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

1.1 Product identifier

Product name : Aniosyme Synergy WD

Product code : 2387000

Use of the

Substance/Mixture

: Instrument cleaner

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 : Medical devices . Semi-automatic process

Recommended restrictions

on use

: Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Company : Laboratoires ANIOS

1 rue de l'Espoir

59260 Lezennes, France Tel. + 33 (0)3 20 67 67 67

Fax. + 33 (0)3 20 67 67 68

fds@anios.com

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

+32-(0)3-575-5555 Trans-European

Poison Information Centre

telephone number

: For medical professionals only: 0344 892 0111

Date of Compilation/Revision : 11.10.2024 Version : 2.4

Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

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Eye irritation, Category 2 H319 Chronic aquatic toxicity, Category 2 H411

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal Word : Warning

Hazard Statements : H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : Prevention:

P273 Avoid release to the environment.
P280e Wear eye protection/face protection.

Additional Labelling:

Special labelling of certain

mixtures

: Contains: A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1), 4-formylphenylboronic acid, subtilisin,

May produce an allergic reaction.

2.3 Other hazards

None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. REACH No.	Classification REGULATION (EC) No 1272/2008	Concentration : [%]
D-Glucopyranose, oligomeric, heptyl glycoside	1627851-18-6 01-2120088889-28	Serious eye damage Category 1; H318	>= 1 - < 2.5
Dioctyl dimethyl ammonium chloride	5538-94-3 226-901-0 01-2120767055-53- 0000	Acute toxicity Category 3; H301 Acute toxicity Category 2; H330 Acute toxicity Category 3; H311 Skin corrosion Sub-category 1B; H314 Serious eye damage Category 1; H318 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 1; H410 M = 10	>= 0.25 - < 0.5
4-formylphenylboronic acid	87199-17-5 438-670-5 01-0000018341-78	Skin sensitization Category 1; H317	>= 0.1 - < 0.25
subtilisin	9014-01-1 232-752-2 01-2119480434-38	Skin irritation Category 2; H315 Serious eye damage Category 1; H318 Respiratory sensitization Category 1; H334	>= 0.1 - < 0.25

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		Specific target organ toxicity - single exposure Category 3; H335 Acute toxicity Category 4; H302 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 2; H411 M = 1		
A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)	55965-84-9 01-2120764691-48	Acute toxicity Category 3; H301 Acute toxicity Category 2; H330 Acute toxicity Category 2; H310 Skin corrosion Sub-category 1C; H314 Serious eye damage Category 1; H318 Skin sensitization Category 1A; H317 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 1; H410 Skin corrosion Category 1C H314 >= 0.6 % Skin irritation Category 2 H315 0.06 - < 0.6 % Eye irritation Category 2 H319 0.06 - < 0.6 % Skin sensitization Category 1A H317 >= 0.0015 % Serious eye damage Category 1 H318 >= 0.6 % M = 100 M(Chronic) = 100	>= 0.0002 - < 0.0015	
Substances with a workplace exposure limit :				
glycerin	56-81-5 200-289-5 01-2119471987-18	Not Classified;	>= 20 - < 25	
Propylene glycol	57-55-6 200-338-0 01-2119456809-23	Not Classified;	>= 0.5 - < 1	

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

Section: 4. FIRST AID MEASURES

4.1 Description of first aid measures

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for

at least 15 minutes. Remove contact lenses, if present and easy

to do. Continue rinsing. Get medical attention.

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

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

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

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

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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

nitrogen oxides (NOx) Hydrogen chloride

5.3 Advice for firefighters

for firefighters

Special protective equipment : Use personal protective equipment.

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 clean-up is conducted by trained personnel only. Refer to

protective measures listed in sections 7 and 8.

Advice for emergency

responders

: If specialised clothing is required to deal with the spillage, take

note of any information in Section 8 on suitable and unsuitable

materials.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up 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.

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See Section 13 for additional waste treatment information.

Section: 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes. Use only with adequate

ventilation. When diluting, always add the product to water. Never

add water to the product. Do not create inhalable vapours (aerosols) when handling. 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Keep out of reach of children. Keep container tightly closed. Store

in suitable labeled containers.

