

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

# **1.1 Product identifier:** Substance type:

BRAKES AIRFRESHNER & ODOUR NEUTRALISER 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**

Brakes, Enterprise House Eureka Business Park Ashford, Kent, TN25 4AG TEL: 0845 6069090 LOCAL COMPANY IDENTIFICATION

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

#### 1.4 Emergency telephone number:

Emergency telephone number	:	0345 606 9090 (Office hours 7.30hrs to 18.00 hrs Monday to
		Friday) Trans-European

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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
Acute toxicity, Category 4	H302
Serious eye damage, Category 1	H318
Chronic aquatic toxicity, Category 3	H412

#### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms		
Signal Word	: Danger	•
Hazard Statements	: H226 H302 H318 H412	Flammable liquid and vapour. Harmful if swallowed. Causes serious eye damage. Harmful 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:	·	
P305 + P351 + P	338 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: Alcohols, C13, branched, ethoxylated

Special labelling of certain mixtures	: Contains: Limonene 2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- Citral 3-(4-TERT- BUTYLPHENYL)PROPIONALDEHYDE May produce an allergic reaction.
	allergic reaction.

## 2.3 Other hazards

None known.

# 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.		
Alcohols, C13, branched,	69011-36-5	Acute toxicity Category 4; H302	25 - < 30
ethoxylated		Serious eye damage Category 1; H318	
ALCOHOLS, C6-12,	68439-45-2	Skin irritation Category 2; H315	2.5 - < 3
ETHOXYLATED		Serious eye damage Category 1; H318	
2,6-DIMETHYLOCT-7-EN-2-OL	18479-58-8	Eye irritation Category 2; H319	1 - < 2.5
Limonene	5989-27-5 227-813-5	Nota C Flammable liquids Category 3; H226	0.25 - < 0.5
		Skin irritation Category 2; H315	
		Skin sensitization Category 1; H317	
		Acute aquatic toxicity Category 1; H400	
	105.07.0	Chronic aquatic toxicity Category 1; H410	0.05 0.5
2,6-OCTADIEN-1-OL, 3,7-	105-87-3	Skin irritation Category 2; H315	0.25 - < 0.5
DIMETHYL-, ACETATE, (E)-	203-341-5	Skin sensitization Category 1; H317	
Olivert	01-2119973480-35	Chronic aquatic toxicity Category 3; H412	0.05 0.5
Citral	5392-40-5	Skin irritation Category 2; H315	0.25 - < 0.5
	226-394-6 01-2119462829-23	Skin sensitization Category 1; H317	
3-(4-TERT-	18127-01-0	Aquita tavisity Catagory 2:	0.1 - < 0.25
BUTYLPHENYL)PROPIONALD	242-016-2	Acute toxicity Category 3; Acute toxicity Category 3;	0.1 - < 0.25
EHYDE	01-2119983533-30	Acute toxicity Category 3;	
EHTDE	01-2119963535-30	Chronic aquatic toxicity Category 2;	
		Skin sensitization Category 1;	
Substances with a workplace	exposure limit :		·
Ethanol	64-17-5	Flammable liquids Category 2; H225	5 - < 10
	200-578-6		

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 with soap and plenty of water. Get medical attention if symptoms occur.
In case of eye contact	<ul> <li>Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.</li> <li>Remove contact lenses, if present and easy to do. Continue rinsing.</li> <li>Get medical attention immediately.</li> </ul>
If swallowed	: Rinse mouth. Get medical attention if symptoms occur.
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.

## 5.1 Extinguishing media

Suitable extinguishing media	:	Foam Carbon dioxide Dry powder Other extinguishing agent suitable for Class B fires For large fires, use water spray or fog, thoroughly drenching the burning material.
5.2 Special hazards arising from t	he	substance or mixture
Specific hazards during firefighting	:	Fire Hazard Keep away from heat and sources of ignition. Flash back possible over considerable distance. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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 : Use water spray to cool unopened containers. 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. Remove all sources of ignition. 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	e or ground water.
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#### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up	: Eliminate all ignition sources if safe to do so.
	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

Advice on safe handling	Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Do not inge Keep away from fire, sparks and heated surfaces. Do not breathe spray, vapour. Do not get in eyes, on skin, or on clothing. Wash hands thoroughly after handling. Use only wi adequate ventilation.	
Hygiene measures	Handle in accordance with good industrial hygiene and safe practice. Remove and wash contaminated clothing before re use. Wash face, hands and any exposed skin thoroughly aft	)-

