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

1.1 Product identifier

Product name	:	Horolith TR
Product code	:	114188E
Use of the Substance/Mixture	:	Cleaning product
Substance type:	:	Mixture
		For professional users only.
Product dilution information	:	1.5 %

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

Identified uses	:	Process cleaner. Cleaning In place (CIP) 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-European
Poison Information Centre telephone number	:	For medical professionals only: 0344 892 0111

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Version : 2.0

Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Product AS SOLD

Corrosive to metals, Category 1	H290
Acute toxicity, Category 4	H302
Skin corrosion, Sub-category 1B	H314

Serious eye damage, Category 1 H318

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 : Danger

Hazard Statements :
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary Statements :
Prevention:
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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:
Phosphoric acid

Product AT USE DILUTION
No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

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 : [%]
Phosphoric acid	7664-38-2 231-633-2	Nota B Skin corrosion Sub-category 1B; H314	>= 30 - < 50

	01-2119485924-24	Serious eye damage Category 1; H318 Corrosive to metals Category 1; H290 Acute toxicity Category 4; H302 Serious eye damage/eye irritation Category 1 > 25 - 100 % Serious eye damage/eye irritation Category 2 > 10 - 25 % Skin corrosion/irritation Category 1B > 25 - 100 % Skin corrosion/irritation Category 2 > 10 - 25 %	
Alcohol ethoxylate	68439-51-0 POLYMER	Chronic aquatic toxicity Category 3; H412	>= 2.5 - < 5
Fattyalcohol ethoxylates =/< C15 and =/< 5EO	68213-23-0 500-201-8 01-2119489387-20	Acute toxicity Category 4; H302 Serious eye damage Category 1; H318 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 3; H412	>= 1 - < 2.5

Product AT USE DILUTION
Hazardous components

Chemical Name	CAS-No. EC-No. REACH No.	Classification REGULATION (EC) No 1272/2008	Concentration : [%]
Substances with a workplace exposure limit :			
Phosphoric acid	7664-38-2 231-633-2 01-2119485924-24	Skin corrosion Sub-category 1B; H314 Serious eye damage Category 1; H318 Corrosive to metals Category 1; H290 Acute toxicity Category 4; H302 Serious eye damage/eye irritation Category 1 > 25 - 100 % Serious eye damage/eye irritation Category 2 > 10 - 25 % Skin corrosion/irritation Category 1B > 25 - 100 % Skin corrosion/irritation Category 2 > 10 - 25 %	>= 0.25 - < 0.5

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

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 immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give

anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. 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.

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

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 adequate ventilation. 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.

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	:	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.

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	:	Do not ingest. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Wash hands thoroughly after handling.

Do not breathe spray, vapour. 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. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

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 strong bases. Absorb spillage to prevent material damage. Keep out of reach of children. Keep container tightly closed. Keep only in original packaging. Store in suitable labeled containers.

Storage temperature : -10 °C to 40 °C

Packaging material : Suitable material: Plastic material

Unsuitable material: Mild steel, Aluminium

Product AT USE DILUTION

Requirements for storage areas and containers : Keep away from strong bases. 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) : Process cleaner. Cleaning In place (CIP) process

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
Phosphoric acid	7664-38-2	TWA	1 mg/m3	UKCOSSTD
		STEL	2 mg/m3	UKCOSSTD

8.2 Exposure controls

Product AS SOLD

Appropriate engineering controls

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

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. 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)	:	Recommended preventive skin protection Gloves Nitrile rubber butyl-rubber Breakthrough time: 1 – 4 hours Minimum thickness for butyl-rubber 0.7 mm for nitrile rubber 0.4 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)	:	Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing including appropriate safety shoes
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

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	:	colourless	colourless
Odour	:	slight	not significant
pH	:	1.0, 100 %	1.8
Flash point	:	Not applicable.	
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	:	1.18	
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.

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

Bases
Metals

Mild steel
Aluminium

10.6 Hazardous decomposition products

Depending on combustion properties, decomposition products may include following materials:
Carbon 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

Acute oral toxicity	:	Acute toxicity estimate : 1,643 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	:	Phosphoric acid LD50 rat: > 300 mg/kg
		Alcohol ethoxylate LD50 rat: > 2,000 mg/kg
		Fattyalcohol ethoxylates =/< C15 and =/< 5EO LD50 rat: 1,150 mg/kg

Components

Acute dermal toxicity	:	Alcohol ethoxylate LD50 rat: > 5,000 mg/kg

Potential Health Effects

Product AS SOLD

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Harmful if swallowed. Causes digestive tract burns.
Inhalation	:	May cause nose, throat, and lung irritation.
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, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

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.

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

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

Fattyalcohol ethoxylates =/< C15 and =/< 5EO96 h LC50 Danio rerio (zebra fish): 0.876 mg/l
Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to daphnia and other aquatic invertebrates : Phosphoric acid48 h EC50 Daphnia magna (Water flea): > 100 mg/l

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

Fattyalcohol ethoxylates =/< C15 and =/< 5EO48 h EC50 Daphnia magna (Water flea): 0.53 mg/l
Test substance: Information given is based on data obtained from similar substances.

Components

Toxicity to algae : Phosphoric acid72 h EC50 Desmodesmus subspicatus (green algae): > 100 mg/l

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

Fattyalcohol ethoxylates =/< C15 and =/< 5EO72 h EC50 Pseudokirchneriella subcapitata (algae): 0.41 mg/l
Test substance: Information given is based on data obtained from similar substances.

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 : Phosphoric acidResult: Not applicable - inorganic

Alcohol ethoxylateResult: Readily biodegradable.

Fattyalcohol ethoxylates =/< C15 and =/< 5EOResult: 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 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 : Inorganic 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	:	1805
14.2 UN proper shipping name	:	PHOSPHORIC ACID SOLUTION
14.3 Transport hazard class(es)	:	8
14.4 Packing group	:	III
14.5 Environmental hazards	:	No
14.6 Special precautions for user	:	None

Air transport (IATA)

14.1 UN number	:	1805
14.2 UN proper shipping name	:	Phosphoric acid, solution
14.3 Transport hazard class(es)	:	8
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	:	1805
14.2 UN proper shipping name	:	PHOSPHORIC ACID SOLUTION
14.3 Transport hazard class(es)	:	8
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

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

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
Corrosive to metals 1, H290	Expert judgement and weight of evidence determination.
Acute toxicity 4, H302	Calculation method
Skin corrosion 1B, H314	Calculation method
Serious eye damage 1, H318	Calculation method

Full text of H-Statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
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; 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

Further information

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: Process cleaner. Cleaning In place (CIP) process

Life Cycle Stage	:	Use at industrial sites	
Product category	:	**PC35**	Washing and cleaning products (including solvent based products)

Contributing scenario controlling environmental exposure for:

Environmental release category	:	**ERC4**	Industrial use of processing aids in processes and products, not becoming part of articles
Daily amount per site	:	50 kg	

Type of Sewage Treatment Plant	:	Municipal sewage treatment plant

Contributing scenario controlling worker exposure for:

Process category	:	**PROC8b**	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at 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	:	**PROC1**	Use in closed process, no likelihood of exposure
Exposure duration	:	480 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	