoid	Direct sunlight, poor ventilation and high temperatures
Substances to Avoid	Avoid oxidizers, acids, bases
Incompatible materials	Reactive with Oxidizing agents, acetaldehyde, chlorine, ethylene oxide, acids and isocyanates
Thermal decomposition products	Formaldehyde & Acetic acid
Hazardous Polymerization	It reacts with oxygen to form dangerous unstable peroxides.



SECTION 11. Toxicological Information

Acute toxicity	Result	Species	Dose/ Exposure	Caution
Oral	Not Classified	ATE Mix Calculated	LD ₅₀ 8105.3291 mg/kg	May be harmful if swallowed
Dermal	Not Classified	ATE Mix Calculated	LD ₅₀ 29990.62 mg/kg	Irritating to sensitive skin
Inhalation	Not Classified	ATE Mix Calculated	LC ₅₀ 56.9290 mg/l	Avoid inhaling mists

Skin Corrosion / Irritation	Category - Irritant
Eye Damage / Irritation	Category 2B Irritating
Respiratory Sensitizer	Category 1B
Germ Cell Mutagenicity	No Evidence
Carcinogenicity	No evidence
Reproductive Toxicity	Iso Propyl Alcohol may cause damage to fertility of unborn child. Detected in maternal milk in human
STOT Specific Target Organ Toxicity	
Single Exposure	Respiratory irritation – may cause drowsiness
Repeated exposure	No Evidence
Aspiration Hazard	Harmful with possible respiratory irritation. Exposure can cause Nausea, headache and vomiting.

12. Ecological Information

GHS – EU Group Classification, and C & L Inventory :

Hazardous to Aquatic Environment Aquatic Toxicity	Fish LC ₅₀ (96hr) – 101.5315 ml/L (calculated ATE Mix) Daphnia LC ₅₀ (48hr) – 4.3491 mg/l (calculated ATE Mix) Algae EC ₅₀ (72hr) – 1.5000 mg/l (Calculated ATE Mix)
Acute (Short Term)	Category 3
Chronic (Long Term)	Category – Not Classified
Hazardous to the ozone layer Biodegradability	ISO Propyl Alcohol is readily biodegradable
Products of Degradation	Formaldehyde and Acetic acid
Bio-accumulation	Iso Propyl Alcohol Log Kow 0.05
Mobility	Miscible in Water
COD	COD is 52mg/kg/h/d
BOD	BOD = 58% in 5 days @20°C sewage (Is theoretical)

SECTION 13. Disposal considerations


Disposal methods

Disposal must be made in accordance with the applicable National and Regional Government regulations at approved and permitted chemical disposal sites – refer to the SA National Environmental Management Waste Act - NEM: WA, it's Regulations and local by-laws. This informs permitted Waste Facilities and Service providers see the South African Waste Information Centre sawic.environment.gov.za

Disposal of packaging

Packaging's and containers, even those that have been emptied, will retain product residue and vapours, handle empty containers as if they were full. Remove all possible traces of product and wash prior to disposal of packaging and containers. Dispose in compliance with Regulations – see above and Industry Best Practice
Always observe and comply with hazard warnings


SECTION 14. Transport information

UN Number	UN1987
UN proper shipping name – PSN	Alcohols NOS
Transport Class	3 Flammable 
Packing group	III
Environmental hazards	Harmful to aquatic life
IMDG	UN Certified drum EMS – F-E & S-D Category A Special Provision – 223 & 274. Pack Instruction P001 & LP01. IBC 03 Not a Marine pollutant - IMDG 2.9.3 below threshold Refer IMDG Code volume 2 Amendment 37-14
IATA	Single packaging - Drum 1H1 / 1H2 Jerry 3H1/3H2 EQ – E1 Passenger Packing instruction PI 355 – 60L Cargo Packing instruction – PI366 220Lt - 60Lt Special Provisions – A3 ERG Code 3L Refer IATA 2016 57 th edition
Emergency Response Guide – ERG 2016	Refer Guide 127 for Alcohol NOS info on Emergency response

SECTION 15. Regulatory information

OHS Act - Occupational Health and Safety Act 85 of 1993: requires site Risk Assessment and monitoring to inform personnel Health / Biological Monitoring. **Section 9A** requirement to provide MSDS

MHI – Major Hazards Installations Regulations - OHS Act: require site Risk Assessment to ascertain potential impacts outside of the site and potential impacts on the public or neighbours. Copy to be lodged with the Dept Labour, and local Emergency Services.

Pressure Equipment Regulations - OHS Act: encompasses containers and service equipment

NEMA – National Environmental Management Act 107 of 1998: Duty of Care and Producer Responsibility for products and packaging on a Life Cycle basis. Environmental Impact Assessment Regulations for new installations or proposed increase in capacity over 25%

NEM:WA – National Environmental Waste Act 59 of 2008: Extended Producer Responsibility, requirements and regulations for waste management, classification and disposal

NEM:AQA – National Environmental Air Quality Act 39 of 2004: AQA Licenses and Emissions

NRCS - Act 29

SANS 1853

National Department of Health – Hazardous Substances Act 15 of 1973

EU Regulation (EU GHS /CLP) – Safety Data Sheets and Labelling

**SECTION 16. Other Information**

ECHA – European Chemical Agency Website, Chemical information, C&L Inventory, Chemicals of Very High Concern (SVHCs) and Chemicals for Community Rolling Action Plan (CoRAP)

ERG 2016 Transport Canada and US Dept Transportation PHMSA - Pipeline and Hazardous Materials Safety Administration

**Other relevant information including information on preparation and revision of the SDS –
Safety Data Sheets for Chemical Products – content and order of sections adopted as SANS**

UN Recommendations for Transport of Dangerous Goods Model Regulations commonly known as the **TDG “Orange Books”** 18th revision 2013 currently in effect, 19th revision published June 2015

UN Globally Harmonized System of Classification and Labelling of Chemicals – GHS commonly known as the **GHS “Purple Book”** 5th revision 2013 in effect, 6th revision published July 2015

IMDG – International Maritime Dangerous Goods Code, 2014 edition, amendment 37-14

IATA Technical Regulations 57th edition, January 2016

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Approved By:

EXCLUSION OF LIABILITY

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