

**CHLORHEXIDINE 2 PERCENT****Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : CHLORHEXIDINE 2 PERCENT

Product code : 114719E

Use of the  
Substance/Mixture : Skin antiseptic

Substance type: : Mixture

**For professional users only.**

Product dilution information : No dilution information provided.

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Skin disinfectant

Recommended restrictions  
on use : Reserved for industrial and professional use.**1.3 Details of the supplier of the safety data sheet**Company : Ecolab Ltd.  
PO Box 11; Winnington Avenue  
Northwich, Cheshire, United Kingdom CW8 4DX  
+ 44 (0)1606 74488  
ccs@ecolab.com**1.4 Emergency telephone number**Emergency telephone  
number : +441618841235  
+32-(0)3-575-5555 Trans-EuropeanPoison Information Centre  
telephone number : For medical professionals only: 0344 892 0111

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Version : 2.1

**Section: 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Flammable liquids, Category 2	H225
Eye irritation, Category 2	H319
Specific target organ toxicity - single exposure, Category 3, Central Nervous System	H336

**CHLORHEXIDINE 2 PERCENT****2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapour.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.

Precautionary Statements : P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P280e Wear eye protection/face protection.

Hazardous components which must be listed on the label:  
 Isopropyl Alcohol

**2.3 Other hazards**

None known.

**Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures****Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	Classification REGULATION (EC) No 1272/2008	Concentration : [%]
Isopropyl Alcohol	67-63-0 200-661-7 01-2119457558-25	Flammable liquids Category 2; H225 Eye irritation Category 2; H319 Specific target organ toxicity - single exposure Category 3; H336	$\geq 50$ - $\leq 100$
Chlorhexidine gluconate	18472-51-0 242-354-0 01-2119946568-22	Serious eye damage Category 1; H318 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 1; H410  M = 10 M(Chronic) = 1	$\geq 1$ - $< 2.5$

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Section: 4. FIRST AID MEASURES****4.1 Description of first aid measures**

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

In case of skin contact : Rinse with plenty of water.

If swallowed : Rinse mouth. Get medical attention if symptoms occur.

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If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Indication of immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.

**Section: 5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Fire Hazard  
Keep away from heat and sources of ignition.  
Flash back possible over considerable distance.  
Beware of vapours accumulating to form explosive concentrations.  
Vapours can accumulate in low areas.

Hazardous combustion products : Depending on combustion properties, decomposition products may include following materials:  
Carbon oxides  
nitrogen oxides (NOx)

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Use personal protective equipment.

Further information : Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

**Section: 6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel : Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

**6.2 Environmental precautions**

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Environmental precautions : Do not allow contact with soil, surface or ground water.

**6.3 Methods and materials for containment and cleaning up**

Methods for cleaning up : Eliminate all ignition sources if safe to do so. Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

**6.4 Reference to other sections**

See Section 1 for emergency contact information.  
For personal protection see section 8.  
See Section 13 for additional waste treatment information.

**Section: 7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Advice on safe handling : Avoid contact with skin and eyes. Use only with adequate ventilation. Keep away from fire, sparks and heated surfaces. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Wash hands thoroughly after handling. Open drum carefully as content may be under pressure. Do not breathe spray, vapour. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).

Hygiene measures : No specific measures identified.

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : 0 °C to 25 °C

**7.3 Specific end uses**

Specific use(s) : Skin disinfectant

**Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Isopropyl Alcohol	67-63-0	TWA	400 ppm 999 mg/m <sup>3</sup>	UKCOSSTD
		STEL	500 ppm 1,250 mg/m <sup>3</sup>	UKCOSSTD

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## DNEL

Isopropyl Alcohol	:	<p>End Use: Workers Exposure routes: Dermal Potential health effects: Long-term systemic effects 888 mg/kg</p> <p>End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 500 mg/m3</p> <p>End Use: Consumers Exposure routes: Dermal Potential health effects: Long-term systemic effects 319 mg/kg</p> <p>End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 89 mg/m3</p> <p>End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects 26 mg/kg</p>
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## PNEC

Isopropyl Alcohol	:	<p>Fresh water Value: 140.9 mg/l</p> <p>Marine water Value: 140.9 mg/l</p> <p>Intermittent use/release Value: 140.9 mg/l</p> <p>Fresh water Value: 552 mg/kg</p> <p>Marine sediment Value: 552 mg/kg</p> <p>Soil Value: 28 mg/kg</p> <p>Sewage treatment plant Value: 2251 mg/l</p> <p>Oral Value: 160 mg/kg</p>
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**8.2 Exposure controls****Appropriate engineering controls**

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Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

**Individual protection measures**

Hygiene measures : No specific measures identified.

