

3D TRASAR™ 3DT199

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

1.1 Product identifier: **3D TRASAR™ 3DT199**
Substance type: CLP Mixture

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

Use of the Substance/Mixture : COOLING WATER TREATMENT
Identified uses : Cooling Water Treatment
Recommended restrictions on use : Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet:

COMPANY IDENTIFICATION
NALCO EUROPE B.V.
Postbus 627
2300 AP Leiden, The Netherlands
TEL: 0031 71 5241100

LOCAL COMPANY IDENTIFICATION
Nalco Ltd.
P.O. BOX 11, WINNINGTON AVENUE
NORTHWICH, CHESHIRE, U.K. CW8 4DX
TEL: +44 (0)1606 74488

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

1.4 Emergency telephone number:

Emergency telephone number : +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)

Acute toxicity, Category 4	H302
Skin corrosion, Category 1B	H314
Serious eye damage, Category 1	H318
Chronic aquatic toxicity, Category 2	H411

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :   

Signal Word : Danger

Hazard Statements : H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P273 Avoid release to the environment.

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P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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:
Sodium Benzotriazole

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: [%]
Sodium Benzotriazole	15217-42-2 239-269-6 01-2119978275-25	Acute toxicity Category 4; H302 Skin corrosion Category 1B; H314 Serious eye damage Category 1; H318 Chronic aquatic toxicity Category 2; H411	30 - < 50
Substances with a workplace exposure limit :			
Sodium Hydroxide	1310-73-2 215-185-5 01-2119457892-27	Skin corrosion Category 1A; H314 Corrosive to metals Category 1; H290	0.1 - < 0.25

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.

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| 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

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| Treatment | : Treat symptomatically. |
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Section: 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

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| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
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5.2 Special hazards arising from the substance or mixture

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| 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
Oxides of phosphorus |

5.3 Advice for firefighters

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|---|--|
| 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

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| Advice for non-emergency personnel | : Ensure adequate ventilation.
Keep people away from and upwind of spill/leak. |
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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 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 : 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.

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 : Keep out of reach of children. Keep container tightly closed.
Store in suitable labelled containers.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Buna-N, HDPE (high density polyethylene), Viton, Polypropylene, Polyethylene, Stainless Steel 304, Epoxy phenolic resin

Unsuitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Polyurethane, Hypalon, Neoprene, EPDM, 100% phenolic resin liner

7.3 Specific end uses

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Specific use(s) : COOLING WATER TREATMENT

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Sodium Hydroxide	1310-73-2	STEL	2 mg/m3	UKCOSSTD

DNEL

Sodium Benzotriazole	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Systemic effects Value: 19 mg/m3
		End Use: Workers Exposure routes: Skin contact Potential health effects: Systemic effects Value: 1.08 mg/cm2
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Systemic effects Value: 9.55 mg/m3
		End Use: Consumers Exposure routes: Skin contact Potential health effects: Systemic effects Value: 0.54 mg/cm2
		End Use: Consumers Exposure routes: Ingestion Potential health effects: Systemic effects Value: 0.54 ppm
Sodium Hydroxide	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1 mg/m3
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1 mg/m3

PNEC

Sodium Benzotriazole	:	Fresh water Value: 0.0194 mg/l
		Marine water Value: 0.0194 mg/l
		Fresh water sediment Value: 0.00375 mg/kg
		Marine sediment Value: 0.00375 mg/kg

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	Soil Value: 0.003 mg/kg
	Water Value: 0.158 mg/l
	Soil Value: 39.4 mg/l

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**

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Appearance	: Liquid
Colour	: clear, yellow, to, amber
Odour	: None
Flash point	: does not flash
pH	: 11.2
Odour Threshold	: no data available
Melting point/freezing point	: -15 °C
Initial boiling point and boiling range	: 104 °C (760 mm Hg)
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	: 1.16 (25 °C)
Solubility(ies)	
Water solubility	: completely soluble
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	
Viscosity, dynamic	: 8.6 mPa.s (25 °C)
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

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Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

10.5 Incompatible materials

Materials to avoid : Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors.
Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

10.6 Hazardous decomposition products

Hazardous decomposition products : Depending on combustion properties, decomposition products may include following materials:
Carbon oxides
nitrogen oxides (NO_x)
Sulphur oxides
Oxides of phosphorus

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 : LD50 rat: > 500 mg/kg
Test substance: Product

Acute inhalation 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 : No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive effects : No toxicity to reproduction

Germ cell mutagenicity : Contains no ingredient listed as a mutagen

Teratogenicity : There is no data available for this product.

