SAFETY DATA SHEET

ULTRAFLOC 3800

SDS 032/R6
2022-03-28

Reg. No. 2003/017152/07

Safety Data Sheet (SDS) According to the South Africa Regulations for Hazardous Chemical Agents 2021, the UN Transport of Dangerous Goods Model regulations, UN Globally Harmonised System of Classification & Labelling and EC Directive 1272/2008.

Ultrafloc 3800 has been approved by NSF/ANSI/CAN 60 for treatment of potable water up to the maximum dosage specified by the NSF.

SECTION 1. Identification – Chemical Product and Company

Trade Name	:	ULTRAFLOC 3800, U3800
Proper Shipping Name	:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains ACH)
UN Number	:	3264
CAS Number	:	12042-91-0 (ACH) & 42751-79-1
GHS product identifier	:	Dialuminium chloride pentahydroxide & 1,2-Ethanediamine, polymer with (chloromethyl)oxirane and N- methylmethanamine
Chemical Name	:	Cationic Polymer
Other means of identification	:	Clear blue liquid with mild odour
Recommended use of the chemical	:	Clarification of raw water and effluent
Restrictions on use	:	Not for retail or domestic use, nor use by untrained persons
Supplier's details	**:**	NCP Chlorchem (Pty) Ltd
Address	:	Cnr. Norwalk Rd and Ossewa Str. Chloorkop, Gauteng, South Africa
Telephone No.	:	+27 (0) 11 921 3111
24hour Emergency phone number	:	+27 (0) 11 976 2115

SECTION 2. Hazards Identification

GHS classification of the substance: corrosive liquid, irritating to skin and eyes, and harmful to aquatic life

Hazard classes/Hazard categories **Transport – Class 8** Corrosive substances		GHS Hazard Statement
Skin Irritation	Category 2	H315 Causes skin irritation
Eye Irritation	Category 2	H319 Causes serious eye irritation
STOT SE	Category 3	H335 May cause respiratory irritation
Aquatic Chronic	Category 3	H412 Harmful to aquatic life with long lasting effects
Corrosive to metals	Category 1	H290 May be corrosive to metals

The most important adverse effects to know in emergency are –
Corrosive – may cause skin irritation and serious eye irritation, may cause respiratory irritation, severe aquatic pollutant and corrosive to metals – mild steel, copper, iron, aluminium and alloys
GHS label elements, including precautionary Statements:

GHS 07 Skin & eye irritation health hazard - exclamation mark GHS 05 Corrosive – metals

Signal word: Warning

Hazard Statements - Skin and eye irritant – may cause serious eye irritation; tear formation & blurred vision May cause respiratory irritation; nausea and vomiting. Harmful to aquatic life with long lasting effects.

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Precautionary statements:
P280 Wear protective gloves
P264 Wash hands thoroughly after handling
P302 +352 If on skin wash with plenty of water
P332 + P313 if skin irritation occurs or persists get medical attention
P280 wear eye / face protection
P305 + P351 + P338 if in eyes rinse cautiously
P261 + P271 avoid breathing mist, wear eye & face protection and use in well ventilated area
P304 & P340 if mist inhaled and breathing difficulty – remove person to fresh air and get medical attention
P301 if swallowed and feel unwell, get medical attention
P362 + P364 remove contaminated clothing and wash before reuse

Response:
Refer Sections 5, 6 and 8
Storage:
Refer Section 7

SECTION 3. Composition/information on ingredients

Chemical identity	:	Mixture
Other means of identity	:	Clear blue liquid with mild odour
Common name, synonyms, etc	:	Cationic Polymer
CAS number	:	26062-79-3 & 12042-91-0
EC number	:	607-855-4 & 234-933-1
IUPAC names	:	Diallyldimethylammonium chloride polymer
Impurities and stabilizing additives	:	none

Substance name	UN Number	CAS number	%	Classification EC1272/2008
Dialuminium chloride pentahydroxide	3264	12042-91-0	83-85	234-933-1
1,2-Ethanediamine, polymer with (chloromethyl)oxirane and N-methylmethanamine	2735	42751-79-1	9-10	610-057-9
Blue dye			0.005	

SECTION 4. First Aid Measures

Most important symptoms/ effects, and necessary measures
Irritating to eyes, skin and respiratory system, corrosive to metals and harmful to aquatic lie with long lasting effects.

