ECOLAB SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

A10 ARPAX TOILET CONCENTRATE

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

1.1 Product identifier:

Substance type:

A10 ARPAX TOILET CONCENTRATE CLP Mixture

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

Use of the Substance/Mixture : CLEANER

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

1.3 Details of the supplier of the safety data sheet:

COMPANY IDENTIFICATION Ecolab Ltd. PO Box 11; Winnington Avenue Northwich, Cheshire,, CW8 4DX, United Kingdom TEL: + 44 (0)1606 74488

LOCAL COMPANY IDENTIFICATION

Ecolab Ltd. PO Box 11; Winnington Avenue Northwich, Cheshire,, CW8 4DX, United Kingdom TEL: + 44 (0)1606 74488

For Product Safety information please contact: msdseame@nalco.com

1.4 Emergency telephone number:

Emergency telephone number	:	Trans-European +441618841235 +32-(0)3-575-5555 Trans-European Address European Economic Area HQ
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Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226
Skin corrosion, Category 1	H314
Serious eye damage, Category 1	H318
Acute aquatic toxicity, Category 1	H400
Chronic aquatic toxicity, Category 2	H411

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms		
Signal Word	: Dange	r •
Hazard Statements	: H226 H314 H400 H411	Flammable liquid and vapour. Causes severe skin burns and eye damage. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary Statements	: Prevention: P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/ eye protection/ face protection.
	Response:	
	P303 + P361 + P	353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
	P305 + P351 + P	338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue
	P310	rinsing. Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label: 2,2'-(octadec-9-enylimino)bisethanol

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.	Classification	Concentration:
	EC-No.	(REGULATION (EC) No 1272/2008)	[%]
	REACH No.		
Citric Acid, Monohydrate	5949-29-1	Eye irritation Category 2; H319	20 - < 25
	201-069-1		
	01-2119457026-42		
2,2'-(octadec-9-	25307-17-9	Acute toxicity Category 4: H302	10 - < 20
enylimino)bisethanol	246-807-3	Skin corrosion Category 1B; H314	10 120
, , , , , , , , , , , , , , , , , , ,	01-2119510876-35	Serious eye damage Category 1; H318	
		Acute aquatic toxicity Category 1; H400	
		Chronic aquatic toxicity Category 1; H410	
Coconut oil derivatives	90170-43-7	Eye irritation Category 2; H319	5 - < 10
	290-476-8	Lyc Innation Gategory 2, horo	5 4 10
	01-2119976233-35		
Sulfamic Acid	5329-14-6	Skin irritation Category 2; H315	3 - < 5
	226-218-8	Eye irritation Category 2; H319	
	01-2119488633-28	Chronic aquatic toxicity Category 3; H412	
		According to OECD 404 and 405 the irritancy threshold of sulphamic acid for skin	
		and eves is above 10%	
propanaminium-1, amino-3 N-	97862-59-4	Serious eye damage Category 1; H318	4 - < 5
(carboxyméthyl) N,N-diméthyl-,			
dérivés N-acyles en C8-18,			
hydroxydes, sels internes			
Isopropanol	67-63-0	Flammable liquids Category 2; H225	3 - < 5
	200-661-7	Eye irritation Category 2; H319	
	01-2119457558-25	Specific target organ toxicity - single	
		exposure Category 3; H336	

Sodium Octyl Sulfate	142-31-4 205-535-5 01-2119966154-35	Serious eye damage/eye irritation Category 1; H318 Skin corrosion/irritation Category 2; H315 Skin irritation Category 2; H315 Serious eye damage Category 1; H318	1 - < 2.5
Linear(C12-C14)alkanol,	68891-38-3	Skin irritation Category 2; H315	1 - < 2.5
ethoxylated, sulfated, sodium	500-234-8	Serious eye damage Category 1; H318	
salt	01-2119488639-16	Chronic aquatic toxicity Category 3; H412	

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

If inhaled	:	Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.	
In case of skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.	
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.	
If swallowed	:	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.	
Protection of first-aiders	:	In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders.Use personal protective equipment as required.	
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.

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) Sulphur oxides
5.3 Advice for firefighters		
Special protective equipment for firefighters	:	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 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

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 colle	ect with non-combustible
absorbent material, (e.g. sand,	earth, diatomaceous earth,
vermiculite) and place in contai	ner for disposal according to
local / national regulations (see	e section 13).
Flush away traces with water.	
For large spills, dike spilled ma	terial 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

Advice on safe handling	: Do not ingest. Do not breathe spray, vapour. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only with adequate ventilation. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
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
7.2 Conditions for cofe storage in	hazard.
7.2 Conditions for safe storage, ir	
7.2 Conditions for safe storage, in Requirements for storage areas and containers	
Requirements for storage	 A cluding any incompatibilities Keep in a cool, well-ventilated place. Keep away from strong bases. Keep out of reach of children. Keep container tightly
Requirements for storage areas and containers	 A cluding any incompatibilities Keep in a cool, well-ventilated place. Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Isopropanol	67-63-0	TWA	400 ppm 999 mg/m3	UKCOSSTD
		STEL	500 ppm 1,250 mg/m3	UKCOSSTD

