



ESTEEM DRY-ALL SPECIAL

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

1.1 Product identifier

Product name : ESTEEM DRY-ALL SPECIAL

Product code : 115486E

Use of the
Substance/Mixture : Rinse Additive

Substance type: : Mixture

For professional users only.

Product dilution information : 0.006 % - 0.02 %

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

Identified uses : Dishwash and rinse aid product, Automatic process with PPE

Recommended restrictions
on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : KAY BV
Havenlaan 4
B-3980 Tessenderlo, Belgium +32 13 67 06 90 (Belgium)
BEKAYcustomerservice@ecolab.com

Ecolab Ltd.
PO Box 11; Winnington Avenue
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1.4 Emergency telephone number

Emergency telephone
number : +441618841235
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Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Product AS SOLD

Skin irritation, Category 2

H315

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Eye irritation, Category 2

H319

Product AT USE DILUTION

Not a hazardous substance or mixture.

2.2 Label elements**Labelling (REGULATION (EC) No 1272/2008)****Product AS SOLD**

Hazard pictograms

:



Signal Word

: Warning

Hazard Statements

: H315
H319

Causes skin irritation.

Causes serious eye irritation.

Precautionary Statements

: **Prevention:**
P280

Wear protective gloves/ eye protection/ face protection.

Product AT USE DILUTION

Not a hazardous substance or mixture.

2.3 Other hazards**Product AS SOLD**

None known.

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

Chemical Name	CAS-No. EC-No. REACH No.	Classification REGULATION (EC) No 1272/2008	Concentration : [%]
Ethoxylated alkyl alcohol	166736-08-9 polymer exempt	Acute toxicity Category 4; H302 Skin irritation Category 2; H315	>= 10 - < 20
Alcohol ethoxylate	68439-51-0 POLYMER	Chronic aquatic toxicity Category 3; H412	>= 1 - < 2.5
Isotridecanol, ethoxylated	69011-36-5 500-241-6 01-2119976362-32	Acute toxicity Category 4; H302 Skin irritation Category 2; H315 Serious eye damage Category 1; H318 Serious eye damage/eye irritation Category 1 20 - 100 % Serious eye damage/eye irritation Category 2A > 10 - 20 %	>= 1 - < 2.5

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		Serious eye damage/eye irritation Category 2B 1 - 10 %	
Sodiumcumenesulphonate	28348-53-0 248-983-7 01-2120759186-46	Eye irritation Category 2; H319 Skin corrosion/irritation Category 3 > 60 %	>= 1 - < 2.5
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	>= 1 - < 2.5

Product AT USE DILUTION

Remarks : No hazardous ingredients

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****Product AS SOLD**

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 : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.

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

If inhaled : Get medical attention if symptoms occur.

Product AT USE DILUTION

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

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**Product AS SOLD****5.1 Extinguishing media**

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

Unsuitable extinguishing media : None known.

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.

Hazardous combustion products : Depending on combustion properties, decomposition products may include following materials:
Carbon oxides
Sulphur oxides
metal oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment.

Further information : 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

Product AS SOLD

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.

Product AT USE DILUTION

Advice for non-emergency personnel : 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

Product AS SOLD

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

Product AT USE DILUTION

Environmental precautions : No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up

Product AS SOLD

Methods for cleaning up : Eliminate all ignition sources if safe to do so. Stop leak if safe to

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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.

Product AT USE DILUTION

Methods for cleaning up

: 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

Product AS SOLD

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. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).

Hygiene measures

: Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

Product AT USE DILUTION

Advice on safe handling

: Wash hands after handling. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE). For personal protection see section 8.

Hygiene measures

: Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Product AS SOLD

Requirements for storage areas and containers

: Keep away from heat and sources of ignition. 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 40 °C

ESTEEM DRY-ALL SPECIAL**Product AT USE DILUTION**

Requirements for storage areas and containers : Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

7.3 Specific end uses**Product AS SOLD**

Specific use(s) : Dishwash and rinse aid product, Automatic process with PPE

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters****Product AS SOLD****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 ³	UKCOSSTD
		STEL	500 ppm 1,250 mg/m ³	UKCOSSTD

DNEL

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

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

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

Individual protection measures

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling.

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

Hand protection (EN 374) : Recommended preventive skin protection
Gloves
Nitrile rubber
butyl-rubber
Breakthrough time: 1 – 4 hours
Minimum thickness for butyl-rubber 0.3 mm for nitrile rubber 0.2 mm or equivalent (please refer to the gloves manufacturer/distributor for advise).
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

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.

Product AT USE DILUTION**Appropriate engineering controls**

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

Individual protection measures

Hygiene measures : Wash hands before breaks and immediately after handling the product.

Eye/face protection (EN 166) : No special protective equipment required.

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**

	Product AS SOLD	Product AT USE DILUTION
Appearance	: liquid	liquid
Colour	: clear, blue	colourless
Odour	: very faint	not significant
pH	: 4.4 - 5.6, 100 %	7.5
Flash point	: 65 °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	: 1.01 - 1.016	
Water solubility	: slightly soluble	

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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

Not applicable and/or not determined for the mixture

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD

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
Sulphur oxides
metal oxides

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product AS SOLD

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

Product

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Acute oral toxicity	: Acute toxicity estimate : > 2,000 mg/kg
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	: Ethoxylated alkyl alcohol LD50 rat: > 300 mg/kg Alcohol ethoxylate LD50 rat: > 2,000 mg/kg Isotridecanol, ethoxylated LD50 rat: 1,250 mg/kg Sodiumcumenesulphonate LD50 rat: > 7,000 mg/kg Isopropyl Alcohol LD50 rat: 5,840 mg/kg
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Components