Product in eyes - can cause serious eye irritation
Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20 minutes, by the clock, holding the eyelid(s) open. Remove contact lenses if easy and safe to do. Take care not to rinse contaminated water into the non-affected eye. If irritation persists, obtain medical attention immediately.

Product on skin – can cause skin irritation
Avoid direct contact with this chemical. Remove contaminated clothing, shoes, and leather goods (e.g. watchbands, belts) and wash with lukewarm, gently running water for at least 20 minutes. If irritation persists, obtain medical attention immediately.
Completely decontaminate clothing, shoes and leather goods before re-use, or discard.

Product ingested – may cause nausea and vomiting

Do not induce vomiting. Drink water or milk if conscious. Never give anything by mouth if victim is rapidly losing consciousness, or is unconscious or convulsing. Obtain medical assistance immediately.

Product inhaled – may cause irritation of the respiratory tract. Do not give mouth to mouth respiration, where necessary give artificial respiration using a one-way valve or similar respiratory device. Remove to fresh air and get medical attention

SECTION 5. Fire Fighting Measures – product is not flammable

Suitable extinguishing media if involved in a fire
Use water spray, carbon dioxide or dry chemical to extinguish fires.

ERG - Emergency Response Guide 2020 and SANS 10232 - 3

Fire Hazard summary – Aluminium Chlorohydrate solutions do not burn or support combustion. Heating concentrated solutions may produce hydrogen chloride gas and hydrochloric acid, requiring responders to wear appropriate protective equipment.

Small fires – immediate response action should quickly put out the fire.

Large fires – evacuate area, move containers out and away from fire if can be done safely without increasing risk. Isolate and contain fire as much as possible, and dike or use inert material for berm to contain run-off water for later disposal. NB need to prevent run-off containing product from contaminating any water source as very toxic to aquatic life.

Fire fighting instructions - If involved in a fire - evacuate the area and fight fire from a safe distance. Approach the fire from upwind to avoid hazardous vapours and toxic decomposition products.
If possible, isolate materials not yet involved in the fire, and move containers from the fire area if this can be done without risk, and protect personnel.

Special hazards - Use water to keep containers cool as sealed containers may build up pressure and rupture violently when exposed to fire and excessive heat for sufficient time. Continue to cool long after the fire is out. Caution – thermal decomposition may produce carbon monoxide, carbon dioxide, ammonia, and/or oxides of nitrogen, hydrogen chloride gas and hydrochloric acid.
Avoid use of metal containers as corrosive to iron, copper and aluminium, use PVC, HDPE, Polypropylene or rubber equipment and buckets.

Protective clothing - The decomposition products of aluminium chlorohydrate can be highly acidic and corrosive. Full chemical resistant clothing (e.g. Chemical splash suit) and positive pressure self-contained breathing apparatus (MSA/NIOSH approved) must be used.

NB: Prompt actions can stop small fires but large fires involving chemicals require professional Emergency Response teams.

SECTION 6. Accidental Release Measures

Personal precautions
Spills of this product are very slippery. Wear personal protection

Environmental precautions
Do not dispose large volumes of any chemical into watercourses or sewers.

Clean-up methods

Small Spills: wear protective clothing and gloves, neutralize with soda ash to pH between 6 -9, then scoop up as much as possible. Wash and scrub away with plenty of water to remove any residue. Caution addition of soda ash will liberate carbon dioxide gas.

Large Spills: stop source of leaks if possible, and prevent entry into waterways, sewers or basements. Seal off area and contain by diking with soil or other inert material. Recover as much as possible and then apply an inert material such as sawdust or commercial absorbent to absorb the remainder. Collect in suitable containers and then wash and scrub away the residue.
GHS Disposal Precautionary Statement - P501 dispose of product and containers in accordance with SA National and / or regional Regulations refer National Environmental Management Waste Act - NEM: WA, it's Regulations and local by-laws. This informs permitted Waste Facilities and Service providers see the South African Waste Information Centre sawic.environment.gov.za

SECTION 7. Handling and Storage

Storage requirements
Store in a cool place out of direct sun and avoid sources of potential contamination. Keep away from strong oxidising agents to avoid contamination and any violent reactions

Handling precautions
Keep drums tightly closed when not in use. Avoid contact with skin, eyes or clothing and metals as corrosion can occur. Avoid breathing mist. Handle as a corrosive liquid, wear rubber gloves if skin contact likely. Eating, drinking and smoking shall be prohibited in areas where chemicals are handled, stored or processed**.** Workers must wash hands before eating, drinking or smoking to remove any chemicals that could be ingested or inhaled.
Remove contaminated clothing and protective equipment before entering eating areas

Conditions for Safe Storage - refer SANS 10263: The Warehousing of dangerous goods, and

10263 - Part 8 The storage and handling of corrosive substances, for more specific information and relevant regulations and recognised practices for storage, warehousing and handling.

