

SMARTPOWER RINSE HD**Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : SMARTPOWER RINSE HD

Product code : 119326E

Use of the
Substance/Mixture : Rinse Additive

Substance type: : Mixture

For professional users only.

Product dilution information : 0.0018 % - 0.0044 %

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

Identified uses : Dishwash and rinse aid product; Automatic process

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

Date of Compilation/Revision : 12.09.2023

Version : 1.0

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

Eye irritation, Category 2

H319

Product AT USE DILUTION

SMARTPOWER RINSE HD

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 : H319 Causes serious eye irritation.

Product AT USE DILUTION

Not a hazardous substance or mixture.

2.3 Other hazards**Product AS SOLD**

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

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 : [%]
Sodium Xylenesulfonate	1300-72-7 215-090-9 01-2119513350-56	Eye irritation Category 2; H319	$\geq 50 - \leq 100$
citric acid	77-92-9 201-069-1 01-2119457026-42	Eye irritation Category 2; H319 Specific target organ toxicity - single exposure Category 3; H335	$\geq 5 - < 10$
Alcohol ethoxylate	68439-51-0 POLYMER	Chronic aquatic toxicity Category 3; H412	$\geq 5 - < 10$
alcohols, c13-15-branched and linear, butoxylated ethoxylated	111905-53-4 POLYMER	Skin irritation Category 2; H315 Eye irritation Category 2; H319	$\geq 2.5 - < 5$
oxirane, methyl-, polymer with oxirane	9003-11-6 POLYMER	Acute toxicity Category 4; H332	$\geq 1 - < 2.5$
tetrasodium (1-hydroxyethylidene)bisphosphonate	3794-83-0 223-267-7 01-2119647955-23	Acute toxicity Category 4; H302	$\geq 1 - < 2.5$
alcohols, c10-16, ethoxylated	68002-97-1 POLYMER	Acute toxicity Category 4; H302 Acute toxicity Category 4; H312 Eye irritation Category 2; H319	$\geq 1 - < 2.5$

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sodium pyrrithione	3811-73-2 01-2119493385-28	Acute toxicity Category 4; H302 Acute toxicity Category 3; H331 Acute toxicity Category 3; H311 Skin irritation Category 2; H315 Eye irritation Category 2; H319 Skin sensitization Category 1; H317 Specific target organ toxicity - repeated exposure Category 1; H372 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 2; H411 M = 1	>= 0.5 - < 1
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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 : Rinse with plenty of water.

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**

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

SMARTPOWER RINSE HD

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Depending on combustion properties, decomposition products may include following materials:
Carbon oxides
Sulphur oxides
Oxides of phosphorus
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 : 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 : Sweep up and shovel into suitable containers for disposal.

Product AT USE DILUTION

Methods for cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with

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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. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products – will cause chlorine gas. 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 out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
- Storage temperature : 0 °C to 40 °C

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

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

SMARTPOWER RINSE HD

Product AS SOLD

Contains no substances with occupational exposure limit values.

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) : Due to the form and packaging of the product, no protective equipment is needed under normal use conditions.

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) : Due to the form and packaging of the product, no protective equipment is needed under normal use conditions.

Product AT USE DILUTION

Appropriate engineering controls

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.

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

	Product AS SOLD	Product AT USE DILUTION
Appearance	: solid	liquid
Colour	: green	colourless
Odour	: slight	odourless
pH	: 4.0 - 5.0, 1 %	6.5 - 8.8
Flash point	: Not applicable., Does not sustain combustion.	
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	: 1.0 - 1.2	
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

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.

SMARTPOWER RINSE HD

10.3 Possibility of hazardous reactions

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

10.4 Conditions to avoid

None known.

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
Oxides of phosphorus
metal oxides

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Product AS SOLD

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

Product

Acute oral toxicity	: Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	: 4 h Acute toxicity estimate : > 5 mg/l Test atmosphere: dust/mist
Acute dermal toxicity	: Acute toxicity estimate : > 2,000 mg/kg
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.

