

OxyGuard Bright Beta E**Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : OxyGuard Bright Beta E

Product code : 116329E

Use of the Substance/Mixture : Bleach

Substance type: : Mixture

For professional users only.

Product dilution information : No dilution information provided.

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

Identified uses : Laundry aid (gasing). 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-European

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

Corrosive to metals, Category 1	H290
Acute toxicity, Category 4	H302
Skin corrosion, Category 1	H314
Serious eye damage, Category 1	H318
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335
Chronic aquatic toxicity, Category 2	H411

OxyGuard Bright Beta E**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

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.
 H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH071 Corrosive to the respiratory tract.

Precautionary Statements : **Prevention:**
 P261 Avoid breathing mist or vapours.
 P273 Avoid release to the environment.
 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:

Hydrogen peroxide

Acetic acid

Peracetic acid

2.3 Other hazards

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

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 : [%]
Hydrogen peroxide	7722-84-1 231-765-0 01-2119485845-22	Nota B Oxidizing liquids Category 1; H271 Acute toxicity Category 4; H302 Acute toxicity Category 4; H332 Skin corrosion Sub-category 1A; H314 Serious eye damage Category 1; H318 Specific target organ toxicity - single exposure Category 3; H335 Oxidizing liquids Category 1	>= 30 - < 35

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		H271 >= 70 % Oxidizing liquids Category 2 H272 50 - < 70 % Skin corrosion Category 1A H314 >= 70 % Skin corrosion Category 1B H314 50 - < 70 % Skin irritation Category 2 H315 35 - < 50 % Serious eye damage Category 1 H318 8 - < 50 % Eye irritation Category 2 H319 5 - < 8 % Specific target organ toxicity - single exposure Category 3 H335 >= 35 %	
Acetic acid	64-19-7 200-580-7 01-2119475328-30	Nota B Flammable liquids Category 3; H226 Skin corrosion Sub-category 1A; H314 Serious eye damage Category 1; H318 Skin corrosion Category 1A H314 >= 90 % Skin corrosion Category 1B H314 25 - < 90 % Skin irritation Category 2 H315 10 - < 25 % Eye irritation Category 2 H319 10 - < 25 %	>= 2.5 - < 3
Peracetic acid	79-21-0 201-186-8 01-2119531330-56	Flammable liquids Category 3; H226 Organic peroxides Type D; H242 Acute toxicity Category 4; H302 Acute toxicity Category 4; H332 Acute toxicity Category 4; H312 Skin corrosion Category 1A; H314 Acute aquatic toxicity Category 1; H400 Specific target organ toxicity - single exposure Category 3; H335 Chronic aquatic toxicity Category 1; H410 Specific target organ toxicity - single exposure Category 3 H335 >= 1 % M = 1 M(Chronic) = 10	>= 1 - < 2.5

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

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

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

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

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

Section: 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

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

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Special protective equipment for firefighters
Oxidizer. Contact with other material may cause fire.
Oxidizer; material is an oxidizer which may readily react with other materials, especially upon heating.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. 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. 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

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

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Isolate the waste do not allow it to come into contact with incompatible materials. For small spills contain with sand or vermiculite and dilute the contained product at least 10 times with water. Transfer to an open topped container and remove to a safe place for neutralization* / disposal. For large spills contain spill and evacuate the area, leave until the reaction subsides, then collect up for disposal. Obtain consent from the local water company / authority if considering discharge to sewer.
*NEUTRALIZATION : once diluted, neutralize with a suitable alkali such as sodium bicarbonate. Combustible materials exposed to this product should be rinsed immediately with large amounts of water to ensure that all product is removed. Residual product which is allowed to dry on organic materials such as rags, cloths, paper, fabrics, cotton, leather, wood, or other combustibles may spontaneously ignite and result in a fire.

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 : 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Do not store on wooden pallets. 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. Pressure bursts may occur due to gas evolution if the container is not adequately vented.

Storage temperature : 5 °C to 40 °C

Packaging material : Suitable material: Plastic material
Unsuitable material: Mild steel, Aluminium

OxyGuard Bright Beta E**7.3 Specific end uses**

Specific use(s) : Laundry aid (gasing). Automatic process

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m ³	UKCOSSTD
		STEL	2 ppm 2.8 mg/m ³	UKCOSSTD
Acetic acid	64-19-7	TWA	10 ppm 25 mg/m ³	2017/164/EU
Further information		Indicative		
		STEL	20 ppm 50 mg/m ³	2017/164/EU
Further information		Indicative		
		STEL	20 ppm 50 mg/m ³	UKCOSSTD
		TWA	10 ppm 25 mg/m ³	UKCOSSTD

DNEL

Peracetic acid	:	<p>End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 0.6 mg/m³</p> <p>End Use: Workers Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 0.6 mg/m³</p> <p>End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 0.6 mg/m³</p> <p>End Use: Workers Exposure routes: Inhalation Potential health effects: Acute local effects Value: 0.6 mg/m³</p> <p>End Use: Workers Exposure routes: Skin contact Potential health effects: Acute local effects Value: 0.12</p> <p>End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 0.6 mg/m³</p> <p>End Use: Consumers Exposure routes: Inhalation</p>
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	<p>Potential health effects: Acute systemic effects Value: 0.6 mg/m3</p> <p>End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 0.6 mg/m3</p> <p>End Use: Consumers Exposure routes: Inhalation Potential health effects: Acute local effects Value: 0.3 mg/m3</p>
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PNEC

Peracetic acid	<p>: Fresh water Value: 0.000224 mg/l</p> <p>Fresh water sediment Value: 0.00018 mg/kg</p> <p>Water Value: 0.051 mg/l</p> <p>Soil Value: 0.32 mg/kg</p>
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8.2 Exposure controls

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.