Storage temperature : 5 °C to 25 °C

7.3 Specific end uses

Specific use(s) : Medical devices . Semi-automatic process

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-N	0.	Value type (Form of exposure)	Control parameters	Basis
glycerin	56-81-5	5	TWA (Mist)	10 mg/m3	UKCOSSTD
Propylene glycol	57-55-6		TWA (Total vapour	150 ppm	UKCOSSTD
			and particles)	474 mg/m3	
			TWA (particles)	10 mg/m3	UKCOSSTD
subtilisin	9014-01-1		TWA	0.00004 mg/m3	UKCOSSTD
Further information	Sen	Capal	ole of causing occupation	onal asthma.	

DNEL

Propylene glycol	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 168 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 10 mg/m3
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects

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Value: 50 mg/m3

End Use: Consumers Exposure routes: Inhalation

Potential health effects: Long-term local effects

Value: 10 mg/m3

End Use: Consumers Exposure routes: Dermal

Potential health effects: Long-term systemic effects

213 mg/kg

End Use: Consumers
Exposure routes: Ingestion

Potential health effects: Long-term systemic effects

Value: 85 ppm

PNEC

Propylene glycol	:	Fresh water Value: 260 mg/l
		Marine water Value: 26 mg/l
		Intermittent use/release Value: 183 mg/l
		Fresh water sediment Value: 572 mg/kg
		Marine sediment Value: 57.2 mg/kg
		Sewage treatment plant Value: 20000 mg/l
		Soil Value: 50 mg/kg

8.2 Exposure controls

Appropriate engineering controls

Engineering measures : Good general ventilation should be sufficient to control worker

exposure to airborne contaminants.

Individual protection measures

Hygiene measures : 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

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Hand protection (EN 374) : Wear protective gloves.

Recommendation: Personal protective equipment should be

selected based on the task being performed.

The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from

one producer to the other.

Nitrile rubber Latex gloves

This recommendation is only valid for the product mentioned in the safety data sheet and provided by us and for the application

specified by us.

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.

Environmental exposure controls

General advice : Consider the provision of containment around storage vessels.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : clear, yellow

Odour : slight

pH : 8.0 - 10.0, 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 : Not applicable and/or not determined for the mixture

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 : 1.16 - 1.17

Water solubility : Not applicable and/or not determined for the mixture Solubility in other solvents : Not applicable and/or not determined for the mixture

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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

: Not applicable and/or not determined for the mixture Explosive properties

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

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

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

nitrogen oxides (NOx)

Hydrogen chloride

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

exposure

Product

: Acute toxicity estimate : > 2,000 mg/kg Acute oral toxicity

: 4 h Acute toxicity estimate : > 20 mg/l Acute inhalation toxicity

Test atmosphere: vapour

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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.

Components

Acute oral toxicity : Dioctyl dimethyl ammonium chloride LD50 rat: 238 mg/kg

4-formylphenylboronic acid LD50 rat: > 2,000 mg/kg

subtilisin LD50 rat: 1,800 mg/kg

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1) LD50 rat: 64 mg/kg

glycerin LD50 rat: 18,300 mg/kg

Propylene glycol LD50 rat: 22,000 mg/kg

Components

Acute inhalation toxicity : Dioctyl dimethyl ammonium chloride 4 h LC50 rat: 0.07 mg/l

Test atmosphere: dust/mist

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1) 4 h LC50 rat: 0.33 mg/l

Test atmosphere: dust/mist

Propylene glycol 4 h LC50 rabbit: 158.5 mg/l

Test atmosphere: dust/mist

Components

Acute dermal toxicity : D-Glucopyranose, oligomeric, heptyl glycoside LD50 rat: > 2,000

mg/kg

Dioctyl dimethyl ammonium chloride LD50 rabbit: 259 mg/kg

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

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2H-isothiazol-3-one (3:1) LD50 rabbit: 87.12 mg/kg

glycerin LD50 rabbit: 23,000 mg/kg

Potential Health Effects

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.

Experience with human exposure

Eye contact : Redness, Pain, Irritation

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

Environmental Effects : Toxic to aquatic life with long lasting effects.