GHS Precautionary Statement P 406 store in corrosion resistant

containers **Suitable materials**

PVC – Poly Vinyl Chloride, HDPE – High Density Polyethylene, PP – Polypropylene, SS – Stainless Steel, PTFE - Polytetrafluoroethylene, most rubbers.

Unsuitable materials
Mild steel, iron, copper, aluminium and alloys

SECTION 8. Exposure Controls/Personal Protection

Control parameters e.g. occupational exposure limit values or biological limit values

Ingredient name	%	Exposure limits – OHS Act South Africa 1993
Di-aluminiumchloride pentahydroxide	80-90	Not listed
1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine	5-10	Not listed

Occupational exposure standards
ACGIH TLV (TWA) No data available
Engineering control measures: Local ventilation should be available if mists are produced

Personal protection – respiratory: Unlikely route of exposure, but if mists are encountered could be irritating to the respiratory tract, use NIOSH approved respirator.

Personal protection – hand: listed skin irritant thus avoid contact with this chemical. Wear rubber gloves.

Personal protection – eye: listed eye irritant thus wear safety glasses with side shields at all times. Contact lenses should not be worn.

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Personal protection – skin: listed skin irritant thus wear overalls, safety shoes/boots and apron. Impermeable clothing and footwear if mists are encountered.

Personal protection – ingestion: Restrict access to unauthorized persons. Wash hands after contact.
Other protection - A safety shower and eye wash facility should be nearby and ready for use.

SECTION 9. Physical and Chemical Properties

Appearance	Clear blue liquid.
Odour	Mild
pH	3.5 - 4.5
Initial boiling point/range	Not available
Melting point/range	Not available
Flash point	Not applicable
Flammability	Not flammable
Explosive properties	Not applicable
Oxidising properties	None
Vapour pressure	Similar to that of water
Specific gravity	1.2 - 1.3
Viscosity	40 -100 cps
% Volatile by volume	~55
Evaporation rate	Similar to that of water
Solubility - water	Complete

SECTION 10. Stability and Reactivity

Stability: Stable under normal conditions of storage and handling
Conditions to avoid: Do not mix with other chemicals.
Corrosive to: This product will corrode iron, copper and aluminium

Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: Thermal decomposition or combustion may produce carbon monoxide, carbon dioxide, ammonia, oxides of nitrogen.

Polymerization: Hazardous polymerization will not occur.

SECTION 11. Toxicological Information

Acute toxicity	Result	Species	Dose/ Exposure	Caution
Oral	No available data			Ingestion may cause nausea and vomiting
Dermal	No available data			Skin & eye irritant
Inhalation	No available data			Mists may irritate respiratory tract

GHS – EU Group Classification, and C & L Inventory:

Skin Corrosion/Irritation: Category 2, H315 Causes skin irritation
Eye Irritation: Category 2A, H319 Causes serious eye irritation
Respiratory or skin Sensitization: Not Classified
Carcinogenicity: Not Classified
Germ Cell Mutagenicity: Not Classified
Reproductive Toxicity: Not Classified
STOT – Specific Target Organ Toxicity Single Exposure SE lungs: H335 May cause respiratory irritation
Aspiration Hazard: Not Classified but inhalation of mist may irritate the respiratory tract

SECTION 12. Ecological Information

GHS – EU Group Classification, and C & L Inventory:
Hazardous to the Aquatic Environment

Chronic (long term) Category 3	Harmful to aquatic life with long lasting effects
Biodegradability:	No data available
Bio-accumulation:	No data available
Mobility:	No data available
Hazardous to the Ozone layer:	No evidence - not Classified

SECTION 13. Disposal Considerations

Disposal methods
Disposal must be made in accordance with the applicable National and Regional Government regulations at approved and permitted chemical disposal sites – refer to the SA National Environmental Management Waste Act - NEM: WA, it's Regulations and local by-laws. This informs permitted Waste Facilities and Service providers see the South African Waste Information Centre sawic.environment.gov.za

Disposal of packaging

Packagings and containers, even those that have been emptied, will retain product residue and vapours, handle empty containers as if they were full. Remove all possible traces of product and wash prior to disposal of packaging and containers. Dispose in compliance with Regulations – see above and Industry Best Practice Always observe and comply with hazard warnings.