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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) : 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:B

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	: colourless
Odour	: vinegar-like
pH	: 0.7 - 1.0, 100 %
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	: 1.1 - 1.14
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	: YesThe substance or mixture is not classified as oxidizing.

9.2 Other information

Not applicable and/or not determined for the mixture

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Section: 10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Contamination may result in dangerous pressure increases - closed containers may rupture.

10.3 Possibility of hazardous reactions

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

10.4 Conditions to avoid

Direct sources of heat.
Exposure to sunlight.

10.5 Incompatible materials

Metals
Organic materials
Bases

Aluminium
Mild steel

10.6 Hazardous decomposition products

Decomposition products may include the following materials:
Carbon oxides

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	: Acute toxicity estimate : 1,478 mg/kg
Acute inhalation toxicity	: 4 h Acute toxicity estimate : > 20 mg/l Test atmosphere: vapour
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.

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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	: Hydrogen peroxide LD50 rat: 486 mg/kg Acetic acid LD50 rat: 3,310 mg/kg
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Components

Acute inhalation toxicity	: Hydrogen peroxide 4 h LC50 rat: 11 mg/l Test atmosphere: vapour Peracetic acid 4 h LC50 rat: 1.5 mg/l Test atmosphere: dust/mist
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Components

Acute dermal toxicity	: Acetic acid LD50 rabbit: 1,060 mg/kg
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Potential Health Effects

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Harmful if swallowed. Causes digestive tract burns.
Inhalation	: May cause respiratory tract irritation. May cause nose, throat, and lung irritation.
Chronic Exposure	: Health injuries are not known or expected under normal use.

Experience with human exposure

Eye contact	: Redness, Pain, Corrosion
Skin contact	: Redness, Pain, Corrosion
Ingestion	: Corrosion, Abdominal pain
Inhalation	: Respiratory irritation, Cough

Section: 12. ECOLOGICAL INFORMATION

12.1 Toxicity

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Environmental Effects : Toxic to aquatic life with long lasting 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 : Hydrogen peroxide96 h LC50 Pimephales promelas (fathead minnow): 16.4 mg/l

Acetic acid96 h LC50 Oncorhynchus mykiss (rainbow trout): > 1,000 mg/l

Peracetic acid96 h LC50: 0.8 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : Hydrogen peroxide48 h LC50 Daphnia magna (Water flea): 2.4 mg/l

Acetic acid48 h EC50 Daphnia magna (Water flea): 39.6 mg/l

Peracetic acid48 h EC50: 0.73 mg/l

Components

Toxicity to algae : Hydrogen peroxide72 h EC50 Skeletonema costatum (marine diatom): 1.38 mg/l

Acetic acid72 h EC50 Skeletonema costatum (marine diatom): > 1,000 mg/l

Peracetic acid72 h EC50: 0.7 mg/l

12.2 Persistence and degradability

Product

no data available

Components

Biodegradability : Hydrogen peroxideResult: Not applicable - inorganic

Acetic acidResult: Readily biodegradable.

Peracetic acidResult: Readily biodegradable.

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

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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 : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. 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.

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 : 3149

14.2 UN proper shipping name : HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

14.3 Transport hazard class(es) : 5.1 (8)

14.4 Packing group : II

14.5 Environmental hazards : Yes

14.6 Special precautions for user : None

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Air transport (IATA)

14.1 UN number : 3149
14.2 UN proper shipping name : Hydrogen peroxide and peroxyacetic acid mixture stabilized
14.3 Transport hazard class(es) : 5.1 (8)
14.4 Packing group : II
14.5 Environmental hazards : Yes

14.6 Special precautions for user : None

Sea transport (IMDG/IMO)

14.1 UN number : 3149
14.2 UN proper shipping name : HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED
14.3 Transport hazard class(es) : 5.1 (8)
14.4 Packing group : II
14.5 Environmental hazards : Yes

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 : 30 % and more: Oxygen-based bleaching agents

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated (containing reportable or/and restricted substances) by Regulation (EU) 2019/1148 (explosives precursors): all suspicious transactions, significant disappearances and thefts should be reported to the relevant national contact point.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : ENVIRONMENTAL HAZARDS E2
Lower tier : 200 t
Upper tier : 500 t

OXIDIZING LIQUIDS AND SOLIDS P8
Lower tier : 50 t
Upper tier : 200 t

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.

OxyGuard Bright Beta E**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	Based on product data or assessment
Acute toxicity 4, H302	Calculation method
Skin corrosion 1, H314	Based on product data or assessment
Serious eye damage 1, H318	Based on product data or assessment
Specific target organ toxicity - single exposure 3, H335	Calculation method
Chronic aquatic toxicity 2, H411	Calculation method

Full text of H-Statements

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

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

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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: Laundry aid (gasing). Automatic 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

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Skin Protection : see section 8

Respiratory Protection : see section 8

Contributing scenario controlling worker exposure for:

Process category : **PROC2** Use in closed, continuous process with occasional controlled 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