Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name	:	KEYSTONE HAND DES
Product code	:	123101E
Use of the Substance/Mixture	:	Hand Sanitizer
Substance type:	:	Mixture AL - Any other liquid **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-European
Poison Information Centre telephone number	:	For medical professionals only: 0344 892 0111

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Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

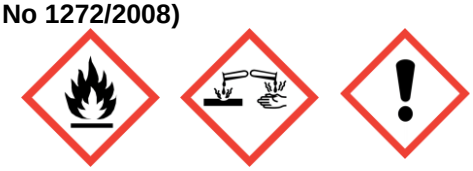
Flammable liquids, Category 3	H226
Serious eye damage, Category 1	H318
Specific target organ toxicity - single exposure, Category 3,	H336

Central Nervous System

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Danger

Hazard Statements	:	H226	Flammable liquid and vapour.
		H318	Causes serious eye damage.
		H336	May cause drowsiness or dizziness.
Supplemental Hazard Statements	:	EUH066	Repeated exposure may cause skin dryness or cracking.
Precautionary Statements	:	**Prevention:**	
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P261	Avoid breathing vapours.
		P280e	Wear eye protection/face protection.
		Response:	
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P310	Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label:
propan-1-ol

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 : [%]
propan-1-ol	71-23-8 200-746-9 01-2119486761-29	Flammable liquids Category 2; H225 Serious eye damage Category 1; H318 Specific target organ toxicity - single exposure Category 3; H336	>= 50 - < 70
Substances with a workplace exposure limit :			
glycerin	56-81-5 200-289-5 01-2119471987-18	Not Classified;	>= 0.1 - < 1

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 immediately.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	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

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	:	Ensure adequate ventilation. Remove all sources of ignition. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. 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

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	:	Keep away from fire, sparks and heated surfaces. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Open drum carefully as content may be under pressure. Avoid contact with eyes. Do not get in eyes.
Hygiene measures	:	Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Keep away from heat and sources of ignition. Protect from frost, heat and sunlight. Store at room temperature in the original container. 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
Contains no substances with occupational exposure limit values.				
propan-1-ol	71-23-8	TWA	200 ppm 500 mg/m3	UKCOSSTD
Further information	Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		STEL	250 ppm 625 mg/m3	UKCOSSTD
Further information	Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
glycerin	56-81-5	TWA (Mist)	10 mg/m3	UKCOSSTD

8.2 Exposure controls

Appropriate engineering controls

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Eye/face protection (EN 166) : Safety goggles
Face-shield

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) : When respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization, consider the use of certified respiratory protection equipment meeting EU requirements (89/656/EEC, (EU) 2016/425), or equivalent, with filter type:A-P

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, colourless

Odour : alcohol-like

pH : 4.8, 100 %

Flash point	:	32 °C
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	:	0.87
Water solubility	:	soluble
Solubility in other solvents	:	Not applicable and/or not determined for the mixture
Partition coefficient: n-octanol/water	:	Not applicable and/or not determined for the mixture
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

VOC	:	Not applicable.

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

In the event of fire, see Section 5

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.
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	:	propan-1-ol LD50 rat: 1,870 mg/kg Acute toxicity estimate : 1,870 mg/kg glycerin LD50 rat: 18,300 mg/kg

Components

Acute inhalation toxicity	:	propan-1-ol 4 h LC50 rat: 26.76 mg/l Test atmosphere: dust/mist

Components

Acute dermal toxicity	:	propan-1-ol LD50 rabbit: 4,032 mg/kg

glycerin LD50 rabbit: 23,000 mg/kg

Potential Health Effects

Eyes	:	Causes serious eye damage.
Skin	:	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.

Experience with human exposure

Eye contact	:	Redness, Pain, Corrosion
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	:	propan-1-ol96 h EC50: 3,800 mg/l
		glycerin96 h LC50 Fish: 855 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates	:	propan-1-ol48 h LC50: 1,000 mg/l

Components

Toxicity to algae	:	propan-1-ol48 h EC50: 9,170 mg/l

12.2 Persistence and degradability

Product

no data available

Components

Biodegradability	:	propan-1-olResult: Readily biodegradable.

glycerinResult: 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.

12.6 Other adverse effects

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.

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	:	1274

14.2 UN proper shipping name	:	n-PROPANOL
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	III
14.5 Environmental hazards	:	No
14.6 Special precautions for user	:	None

Air transport (IATA)

14.1 UN number	:	1274
14.2 UN proper shipping name	:	n-Propanol
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	III
14.5 Environmental hazards	:	No
14.6 Special precautions for user	:	None

Sea transport (IMDG/IMO)

14.1 UN number	:	1274
14.2 UN proper shipping name	:	n-PROPANOL
14.3 Transport hazard class(es)	:	3
14.4 Packing group	:	III
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 3, H226	Based on product data or assessment
Serious eye damage 1, H318	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.
H336	May cause drowsiness or dizziness.

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; AIIC - 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

Exposure Scenario: Skin disinfectant