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	: Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store is suitable labelled containers.	)
Suitable material 7.3 Specific end uses	: Keep in properly labelled containers.	
Specific use(s)	: CLEANER	

## Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1 Control parameters

## Occupational Exposure Limits

Components	CAS-No	).	Value type (Form of exposure)	Control parameters	Basis
Ethanol	64-17-5		TWA	1,000 ppm 1,920 mg/m3	UKCOSSTD
Further information	16	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

## DNEL

Limonene	:	End Use: Workers Exposure routes: Dermal Potential health effects: short-term - local Value: 0.222 mg/cm2
		End Use: Workers Exposure routes: Inhalation Potential health effects: long term - systemic Value: 33.3 mg/m3
Ethanol	:	End Use: Workers Exposure routes: Inhalation Potential health effects: short-term - local Value: 1900 mg/m3
		End Use: Workers Exposure routes: Dermal Potential health effects: long term - systemic
		End Use: Workers Exposure routes: Inhalation Potential health effects: long term - systemic Value: 950 mg/m3

#### PNEC

Limonene	:	Fresh water Value: 0.0054 mg/l
		Marine water Value: 0.00054 mg/l

	STP Value: 1.8 mg/l
	Fresh water sediment Value: 1.32 mg/kg
	Marine sediment Value: 0.13 mg/kg
	Soil Value: 0.262 mg/kg
	Oral Value: 3.33 mg/kg
Ethanol	: Fresh water Value: 0.96 mg/l
	Marine water Value: 0.79 mg/l
	Intermittent release Value: 2.75 mg/l
	STP Value: 580 mg/l
	Fresh water sediment Value: 2.6 mg/kg
	Marine sediment Value: 2.9 mg/kg
	Soil Value: 0.63 mg/kg
	Oral Value: 0.72 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 0.3 mm for nitrile rubb 0.2 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.	er
Skin and body protection (EN 14605)	Wear suitable protective clothing.	
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 equipme meeting EU requirements (89/656/EEC, (EU) 2016/425), o equivalent, with filter type:A-P	
Environmental exposure co	ols	

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, pink
Odour	:	characteristic
Flash point	:	46 °C
рН		not determined
•	•	
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	:	1.00 - 1.02
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 RE	EACTIVITY
10.1 Reactivity	
No dangerous reaction know	n under conditions of normal use.
10.2 Chemical stability	
Stable under normal conditio	'ns.
10.3 Possibility of hazardous re	actions
Hazardous reactions	: No dangerous reaction known under conditions of normal use.
10.4 Conditions to avoid	
Conditions to avoid	: Heat, flames and sparks.
10.5 Incompatible materials	
Materials to avoid	: Strong oxidizing agents
10.6 Hazardous decomposition	products
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**

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

# Toxicity

# **Product**

Acute oral toxicity	:	Acute toxicity estimate : 1,755 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate : > 20 mg/l Exposure time: 4 h 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.
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	: Alcohols, C13, branched, ethoxylated LD50 rat: > 500 mg/kg
	ALCOHOLS, C6-12, ETHOXYLATED LD50 rat: 7,000 mg/kg
	2,6-DIMETHYLOCT-7-EN-2-OL LD50 rat: 3,600 mg/kg
	Limonene LD50 rat: 4,400 mg/kg
	2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- LD50 rat: 6,330 mg/kg
	Citral LD50 rat: 4,960 mg/kg
	Ethanol LD50 rat: 10,470 mg/kg
Components	
Acute inhalation toxicity	: Ethanol LC50 rat: 117 mg/l Exposure time: 4 h Test atmosphere: vapour
Components	
Acute dermal toxicity	: ALCOHOLS, C6-12, ETHOXYLATED LD50 rabbit: > 2,000 mg/kg

	2,6-DIMETHYLOCT-7-EN-2-OL LD50 rabbit: > 5,000 mg/kg
	Limonene LD50 rabbit: > 5,000 mg/kg
	2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- LD50 rabbit: 5,460 mg/kg
	Citral LD50 rat: 2,250 mg/kg
	Ethanol LD50 rabbit: > 15,800 mg/kg
Potential Health Effects	
Eyes	: Causes serious eye damage.
Skin	: Health injuries are not known or expected under normal use.
Ingestion	: Harmful if swallowed.
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 expos	