STOT - single exposure : Based on available data, the classification criteria are not met.

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STOT - repeated exposure : There is no data available for this product.

Aspiration toxicity : No aspiration toxicity classification

Components

Acute oral toxicity : Sodium Benzotriazole
LD50 rat: > 300 mg/kg

Potential Health Effects

Eyes : Causes serious eye damage.

Skin : Causes severe skin burns.

Ingestion : Harmful if swallowed. Causes digestive tract burns.

Inhalation : May cause nose, throat, and lung irritation.

Chronic Exposure : Health injuries are not known or expected under normal use.

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 : Toxic to aquatic life with long lasting effects.

Toxicity to fish : 96 hrs LC50 Fathead Minnow: 164 mg/l
Test substance: Product

96 hrs LC50 Bluegill Sunfish: 185 mg/l
Test substance: Product

96 hrs LC50 Inland Silverside: 75 mg/l
Test substance: Product

96 hrs NOEC Fathead Minnow: 62.5 mg/l
Test substance: Product

96 hrs NOEC Bluegill Sunfish: 125 mg/l
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : 48 hrs LC50 Daphnia magna: 477 mg/l
Test substance: Product

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96 hrs LC50 Mysid Shrimp (*Mysidopsis bahia*): 277 mg/l
Test substance: Product

48 hrs NOEC *Daphnia magna*: 250 mg/l
Test substance: Product

48 hrs EC50 *Ceriodaphnia dubia*: 677 mg/l
Test substance: Product

48 hrs LC50 *Ceriodaphnia dubia*: 677 mg/l
Test substance: Product

48 hrs NOEC *Ceriodaphnia dubia*: 500 mg/l
Test substance: Product

Toxicity to algae : no data available

Components

Toxicity to fish : Sodium Benzotriazole
96 h LC50: 50 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : Sodium Benzotriazole
48 h EC50: 31 mg/l

Sodium Hydroxide
48 h EC50: 40 mg/l

Components

Toxicity to algae : Sodium Benzotriazole
72 h EC50: 66 mg/l

Components

Toxicity to bacteria : Sodium Benzotriazole
1,060 mg/l
Method: ISO 8192

Components

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Sodium Benzotriazole
21 d: 0.97 mg/l
Method: OECD Test Guideline 211

12.2 Persistence and degradability

Product

Biodegradability : The organic portion of this preparation is expected to be poorly biodegradable.

TOTAL ORGANIC CARBON (TOC): 210,000 mg/l (Product)

Biological Oxygen Demand (BOD): (Product)
We expect that the product is not readily biodegradable.
5 d 2 mg/l (Product)

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Chemical Oxygen Demand (COD): 590,000 mg/l (Product)

Components

Biodegradability : Sodium Benzotriazole
Result: Poorly biodegradable

Sodium Hydroxide
Result: Not applicable - inorganic

12.3 Bioaccumulative potential

Product

Bioaccumulation : This preparation or material is not expected to bioaccumulate.

Components

Bioaccumulation : Sodium Hydroxide
study scientifically unjustified

12.4 Mobility in soil

Product

This substance is water soluble and is expected to remain primarily in water.

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

Not applicable.

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.

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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:	UN 1719
14.2 UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S. (Sodium Benzotriazole)
14.3 Transport hazard class(es):	8
14.4 Packing group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user:	Not applicable.

Air transport (IATA)

14.1 UN number:	UN 1719
14.2 UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S. (Sodium Benzotriazole)
14.3 Transport hazard class(es):	8
14.4 Packing group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user:	Not applicable.

