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

1.1 Product identifier: **Star Autotreat 22372**
Substance type: Mixture

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

Use of the Substance/Mixture	:	BOILER WATER TREATMENT
Identified uses	:	Boiler treatment under 1T per day
Recommended restrictions on use	:	Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet:

Company

Star international Ltd
Star House, Turbine Road, Turbine Business Park,
Birkenhead, Merseyside, CH41 9BA

T: +44 (0) 1244 504 500
E: enquiries@star-international.co.uk

1.4 Emergency telephone number:

Emergency telephone number +44 (0) 124 44 504 500 (office hours only Mon - Fri 08:00 - 16:30)

Date of Compilation/Revision: 21.04.2021
Version Number: 2.4

Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1	H290
Skin corrosion, Category 1A	H314
Serious eye damage, Category 1	H318

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal Word : Danger

Hazard Statements	:	H290	May be corrosive to metals.
		H314	Causes severe skin burns and eye damage.
Precautionary Statements	:	**Prevention:**	
		P234	Keep only in original container.
		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.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

Hazardous components which must be listed on the label:
Potassium HydroxideDiethylethanolamine

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: [%]
Potassium Hydroxide	1310-58-3 215-181-3 01-2119487136-33	Acute toxicity Category 4; H302 Skin corrosion Category 1A; H314 Corrosive to metals Category 1; H290 Skin corrosion/irritation Category 1A 5 - 100 % Skin corrosion/irritation Category 1B 2 - < 5 % Skin corrosion/irritation Category 2 0.5 - < 2 % Serious eye damage/eye irritation Category 1 2 - 100 % Serious eye damage/eye irritation Category 2A 0.5 - < 2 %	2.5 - < 5
Diethylethanolamine	100-37-8 202-845-2 01-2119488937-14	Flammable liquids Category 3; H226 Acute toxicity Category 4; H302 Acute toxicity Category 3; H331 Acute toxicity Category 4; H312 Skin corrosion Category 1B; H314 Specific target organ toxicity - single exposure Category 3; H335 Specific target organ toxicity - single exposure Category 3 H335 >= 5 %	1 - < 2.5

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

Section: 4. FIRST AID MEASURES

4.1 Description of first aid measures

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. If conscious, give 2 glasses of water. 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)

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Use personal protective equipment.
Further information	:	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 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 : Do not store near acids. Keep out of reach of children. Keep container tightly closed. Store in suitable labelled containers. Keep only in original container. Absorb spillage to prevent material damage.

Suitable material : The following compatibility data is suggested based on similar product data and/or industry experience: PVC, Polypropylene, Polyethylene, Stainless Steel 304, Surface-modified HDPE (high density polyethylene), Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.
The following compatibility data is suggested based on similar product data and/or industry experience: Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use.

Unsuitable material : The following compatibility data is suggested based on similar product data and/or industry experience: Brass, Polyurethane, Neoprene, EPDM, Aluminum, Copper, Nickel
The following compatibility data is suggested based on similar product data and/or industry experience:

7.3 Specific end uses

Specific use(s) : BOILER 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
Potassium Hydroxide	1310-58-3	STEL	2 mg/m3	UKCOSSTD

DNEL

Potassium Hydroxide	:	End Use: Workers Exposure routes: Inhalation Value: 1 mg/m3
		End Use: Consumers Exposure routes: Inhalation Value: 1 mg/m3
Diethylethanolamine	:	End Use: Workers Exposure routes: Dermal Potential health effects: long term - systemic 1 mg/kg
		End Use: Workers Exposure routes: Inhalation Potential health effects: long term - systemic Value: 7.34 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: long-term - local Value: 1.07 mg/m3

PNEC

Diethylethanolamine	:	Fresh water Value: 0.044 mg/l
		Marine water Value: 0.0044 mg/l
		Intermittent release Value: 4.4 mg/l
		STP Value: 10 mg/l
		Fresh water sediment Value: 0.475 mg/kg
		Marine sediment Value: 0.0475 mg/kg
		Soil Value: 0.069 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: P

The Personal Protective Equipment (PPE) recommendations provided above have been made in good faith based on typical expected conditions of use. PPE selection should always be completed in conjunction with a proper risk assessment and in accordance with a PPE management program.