Eye/face protection (EN 166) : Safety glasses with side-shields

Hand protection (EN 374) : No special protective equipment required.

Skin and body protection (EN 14605) : No special protective equipment required.

Respiratory protection (EN 143, 14387) : None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Use certified respiratory protection equipment meeting EU requirements(89/656/EEC, (EU) 2016/425), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

**Environmental exposure controls**

General advice : Consider the provision of containment around storage vessels.

**Section: 9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	: liquid
Colour	: clear, pink
Odour	: alcohol-like
pH	: 7.0, 100 %
Flash point	: 20 °C closed cup
Odour Threshold	: Not applicable and/or not determined for the mixture
Melting point/freezing point	: Not applicable and/or not determined for the mixture
Initial boiling point and boiling range	: Not applicable and/or not determined for the mixture
Evaporation rate	: Not applicable and/or not determined for the mixture
Flammability (solid, gas)	: Not applicable and/or not determined for the mixture
Upper explosion limit	: Not applicable and/or not determined for the mixture
Lower explosion limit	: Not applicable and/or not determined for the mixture
Vapour pressure	: Not applicable and/or not determined for the mixture
Relative vapour density	: Not applicable and/or not determined for the mixture
Relative density	: 0.88
Water solubility	: soluble
Solubility in other solvents	: Not applicable and/or not determined for the mixture
Partition coefficient: n-	: Not applicable and/or not determined for the mixture

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octanol/water

Auto-ignition temperature : Not applicable and/or not determined for the mixture  
Thermal decomposition : Not applicable and/or not determined for the mixture  
Viscosity, kinematic : Not applicable and/or not determined for the mixture  
Explosive properties : Not applicable and/or not determined for the mixture  
Oxidizing properties : The substance or mixture is not classified as oxidizing.

**9.2 Other information**

Not applicable and/or not determined for the mixture

**Section: 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid**

Heat, flames and sparks.

**10.5 Incompatible materials**

None known.

**10.6 Hazardous decomposition products**

Depending on combustion properties, decomposition products may include following materials:  
Carbon oxides  
nitrogen oxides (NO<sub>x</sub>)

**Section: 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

**Product**

Acute oral toxicity : There is no data available for this product.  
Acute inhalation toxicity : There is no data available for this product.  
Acute dermal toxicity : There is no data available for this product.

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Skin corrosion/irritation : There is no data available for this product.

Serious eye damage/eye irritation : There is no data available for this product.

Respiratory or skin sensitization : There is no data available for this product.

Carcinogenicity : There is no data available for this product.

Reproductive effects : There is no data available for this product.

Germ cell mutagenicity : There is no data available for this product.

Teratogenicity : There is no data available for this product.

STOT - single exposure : There is no data available for this product.

STOT - repeated exposure : There is no data available for this product.

Aspiration toxicity : There is no data available for this product.

**Components**

Acute oral toxicity : Isopropyl Alcohol LD50 rat: 5,840 mg/kg  
Chlorhexidine gluconate LD50 rat: 2,135 mg/kg

**Components**

Acute inhalation toxicity : Isopropyl Alcohol 4 h LC50 rat: > 30 mg/l  
Test atmosphere: vapour

**Components**

Acute dermal toxicity : Isopropyl Alcohol LD50 rabbit: 12,870 mg/kg  
Chlorhexidine gluconate LD50 rabbit: > 2,000 mg/kg

**Potential Health Effects**

Eyes : Causes serious eye irritation.

Skin : Do not use in the perineal or eyelid areas. Do not instill in the middle ear – may cause deafness if ear drum is perforated.  
Health injuries are not known or expected under normal use.

