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

1.1 Product identifier: **NexGuard™ 22310**
Substance type: CLP Mixture

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

Use of the Substance/Mixture	:	BOILER WATER INTERNAL 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 : Nalco Ltd.
P.O. BOX 11, WINNINGTON AVENUE
NORTHWICH, CHESHIRE, U.K. CW8 4DX
+44 (0)1606 74488
For Product Safety information please contact:
msdseame@nalco.com

1.4 Emergency telephone number:

Emergency telephone number **:** +44 1618841235
+32-(0)3-575-5555 Trans-European

Date of Compilation/Revision: 04.06.2020
Version Number: 1.3

Section: 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Precautionary Statements :

Prevention:	
P264	Wash hands thoroughly after handling.
Response:	
P314	Get medical advice/ attention if you feel unwell.
Storage:	
P401	Store in accordance with local regulations.

2.3 Other hazards

None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Remarks : No hazardous ingredients

Section: 4. FIRST AID MEASURES

4.1 Description of first aid measures

If inhaled : 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 : Rinse with plenty of water.
Get medical attention if symptoms occur.

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 : No specific measures identified.

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	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Section: 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel	:	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	:	No special environmental precautions required.

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	:	For personal protection see section 8. Wash hands after handling.
Hygiene measures	:	Wash hands before breaks and immediately after handling the product.

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, Stainless Steel 304, EPDM, Buna-N, HDPE (high density polyethylene), Polyurethane, Neoprene, Polypropylene, Polyethylene, Stainless Steel 316L, 100% phenolic resin liner, Chlorosulfonated polyethylene rubber, Fluoroelastomer, 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, Mild steel, Epoxy phenolic resin

7.3 Specific end uses

Specific use(s)	:	BOILER WATER INTERNAL 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

8.2 Exposure controls

Appropriate engineering controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures	:	Wash hands before breaks and immediately after handling the product.
Eye/face protection (EN 166)	:	Safety glasses
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 rubber 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.
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 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 Yellow Fluorescent
Odour	:	ammoniacal
Flash point	:	does not flash
pH	:	8.5 - 12.5, (25 °C)
Odour Threshold	:	no data available
Melting point/freezing point	:	Freezing Point: -6 °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	:	similar to water
Relative vapour density	:	no data available
Relative density	:	1.19 (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, 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	:	No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

10.5 Incompatible materials

Materials to avoid	:	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 (NOx) Sulphur 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	:	LD50 rat: > 2,000 mg/kg Test substance: Product
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	:	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.
STOT - repeated exposure	:	There is no data available for this product.
Aspiration toxicity	:	No aspiration toxicity classification

Potential Health Effects

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

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

Section: 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Product

Environmental Effects	:	This product has no known ecotoxicological effects.
Toxicity to fish	:	96 hrs LC50 Fish: > 100 mg/l Test substance: Active Substance 96 hrs LC50 Inland Silverside: > 5,000 mg/l Test substance: Product

96 hrs NOEC Inland Silverside: 5,000 mg/l
Test substance: Product

48 hrs LC50 Fathead Minnow: 2,935 mg/l
Test substance: Product

96 hrs LC50 Fathead Minnow: 2,861 mg/l
Test substance: Product

96 hrs NOEC Fathead Minnow: 2,160 mg/l
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : 96 hrs LC50 Mysid Shrimp (Mysidopsis bahia): > 5,000 mg/l
Test substance: Product

48 hrs EC50 Daphnia magna (Water flea): > 100 mg/l
Test substance: Active Substance

96 hrs NOEC Mysid Shrimp (Mysidopsis bahia): 5,000 mg/l
Test substance: Product

48 hrs LC50 Ceriodaphnia dubia: 1,473 mg/l
Test substance: Product

48 hrs NOEC Ceriodaphnia dubia: 778 mg/l
Test substance: Product

Toxicity to algae : no data available

12.2 Persistence and degradability

Product

Biodegradability : The organic portion of this preparation is expected to be readily biodegradable.
Result: Biodegradable/Eliminated from aquatic environment

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

Biological Oxygen Demand (BOD): (The following results are for the polymer.)
Biological degradation: Approx <20% 28 Day

12.3 Bioaccumulative potential

Product

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

12.4 Mobility in soil

Product

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 adverse effects expected.

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 selection	:	Inorganic wastes containing not dangerous substances with concentration >= 0.1%. 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:	Not applicable.
14.2 UN proper shipping name:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
14.3 Transport hazard class(es):	Not applicable.
14.4 Packing group:	Not applicable.
14.5 Environmental hazards:	No
14.6 Special precautions for user:	Not applicable.

Air transport (IATA)

14.1 UN number:	Not applicable.
14.2 UN proper shipping name:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
14.3 Transport hazard class(es):	Not applicable.
14.4 Packing group:	Not applicable.
14.5 Environmental hazards:	No
14.6 Special precautions for user:	Not applicable.

Sea transport (IMDG/IMO)

14.1 UN number:	Not applicable.
14.2 UN proper shipping name:	PRODUCT IS NOT REGULATED DURING TRANSPORTATION
14.3 Transport hazard class(es):	Not applicable.
14.4 Packing group:	Not applicable.
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:

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: 121221
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
On the inventory, or in compliance with the inventory

NATIONAL REGULATIONS GERMANY
Water contaminating class (Germany) : WGK 1

FEDERAL INSTITUTE FOR RISK ASSESSMENT (BfR) RECOMMENDATION
Acceptable Sections: LFGB compliant
Limitation Value: 0.1 %

15.2 Chemical Safety Assessment:

No Chemical Safety Assessment has been carried out.

Section: 16. OTHER INFORMATION

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

Classification	Justification
Not a hazardous substance or mixture.	Calculation method

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	:	Yes: See Section 8	
Respiratory Protection	:	No	

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	:	Indoor	

management measures

		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	:	**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:

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	