Acute inhalation toxicity	: Sodiumcumenesulphonate 4 h LC50 rat: > 770 mg/l Test atmosphere: dust/mist Isopropyl Alcohol 4 h LC50 rat: > 30 mg/l Test atmosphere: vapour
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Components

Acute dermal toxicity	: Alcohol ethoxylate LD50 rat: > 5,000 mg/kg Isotridecanol, ethoxylated LD50 : 2,150 mg/kg Sodiumcumenesulphonate LD50 rabbit: > 2,000 mg/kg Isopropyl Alcohol LD50 rabbit: 12,870 mg/kg
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Potential Health Effects

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Product AS SOLD

Eyes	: Causes serious eye irritation.
Skin	: Causes skin irritation.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	: Health injuries are not known or expected under normal use.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	: Redness, Pain, Irritation
Skin contact	: Redness, Irritation
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Product AT USE DILUTION

Eye contact	: No symptoms known or expected.
Skin contact	: No symptoms known or expected.
Ingestion	: No symptoms known or expected.
Inhalation	: No symptoms known or expected.

Section: 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Product AS SOLD

Environmental Effects	: This product has no known ecotoxicological effects.
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Product AT USE DILUTION

Environmental Effects	: This product has no known ecotoxicological effects.
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Product AS SOLD

Product

Toxicity to fish	: no data available
Toxicity to daphnia and other	: no data available

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aquatic invertebrates

Toxicity to algae : no data available

Components

Toxicity to fish : Ethoxylated alkyl alcohol96 h LC50 Pimephales promelas (fathead minnow): > 10 mg/l

Alcohol ethoxylate48 h LC50 Leuciscus idus (Golden orfe): > 1 mg/l

Isotridecanol, ethoxylated LC50: 5.33 mg/l

Sodiumcumenesulphonate96 h LC50 Fish: > 450 mg/l

Isopropyl Alcohol96 h LC50 Pimephales promelas (fathead minnow): 9,640 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : Ethoxylated alkyl alcohol48 h EC50 Daphnia magna (Water flea): > 100 mg/l
Test substance: Information given is based on data obtained from similar substances.

Alcohol ethoxylate24 h EC50 Daphnia magna (Water flea): > 1 mg/l

Isopropyl Alcohol LC50 Daphnia magna (Water flea): > 10,000 mg/l

Components

Toxicity to algae : Ethoxylated alkyl alcohol72 h EC50 Pseudokirchneriella subcapitata (algae): > 10 mg/l

Alcohol ethoxylate72 h EC50 Desmodesmus subspicatus (green algae): > 1 mg/l

12.2 Persistence and degradability

Product

Biodegradability : The surfactants contained in the product are biodegradable according to the requirements of the detergent regulation 648/2004/EC

Components

Biodegradability : Ethoxylated alkyl alcoholResult: Readily biodegradable.

Alcohol ethoxylateResult: Readily biodegradable.

Isotridecanol, ethoxylatedResult: Readily biodegradable.

SodiumcumenesulphonateResult: Readily biodegradable.

Isopropyl AlcoholResult: Readily biodegradable.

12.3 Bioaccumulative potential

ESTEEM DRY-ALL SPECIAL

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 AS SOLD

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.

Product AT USE DILUTION

Product : Diluted product can be flushed to sanitary sewer if regulations permit.

Contaminated packaging : Dispose of in accordance with local, state, and federal regulations.

Section: 14. TRANSPORT INFORMATION

Product AS SOLD

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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	: Not dangerous goods
14.2 UN proper shipping name	: Not dangerous goods
14.3 Transport hazard class(es)	: Not dangerous goods
14.4 Packing group	: Not dangerous goods
14.5 Environmental hazards	: Not dangerous goods
14.6 Special precautions for user	: Not dangerous goods

Air transport (IATA)

14.1 UN number	: Not dangerous goods
14.2 UN proper shipping name	: Not dangerous goods
14.3 Transport hazard class(es)	: Not dangerous goods
14.4 Packing group	: Not dangerous goods
14.5 Environmental hazards	: Not dangerous goods
14.6 Special precautions for user	: Not dangerous goods

Sea transport (IMDG/IMO)

14.1 UN number	: Not dangerous goods
14.2 UN proper shipping name	: Not dangerous goods
14.3 Transport hazard class(es)	: Not dangerous goods
14.4 Packing group	: Not dangerous goods
14.5 Environmental hazards	: Not dangerous goods
14.6 Special precautions for user	: Not dangerous goods
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	: Not dangerous goods

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

according to Detergents Regulation EC 648/2004 : less than 5 %: Non-ionic surfactants
Preservation agents:
Sodium benzoate

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : Not applicable.

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

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
Skin irritation 2, H315	Calculation method
Eye irritation 2, H319	Calculation method

Full text of H-Statements

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H412	Harmful 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

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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: Dishwash and rinse aid product, Automatic process with PPE**

Life Cycle Stage : Widespread use by professional workers

Product category : **PC35** Washing and cleaning products (including solvent based products)

Contributing scenario controlling environmental exposure for:

Environmental release category : **ERC8a** Wide dispersive indoor use of processing aids in open systems

Daily amount per site : 7.5 kg

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Contributing scenario controlling worker exposure for:

Process category : **PROC8a** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities

Exposure duration : 60 min

Operational conditions and risk management measures : Indoor

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Local Exhaust Ventilation is not required

General ventilation	Ventilation rate per hour	1
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Skin Protection : see section 8

Respiratory Protection : see section 8

Contributing scenario controlling worker exposure for:

Process category : **PROC3** Use in closed batch process (synthesis or formulation)

Exposure duration : 480 min

Operational conditions and risk management measures : Indoor

Local Exhaust Ventilation is not required

General ventilation	Ventilation rate per hour	1
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Skin Protection : see section 8

Respiratory Protection : see section 8