## Experience with human exposure

Further information	: no data available
Inhalation	: No symptoms known or expected.
Ingestion	: No information available.
Skin contact	: No symptoms known or expected.
Eye contact	: Redness, Pain, Corrosion

# Section: 12. ECOLOGICAL INFORMATION

# 12.1 Ecotoxicity

Product	
Environmental Effects	: Harmful 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	: Alcohols, C13, branched, ethoxylated 96 h LC50 Fish: 3 mg/l

	ALCOHOLS, C6-12, ETHOXYLATED 96 h LC50 Fish: 1.5 mg/l
	Limonene 96 h LC50 Fathead Minnow: 0.72 mg/l Method: OECD 203
	2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- 96 h LC50 Leuciscus idus (Golden orfe): 68.12 mg/l
	Citral 96 h LC50 Fish: 6.78 mg/l
	Ethanol 96 h LC50 Pimephales promelas (fathead minnow): > 100 mg/l
Components	
Toxicity to daphnia and other : aquatic invertebrates	Alcohols, C13, branched, ethoxylated 48 h EC50 Daphnia magna (Water flea): 1.5 mg/l
	Limonene 48 h EC50 Daphnia magna: 0.36 mg/l Method: OECD 202
	2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- 48 h EC50 Daphnia magna (Water flea): 14.1 mg/l
Components	
Toxicity to algae :	2,6-DIMETHYLOCT-7-EN-2-OL 72 h EC50: 38 mg/l 72 h EC50: 38 mg/l
	Limonene 72 h EC50 Desmodesmus subspicatus (green algae): ca. 8 mg/l Method: OECD 201
	2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- 72 h EC50 Desmodesmus subspicatus (green algae): 3.72 mg/l
	Citral 72 h EC50 Desmodesmus subspicatus (green algae): 103.8 mg/l Method: DIN 38412 GLP: No
Components	
Toxicity to bacteria :	Limonene 3 h EC50 Sewage Microorganisms: 209 mg/l Method: OECD 209
Components	
Toxicity to daphnia and other : aquatic invertebrates (Chronic toxicity)	Limonene 16 d NOEC Daphnia: 0.115 mg/l Method: Calculated

## 12.2 Persistence and degradability

Product	
no data available	
Components	
Biodegradability	: Alcohols, C13, branched, ethoxylated Result: Biodegradable
	ALCOHOLS, C6-12, ETHOXYLATED Result: Readily biodegradable.
	2,6-DIMETHYLOCT-7-EN-2-OL Result: Readily biodegradable.
	2,6-DIMETHYLOCT-7-EN-2-OL Result: Readily biodegradable.
	Limonene Result: Readily biodegradable.
	2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)- Result: Readily biodegradable.
	Citral Result: Readily biodegradable.
	3-(4-TERT-BUTYLPHENYL)PROPIONALDEHYDE Result: Readily biodegradable.
	Ethanol 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	he product should not be allowed to enter or ourses or the soil. /here possible recycling is preferred to disp incineration. recycling is not practicable, dispose of in co ocal regulations. hispose of wastes in an approved waste disp	osal or ompliance with
Contaminated packaging	ispose of as unused product. mpty containers should be taken to an app andling site for recycling or disposal. to not re-use empty containers.	roved waste
Guidance for Waste Code selection	Prganic wastes containing dangerous substa roduct is used in any further processes, the edefine and assign the most appropriate Eu- catalogue Code. It is the responsibility of the o determine the toxicity and physical proper naterial generated to determine the proper v lentification and disposal methods in compl pplicable European (EU Directive 2008/98/ egulations.	final user must ropean Waste e waste generator ties of the vaste iance with

# 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. (Ethanol) 3 III No 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. (Ethanol) 3 III No Not applicable.
Sea transport (IMDG/IMO) 14.1 UN number: 14.2 UN proper shipping name: 14.3 Transport hazard class(es): 14.4 Packing group: 14.5 Environmental hazards:	UN 1987 ALCOHOL, N.O.S. (Ethanol) 3 III No

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. Not applicable.

# 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	Justification
Flammable liquids 3, H226	Based on product data or assessment
Acute toxicity 4, H302	Calculation method
Serious eye damage 1, H318	Calculation method
Chronic aquatic toxicity 3, H412	Calculation method

Full text of H-Statements

H225 H226	Highly flammable liquid and vapour. Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
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.