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	:	orange
Odour	:	Slight
Flash point	:	> 93.3 °C Method: ASTM D 93, Pensky-Martens closed cup does not flash
pH	:	no data available
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -9.9 °C
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	:	1.14 (25 °C) ASTM D-1298
Density	:	1.13 g/cm3
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	:	no data available
Viscosity, kinematic	:	3 mm2/s (20 °C)

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	:	No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

10.5 Incompatible materials

Materials to avoid	:	Strong acids Mild steel Aluminium

10.6 Hazardous decomposition products

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

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 : > 2,000 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	:	Potassium Hydroxide LD50 rat: 333 mg/kg Diethylethanolamine LD50 rat: 1,300 mg/kg

Components

Acute inhalation toxicity	:	Diethylethanolamine LC50 rat: 4.6 mg/l Exposure time: 4 h Test atmosphere: vapour

Components

Acute dermal toxicity	:	Diethylethanolamine LD50 rabbit: 1,100 mg/kg

Potential Health Effects

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 Toxicity

Product

Environmental Effects	:	This product has no known ecotoxicological effects.
Environmental Effects - Acute aquatic toxicity Assessment	:	This product has no known ecotoxicological effects.
Environmental Effects - Chronic aquatic toxicity Assessment	:	This product has no known ecotoxicological effects.
Toxicity to fish	:	96 hrs LC50 Pimephales promelas (fathead minnow): 3,684 mg/l Test substance: Product 96 hrs NOEC Pimephales promelas (fathead minnow): 2,500 mg/l Test substance: Product 96 hrs LC50 Oncorhynchus mykiss (rainbow trout): 3,540 mg/l Test substance: Product
Toxicity to daphnia and other aquatic invertebrates	:	48 hrs LC50 Daphnia magna: 2,410 mg/l Test substance: Product 48 hrs EC50 Daphnia magna: 1,830 mg/l Test substance: Product
Toxicity to algae	:	no data available

Components

Toxicity to algae	:	Diethylethanolamine 72 h EC50: 44 mg/l

12.2 Persistence and degradability

Product

Biodegradation Assessment	:	The organic portion of this preparation is expected to be inherently biodegradable.

Components

Biodegradability	:	Potassium Hydroxide Result: Not applicable - inorganic Diethylethanolamine Result: Readily biodegradable.

12.3 Bioaccumulative potential

Product

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

Components

Bioaccumulation : Potassium Hydroxide
study scientifically unjustified

: Diethylethanolamine
Bioaccumulation is unlikely.

12.4 Mobility in soil

Product

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.
If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;,<5%,30 - 50%,50 - 70%
The portion in water is expected to be soluble or dispersible.

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 : 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 : Inorganic wastes containing dangerous substances. If this

selection	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 3266
14.2 UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium Hydroxide)
14.3 Transport hazard class(es):	8
14.4 Packing group:	III
14.5 Environmental hazards:	No
14.6 Special precautions for user:	Not applicable.

Air transport (IATA)

14.1 UN number:	UN 3266
14.2 UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium Hydroxide)
14.3 Transport hazard class(es):	8
14.4 Packing group:	III
14.5 Environmental hazards:	No
14.6 Special precautions for user:	Not applicable.

Sea transport (IMDG/IMO)

14.1 UN number:	UN 3266
14.2 UN proper shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium Hydroxide)
14.3 Transport hazard class(es):	8
14.4 Packing group:	III
14.5 Environmental hazards:	No
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:

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	:	Not applicable.	Not applicable.

INTERNATIONAL REGULATIONS

KOSHER
This product has been certified as KOSHER/PAREVE for year-round use EXCEPT FOR THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds):
NSF Registration number for this product is: 136812
This product is acceptable for treating boilers or steam lines where steam produced may contact edible products and/or cooling systems where the treated water may not contact edible products in and around food processing areas (G6).

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 (Germany)	:	WGK 1 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
Corrosive to metals 1, H290	On basis of test data.
Skin corrosion 1A, H314	On basis of test data.
Serious eye damage 1, H318	On basis of test data.

Full text of H-Statements

H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.

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

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: Boiler treatment under 1T per day

Life Cycle Stage	:	Industrial uses: Uses of substances as such or in preparations at industrial

		sites	
Sector of use	:	**SU23**	Electricity, steam, gas water supply and sewage treatment

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	:	**PROC15**	Use as laboratory reagent
Exposure duration	:	60.00 min	
Operational conditions and risk management measures	:	Indoor	
		Local Exhaust Ventilation with 90% efficiency is required	
General ventilation		Ventilation rate per hour:	1
Skin Protection	:	see section 8	
Respiratory Protection	:	see section 8	

Contributing scenario controlling worker exposure for:

Process category	:	**PROC1**	Use in closed process, no likelihood of exposure
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	:	see section 8	
Respiratory Protection	:	see section 8	

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	:	see section 8
Respiratory Protection	:	see section 8

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	:	see section 8
Respiratory Protection	:	see section 8