DNEL

DINLL	
Sulfamic Acid	: End Use: Workers Exposure routes: Dermal Potential health effects: long term - systemic 10 mg/kg
Isopropanol	: End Use: Workers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 888 mg/cm2
	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 500 mg/m3
	End Use: Consumers Exposure routes: Dermal Potential health effects: Long-term systemic effects Value: 319 mg/cm2
	End Use: Consumers Exposure routes: Inhalation

Potential health effects: Long-term systemic effects Value: 89 mg/m3
End Use: Consumers Exposure routes: Ingestion Potential health effects: Long-term systemic effects Value: 26 ppm

PNEC

PNEC		
Sulfamic Acid	:	Fresh water Value: 0.048 mg/l
		Marine water Value: 0.0048 mg/l
		Intermittent release Value: 0.48 mg/l
		STP Value: 2 mg/l
		Fresh water sediment Value: 0.173 mg/kg
		Marine sediment Value: 0.0173 mg/kg
		Soil Value: 0.00638 mg/kg
Isopropanol	:	Fresh water Value: 140.9 mg/l
		Marine water Value: 140.9 mg/l
		Intermittent use/release Value: 140.9 mg/l
		Fresh water Value: 552 mg/kg
		Marine sediment Value: 552 mg/kg
		Soil Value: 28 mg/kg
		Sewage treatment plant Value: 2251 mg/l
		Oral Value: 160 mg/kg

8.2 Exposure controls

Appropriate engineering controls

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)	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:A-P		
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	:	viscous liquid
Colour	:	clear, blue
Odour	:	characteristic
Flash point	:	
		not determined
рН	:	1.5 - 2, (20 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	no data available
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available

Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: 1.13 - 1.15
Solubility(ies)	
Water solubility	: soluble in cold water, soluble in hot water
Solubility in other solvents	: no data available
Partition coefficient: n- octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
Explosive properties	: no data available
Oxidizing properties	: no data available

9.2 Other information

no data available

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

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

 10.4 Conditions to avoid
 Conditions to avoid

 Conditions to avoid
 : None known.

 10.5 Incompatible materials
 Katerials to avoid

 Materials to avoid
 : Strong bases

10.6 Hazardous decomposition products

Hazardous decomposition products	: Depending on combustion properties, decomposition products may include following materials:
·	Carbon oxides
	nitrogen oxides (NOx)
	Sulphur oxides

Section: 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

Toxicity

Product

Acute oral toxicity	: Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	: There is no data available for this product.
Acute dermal toxicity	: There is no data available for this product.
Skin corrosion/irritation	: There is no data available for this product.
Serious eye damage/eye irritation	: There is no data available for this product.
Respiratory or skin sensitization	: There is no data available for this product.
Carcinogenicity	: There is no data available for this product.
Reproductive effects	: There is no data available for this product.
Germ cell mutagenicity	: There is no data available for this product.
Teratogenicity	: There is no data available for this product.
STOT - single exposure	: There is no data available for this product.
STOT - repeated exposure	: There is no data available for this product.
Aspiration toxicity	: There is no data available for this product.
Components	
Acute oral toxicity	: Citric Acid, Monohydrate LD50 rat: 11,700 mg/kg
	2,2'-(octadec-9-enylimino)bisethanol LD50 rat: 1,260 mg/kg
	Sulfamic Acid LD50 rat: 3,160 mg/kg
	Isopropanol LD50 rat: 5,840 mg/kg
	Sodium Octyl Sulfate LD50 rat: 2,175 mg/kg
	Linear(C12-C14)alkanol, ethoxylated, sulfated, sodium salt

LD50 rat: 3,350 mg/kg

Components

Acute inhalation toxicity	: Isopropanol LC50 rat: > 30 mg/l Exposure time: 4 h Test atmosphere: vapour
Components	
Acute dermal toxicity	: Citric Acid, Monohydrate LD50 rat: > 2,000 mg/kg
	Sulfamic Acid LD50 rat: > 2,000 mg/kg
	Isopropanol LD50 rabbit: 12,870 mg/kg
	Sodium Octyl Sulfate LD50 rabbit: > 500 mg/kg
	Linear(C12-C14)alkanol, ethoxylated, sulfated, sodium salt LD50 rabbit: 8,000 mg/kg
Potential Health Effects	
Eves	: Causes serious eve damage.