Ingestion : Health injuries are not known or expected under normal use.

Inhalation : Inhalation may cause central nervous system effects.

Chronic Exposure : Health injuries are not known or expected under normal use.  
Health injuries are not known or expected under normal use.

**Experience with human exposure**

Eye contact : Redness, Pain, Irritation



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Skin contact : No symptoms known or expected.  
Ingestion : No symptoms known or expected.  
Inhalation : Dizziness, Drowsiness

**Section: 12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Environmental Effects : This product has no known ecotoxicological effects.

**Product**

Toxicity to fish : no data available  
Toxicity to daphnia and other aquatic invertebrates : no data available  
Toxicity to algae : no data available

**Components**

Toxicity to fish : Isopropyl Alcohol 96 h LC50 Pimephales promelas (fathead minnow): 9,640 mg/l

**Components**

Toxicity to daphnia and other aquatic invertebrates : Isopropyl Alcohol LC50 Daphnia magna (Water flea): > 10,000 mg/l

Chlorhexidine gluconate 48 h EC50: 0.06 mg/l

**12.2 Persistence and degradability**

**Product**

no data available

**Components**

Biodegradability : Isopropyl Alcohol Result: Readily biodegradable.

Chlorhexidine gluconate Result: Readily biodegradable.

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

**Product**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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no data available

**Section: 13. DISPOSAL CONSIDERATIONS**

Dispose of in accordance with the European Directives on waste and hazardous waste. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**13.1 Waste treatment methods**

- |                                   |   |   |
|-----------------------------------|---|---|
| Product                           | : | Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.   |
| Contaminated packaging            | : | Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.   |
| Guidance for Waste Code selection | : | Organic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable European (EU Directive 2008/98/EC) and local regulations. |
|                                   | : | solvents  |

**Section: 14. TRANSPORT INFORMATION**

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

**Land transport (ADR/ADN/RID)**

- |                                   |   |             |
|-----------------------------------|---|-------------|
| 14.1 UN number                    | : | 1219        |
| 14.2 UN proper shipping name      | : | ISOPROPANOL |
| 14.3 Transport hazard class(es)   | : | 3           |
| 14.4 Packing group                | : | II          |
| 14.5 Environmental hazards        | : | No          |
| 14.6 Special precautions for user | : | None        |

**Air transport (IATA)**

- |                                 |   |             |
|---------------------------------|---|-------------|
| 14.1 UN number                  | : | 1219        |
| 14.2 UN proper shipping name    | : | ISOPROPANOL |
| 14.3 Transport hazard class(es) | : | 3           |
| 14.4 Packing group              | : | II          |
| 14.5 Environmental hazards      | : | No          |

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14.6 Special precautions for user : None

**Sea transport (IMDG/IMO)**

14.1 UN number : 1219  
 14.2 UN proper shipping name : ISOPROPANOL  
 14.3 Transport hazard class(es) : 3  
 14.4 Packing group : II  
 14.5 Environmental hazards : No  
 14.6 Special precautions for user : None  
 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

**Section: 15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : FLAMMABLE LIQUIDS P5c  
 Lower tier : 5,000 t  
 Upper tier : 50,000 t

Candidate List of Substances of Very High Concern for Authorisation : Not applicable.

**National Regulations**

**Take note of Dir 94/33/EC on the protection of young people at work.**

Other regulations : The Chemicals (Hazard Information and Packaging for Supply) Regulations.  
 The Control of Substances Hazardous to Health Regulations.  
 Health and Safety at Work Act.

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out on the product.

**Section: 16. OTHER INFORMATION****Procedure used to derive the classification according to REGULATION (EC) No 1272/2008**

Classification	Justification
Flammable liquids 2, H225	Based on product data or assessment
Eye irritation 2, H319	Calculation method
Specific target organ toxicity - single exposure 3, H336	Calculation method

**Full text of H-Statements**

H225 Highly flammable liquid and vapour.  
 H318 Causes serious eye damage.

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H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Prepared by : Regulatory Affairs

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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 a 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.

**Annex: Exposure Scenarios**

**CHLORHEXIDINE 2 PERCENT**