SECTION 14. Transport information

	UNTDG & SANS 10228	IMDG Code	ICAO /IATA
UN Number	UN 3264	UN 3264	UN 3264
UN Proper Shipping Name – PSN	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
Transport Class 8 and hazard - Corrosive			
Packing group	III	III	III
Use UN certified packaging	Use UN Certified packaging	Use UN Certified packaging	Use UN certified packaging
Additional information			
Emergency Response Guide - ERG 2020	Guide 153 & 154 Toxic and/or corrosive	Refer IMDG 40 - 20 Supplement & MARPOL	Refer ICAO & IATA 2022

SECTION 15. Regulatory information

NSF/ AINSI 60 Standard for Drinking Water Treatment Chemicals
OHS Act - Occupational Health and Safety Act 85 of 1993, its Regulations and Amendments: HCA – Regulations for Hazardous Chemical Agents, 2021, which prescribe GHS Classification, GHS compliant SDS & Labels, packaging compliance + site Risk Assessment and monitoring to inform personnel Health / Biological Monitoring.
MHI – Major Hazards Installations Regulations - OHS Act: require site Risk Assessment to ascertain potential impacts outside of the site and potential impacts on
he public or neighbours. Copy to be lodged with the Dept Labour, and local Emergency Services.
NEMA – National Environmental Management Act 107 of 1998: Duty of Care and Producer Responsibility for products and packaging on a Life Cycle basis. Environmental Impact Assessment Regulations for new installations or proposed increase in capacity over 25%

NEM: WA – National Environmental Waste Act 59 of 2008: Extended Producer Responsibility, requirements and Regulations for waste management, classification and disposal.
National Department of Health – Hazardous Substances Act

SECTION 16. Other information - including references used for revision of this SDS

Training - Persons handling and working with this product should be Trained in the hazards and safe handling as required in the Chapter 1.3 of the UN Model Regulations for Transport of Dangerous Goods before commencing work with chemicals.

ECHA – European Chemical Agency Website, Chemical information, C&L Inventory, Chemicals of Very High Concern (SVHCs) and Chemicals for Community Rolling Action Plan (CoRAP)
ERG 2020 Transport Canada and US Dept Transportation PHMSA - Pipeline and Hazardous Materials Safety Administration
Other relevant information including information on preparation and revision of the SDS –
ISO 11014:2009 Safety Data Sheets for Chemical Products – content and order of sections adopted as SANS 11014:2010
UN Recommendations for Transport of Dangerous Goods Model Regulations commonly known as the **TDG "Orange Books"** 22nd revision, published June 2021
UN Globally Harmonized System of Classification and Labelling of Chemicals – GHS commonly known as **the GHS "Purple Book" 9th** revision 2021
IMDG – International Maritime Dangerous Goods Code, 2020 edition, amendment 40 - 20
IATA Technical Regulations 63rd edition, January 2022

Date of original MSDS	**: 2003-07-31**	**Compiled by DD Liebenberg**
Date of Revision 5	**: 2016-11-16**	**Revised by E Anderson**
Date of Revision 6	**: 2022-03-28**	**Revised by E Anderson**

Approved as per Management of Change No.: 24-05-2022-284

EXCLUSION OF LIABILITY

All information and instructions provided in this Safety Data Sheet (SDS) in respect of the substance is given in terms of the provisions of the Occupational Health and Safety Act No 85 of 1993 and its Regulations. Information is based on best available scientific and technical knowledge as at the date indicated on this SDS, and is presented in good faith to be correct.

The information provided in this SDS apply only to the product in its present form and not to any formulation or mix. It should be used only as directed, and any formulations or other use is at the responsibility of the user of the product as formulated and/or mixed to investigate and establish any hazards or risks which may arise out of its use, wherever such user may be situated.
It is the legal responsibility of the person in receipt of this SDS, wherever such may be situated, to ensure that the information provided is communicated to, and understood by any person who may come in contact with the product in any place and in any manner whatsoever. If such recipient produces formulations or mixes using the product, then it is the recipient's sole responsibility to comply with the provisions of the Act in respect of the provision of the necessary SDS, and/or to comply with any other applicable legislation.