Eyes	: Causes serious eye damage.
Skin	: Causes severe skin burns.
Ingestion	: Causes digestive tract burns.
Inhalation	: 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
Further information	: no data available

Section: 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Product

Environmental Effects	: Very toxic to aquatic life.Toxic to aquatic life with long lasting effects.
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 Acid, Monohydrate 96 h LC50 Fish: > 100 mg/l
	2,2'-(octadec-9-enylimino)bisethanol 96 h LC50 Danio rerio (zebra fish): 0.1 mg/l
	Coconut oil derivatives 96 h LC50 Oncorhynchus mykiss (rainbow trout): 4.2 mg/l
	Isopropanol 96 h LC50 Pimephales promelas (fathead minnow): 9,640 mg/l
	Linear(C12-C14)alkanol, ethoxylated, sulfated, sodium salt 96 h LC50 Fish: 7.1 mg/l
Components	
Toxicity to daphnia and other : aquatic invertebrates	2,2'-(octadec-9-enylimino)bisethanol 48 h EC50 Daphnia magna (Water flea): 0.043 mg/l
	Coconut oil derivatives 48 h EC50 Daphnia magna (Water flea): 29 mg/l
	Isopropanol LC50 Daphnia magna (Water flea): > 10,000 mg/l
	Sodium Octyl Sulfate 48 h EC50 Daphnia: 31 mg/l
Components	
Toxicity to algae :	2,2'-(octadec-9-enylimino)bisethanol 72 h EC50 Pseudokirchneriella subcapitata (microalgae): 0.0538 mg/l
	Coconut oil derivatives 72 h EC50 Chlorella vulgaris (Fresh water algae): 9.4 mg/l
	Sulfamic Acid 72 h EC50: 48 mg/l
Components	
Toxicity to bacteria	Isopropanol 1,050 mg/l
Components	
Toxicity to fish (Chronic : toxicity)	Linear(C12-C14)alkanol, ethoxylated, sulfated, sodium salt 28 d NOEC Oncorhynchus mykiss (rainbow trout): 0.14
	11 / 1E

mg/l

Components	
Toxicity to daphnia and other	

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	2,2'-(octadec-9-enylimino)bisethanol 21 d EC50: 0.0463 mg/l
		Coconut oil derivatives 21 d NOEC Daphnia magna (Water flea): 10 mg/l

12.2 Persistence and degradability

Product

no data available

Components

Biodegradability	
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: Citric Acid, Monohydrate Result: Readily biodegradable.

2,2'-(octadec-9-enylimino)bisethanol Result: Readily biodegradable.

Coconut oil derivatives Result: Readily biodegradable.

Sulfamic Acid Result: Not applicable - inorganic

propanaminium-1, amino-3 N-(carboxyméthyl) N,N-diméthyl-, dérivés N-acyles en C8-18, hydroxydes, sels internes Result: no data available

Isopropanol Result: Readily biodegradable.

Sodium Octyl Sulfate Result: Biodegradable

Linear(C12-C14)alkanol, ethoxylated, sulfated, sodium salt 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 codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

13.1 Waste treatment methods

Product	 The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance 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.
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: 14.2 UN proper shipping name: 14.3 Transport hazard class(es): 14.4 Packing group: 14.5 Environmental hazards: 14.6 Special precautions for user:	UN 1987 ALCOHOL, N.O.S. (Isopropanol) 3 III Yes Not applicable.
Air transport (IATA) 14.1 UN number: 14.2 UN proper shipping name: 14.3 Transport hazard class(es): 14.4 Packing group: 14.5 Environmental hazards: 14.6 Special precautions for user:	UN 1987 ALCOHOL, N.O.S. (Isopropanol) 3 III Yes Not applicable.

Sea transport (IMDG/IMO)

14.1 UN number:	UN 1987
14.2 UN proper shipping name:	ALCOHOL, N.O.S. (Isopropanol)
14.3 Transport hazard class(es):	3
14.4 Packing group:	111
14.5 Environmental hazards:	Yes (Marine Pollutant)
14.6 Special precautions for user:	Not applicable.
14.7 Transport in bulk according to	Not applicable.
Annex II of MARPOL 73/78 and the IBC	
Code:	

Section: 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

INTERNATIONAL CHEMICAL CONTROL LAWS

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

Classification	Justification
Flammable liquids 3, H226	Based on product data or assessment
Skin corrosion 1, H314	Based on product data or assessment
Serious eye damage 1, H318	Based on product data or assessment
Acute aquatic toxicity 1, H400	Calculation method
Chronic aquatic toxicity 2, H411	Calculation method

Full text of H-Statements

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very 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; AICS – Australian Inventory of Chemical Substances; 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; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA – Toxic Substances Control Act (United States); UN – United Nations; vPvB – Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Safety Data Sheet	:	IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.
		The possible key literature references and data sources which may have been used in conjunction with the consideration of expert judgment to compile this Safety Data Sheet: European regulations/directives (including (EC) No. 1907/2006, (EC) No. 1272/2008), supplier data, inter-net, ESIS, IUCLID, ERIcards, Non European official regulatory data and other data sources.
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.