Sea transport (IMDG/IMO)

14.1 UN number:	UN 1719
14.2 UN proper shipping name:	CAUSTIC ALKALI LIQUID, N.O.S. (Sodium Benzotriazole)
14.3 Transport hazard class(es):	8
14.4 Packing group:	III
14.5 Environmental hazards:	Yes (Marine Pollutant)
14.6 Special precautions for user:	Not applicable.
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:****INTERNATIONAL REGULATIONS**

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds):

NSF Registration number for this product is: 153883

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas. This product is acceptable for treating boilers, steam lines, and/or cooling systems (G7) where neither the treated water nor the steam produced may contact edible products in and around food processing areas.

3D TRASAR™ 3DT199**INTERNATIONAL CHEMICAL CONTROL LAWS****CANADA**

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

United States TSCA Inventory

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

NATIONAL REGULATIONS GERMANY

Water contaminating class : WGK 2

(Germany) Classification according to AwSV, Annex 1

15.2 Chemical Safety Assessment:

A Chemical Safety Assessment has been carried out for some of the substances in this mixture.

Section: 16. OTHER INFORMATION**Procedure used to derive the classification according to REGULATION (EC) No 1272/2008**

Classification	Justification
Acute toxicity 4, H302	On basis of test data.
Skin corrosion 1B, H314	Calculation method
Serious eye damage 1, H318	Calculation method
Chronic aquatic toxicity 2, H411	Calculation method

Full text of H-Statements

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

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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

Further information

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.

Annex: Exposure Scenarios**Exposure Scenario: Cooling Water Treatment**

Life Cycle Stage	:	Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use	:	SU4 Manufacture of food products SU5 Manufacture of textiles, leather, fur SU6b Manufacture of pulp, paper and paper products SU6a Manufacture of wood and wood products SU7 Printing and reproduction of recorded media SU8 Manufacture of bulk, large scale chemicals (including petroleum products)

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SU9	Manufacture of fine chemicals
SU 10	Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)
SU11	Manufacture of rubber products
SU12	Manufacture of plastics products, including compounding and conversion
SU13	Manufacture of other non-metallic mineral products, e.g. plasters, cement
SU14	Manufacture of basic metals, including alloys
SU15	Manufacture of fabricated metal products, except machinery and equipment
SU16	Manufacture of computer, electronic and optical products, electrical equipment
SU17	General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
SU20	Health services
SU23	Electricity, steam, gas water supply and sewage treatment
SU24	Scientific research and development

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	:	1000 kg	
Type of Sewage Treatment Plant	:	none	

Contributing scenario controlling worker exposure for:

Process category	:	PROC8a	Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities
Exposure duration	:	15 min	
Operational conditions and risk management measures	:	Indoor	
			Local Exhaust Ventilation is not required
General ventilation		Ventilation rate per hour:	1
Skin Protection	:	Yes: See Section 8	
Respiratory Protection	:	No	

Contributing scenario controlling worker exposure for:

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Process category : **PROC3** Use in closed batch process (synthesis or formulation)

Exposure duration : 60 min

Operational conditions and risk management measures : Indoor

Local Exhaust Ventilation is not required

General ventilation Ventilation rate per hour: 1

Skin Protection : Yes: See Section 8

Respiratory Protection : No

Contributing scenario controlling worker exposure for:

Process category : **PROC15** Use as laboratory reagent

Exposure duration : 60 min

Operational conditions and risk management measures : Indoor

Local Exhaust Ventilation is not required

General ventilation Ventilation rate per hour: 1

Skin Protection : Yes: See Section 8

Respiratory Protection : No

Contributing scenario controlling worker exposure for:

Process category : **PROC28** Manual maintenance (cleaning and repair) of machinery

Exposure duration : 240 min

Operational conditions and risk management measures : Indoor

Local Exhaust Ventilation is not required

General ventilation Ventilation rate per hour: 1

Skin Protection : Yes: See Section 8

Respiratory Protection : No