SMARTPOWER RINSE HD**Components**

Acute oral toxicity : Sodium Xylenesulfonate LD50 rat: > 7,000 mg/kg
citric acid LD50 rat: 11,700 mg/kg
Alcohol ethoxylate LD50 rat: > 2,000 mg/kg
alcohols, c13-15-branched and linear, butoxylated ethoxylated
LD50 rat: > 2,000 mg/kg
tetrasodium (1-hydroxyethylidene)bisphosphonate LD50 rat: 940 mg/kg
alcohols, c10-16, ethoxylated LD50 rat: > 1,000 mg/kg
sodium pyrithione LD50 rat: 1,208 mg/kg
Acute toxicity estimate : 1,208 mg/kg

Components

Acute inhalation toxicity : oxirane, methyl-, polymer with oxirane 4 h LD50 rat: 1 mg/l
Test atmosphere: dust/mist
sodium pyrithione 4 h LC50 rat: 1.08 mg/l
Test atmosphere: dust/mist

Components

Acute dermal toxicity : Alcohol ethoxylate LD50 rat: > 5,000 mg/kg
alcohols, c13-15-branched and linear, butoxylated ethoxylated
LD50 rat: > 2,000 mg/kg
alcohols, c10-16, ethoxylated LD50 rat: > 1,000 mg/kg
sodium pyrithione LC50 rabbit: 1,800 mg/kg

Potential Health Effects**Product AS SOLD**

Eyes : Causes serious eye irritation.
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.

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.

SMARTPOWER RINSE HD**Experience with human exposure****Product AS SOLD**

Eye contact	: Redness, Pain, Irritation
Skin contact	: No symptoms known or expected.
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 aquatic invertebrates	: no data available
Toxicity to algae	: no data available

Components

Toxicity to fish	: citric acid96 h LC50 Fish: > 100 mg/l
	Alcohol ethoxylate48 h LC50 Leuciscus idus (Golden orfe): > 1 mg/l
	alcohols, c13-15-branched and linear, butoxylated ethoxylated96 h LC50 Fish: 5 mg/l
	oxirane, methyl-, polymer with oxirane96 h LC50 Fish: > 100 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates	: Alcohol ethoxylate24 h EC50 Daphnia magna (Water flea): > 1 mg/l
	tetrasodium (1-hydroxyethylidene)bisphosphonate48 h EC50: 167 mg/l

Components

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Toxicity to algae : Sodium Xylenesulfonate 96 h EC50: 230 mg/l
Alcohol ethoxylate 72 h EC50 Desmodesmus subspicatus (green algae): > 1 mg/l
sodium pyrithione 72 h EC50 algae: 0.23 mg/l

12.2 Persistence and degradability

Product

no data available

Components

Biodegradability : Sodium Xylenesulfonate Result: Biodegradable
citric acid Result: Readily biodegradable.
Alcohol ethoxylate Result: Readily biodegradable.
alcohols, c13-15-branched and linear, butoxylated ethoxylated Result: Readily biodegradable. Result: Readily biodegradable.
oxirane, methyl-, polymer with oxirane Result: Readily biodegradable.
tetrasodium (1-hydroxyethylidene)bisphosphonate Result: Poorly biodegradable
alcohols, c10-16, ethoxylated Result: Readily biodegradable.
sodium pyrithione 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.

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

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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**

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 |

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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 : 30 % and more: Anionic surfactants
 5 % or over but less than 15 %: Non-ionic surfactants, Polycarboxylates
 less than 5 %: Phosphonates
 Preservation agents: sodium pyrithione

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.

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
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SMARTPOWER RINSE HD

Eye irritation 2, H319

Calculation method

Full text of H-Statements

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
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 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

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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

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

Local Exhaust Ventilation is not required

General ventilation Ventilation rate per hour 1

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 : Indoor

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risk management measures

Local Exhaust Ventilation is not required

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