Product

Toxicity to fish : no data available

Toxicity to daphnia and other : no data available

aquatic invertebrates

Toxicity to algae : no data available

Components

Toxicity to fish : D-Glucopyranose, oligomeric, heptyl glycoside96 h LC50 Danio

rerio (zebra fish): 100.81 mg/l

Dioctyl dimethyl ammonium chloride96 h LC50 Oncorhynchus

mykiss (rainbow trout): 0.35 mg/l

subtilisin96 h LC50 Oncorhynchus mykiss (rainbow trout): 8.2 mg/l

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1)96 h LC50 Oncorhynchus mykiss

(rainbow trout): 0.19 mg/l

glycerin96 h LC50 Fish: 855 mg/l

Propylene glycol96 h LC50 Fish: > 10,000 mg/l

Components

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Toxicity to daphnia and other aquatic invertebrates

 D-Glucopyranose, oligomeric, heptyl glycoside48 h EC50 Daphnia magna (Water flea): > 100 mg/l

Dioctyl dimethyl ammonium chloride96 h LC50: 0.073 mg/l

subtilisin48 h EC50 Daphnia magna (Water flea): 0.868 mg/l

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-2H-isothiazol-3-one (3:1)48 h LC50 Daphnia magna (Water flea):

0.16 mg/l

Propylene glycol48 h EC50 Aquatic Invertebrate: 18,340 mg/l

Components

Toxicity to algae : D-Glucopyranose, oligomeric, heptyl glycoside72 h EC50

Pseudokirchneriella subcapitata (green algae): 107.8 mg/l

Dioctyl dimethyl ammonium chloride72 h EC50 Pseudokirchneriella subcapitata (algae): 0.122 mg/l

subtilisin72 h EC50 Pseudokirchneriella subcapitata (green

algae): 1.44 mg/l

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1)72 h LC50 Skeletonema costatum

(marine diatom): 0.037 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 : D-Glucopyranose, oligomeric, heptyl glycosideResult: Readily

biodegradable.

Dioctyl dimethyl ammonium chlorideResult: Poorly biodegradable

subtilisinResult: Readily biodegradable.

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1)Result: Biodegradable

glycerinResult: Readily biodegradable.

Propylene glycolResult: 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 ponds, waterways or ditches 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

: Organic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and

assign the most appropriate European Waste Catalogue Code. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in

compliance with applicable European (EU Directive 2008/98/EC)

and local regulations.

Section: 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADR/ADN/RID)

14.1 UN number : 3082

14.2 UN proper shipping : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

name N.O.S.

(1-octanaminium, n,n-dimethyl-n-octyl-, chloride)

14.3 Transport hazard

class(es)

: 9

14.4 Packing group : III 14.5 Environmental hazards : Yes

14.6 Special precautions for

user

: None

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Air transport (IATA)

14.1 UN number 3082 :

14.2 UN proper shipping : Environmentally hazardous substance, liquid, n.o.s.

name

(1-octanaminium, n,n-dimethyl-n-octyl-, chloride)

14.3 Transport hazard : 9

class(es)

14.4 Packing group : 111 14.5 Environmental hazards : Yes

14.6 Special precautions for

user

: None

Sea transport (IMDG/IMO)

14.1 UN number : 3082

14.2 UN proper shipping : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

name N.O.S.

(1-octanaminium, n,n-dimethyl-n-octyl-, chloride)

14.3 Transport hazard : 9

class(es)

: 111 14.4 Packing group 14.5 Environmental hazards : Yes

: None 14.6 Special precautions for

user

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 : less than 5 %: Cationic surfactants, Non-ionic surfactants

Regulation EC 648/2004 Other constituents: Enzymes

Preservation agents:

A mixture of: 5-chloro-2-methyl-2H-isothiazol-3-one and 2-methyl-

2H-isothiazol-3-one (3:1)

Seveso III: Directive **ENVIRONMENTAL HAZARDS E2**

2012/18/EU of the European Parliament and of the Council on the control of majoraccident hazards involving

Lower tier: 200 t Upper tier: 500 t

Candidate List of Substances : Not applicable.

of Very High Concern for

Authorisation

National Regulations

dangerous substances.

Take note of Dir 94/33/EC on the protection of young people at work.

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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

Information from the chemical safety assessment of substances present in the product is included in the appropriate sections of this safety data sheet, whenever necessary.

Section: 16. OTHER INFORMATION

Procedure used to derive the classification according to REGULATION (EC) No 1272/2008

Classification	Justification
Eye irritation 2, H319	Calculation method
Chronic aquatic toxicity 2, H411	Calculation method

Full text of H-Statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if
	inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	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; 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,

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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

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