SAFETY DATA SHEET

ULTRAFLOC 3500

SDS 030/R06
2022-03-28

Reg. No. 2003/017152/07

Safety Data Sheet (SDS) According to ISO / SANS 11014:2009/10, UN Transport of Dangerous Goods, UN Globally Harmonised System of Classification & Labelling and EC Directive 1272/2008

Ultrafloc 3500 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 3500, U3500
Chemical Name / Proper Shipping Name	:	AMINE, LIQUID, CORROSIVE, N.O.S.
UN Number	:	2735
CAS Number	:	12042-91-0 (ACH) & 42751-79-1 (polyamine)
GHS product identifier:		Dialuminium chloride pentahydroxide 1,2-Ethanediamine, polymer with (chloromethyl) oxirane and N-methylmethanamine
Chemical Name	:	Mixture Aluminium chloride pentahydroxide and Polyamine
CAS number	:	12042-91-0 + 42751-79-1
EC number :		234-933-1 + 610-057-9
IUPAC names :		1,2-Ethanediamine, polymer with chloromethyl)oxirane and N-methylmethanamine none
Impurities and stabilizing additives	:	
Other means of identification	:	Clear blue slightly viscous liquid with slight odour
Recommended use of the chemical	:	Coagulation for clarification of raw water & effluent
Restrictions on use	:	Not for retail or domestic use, nor use by untrained persons
Supplier's details	:	NCP Chlorchem (Pty) Ltd
Address	:	Cnr. Allandale Road and Chloor Road Chloorkop, Gauteng South Africa:
Telephone No.	:	+27 (0) 11 921 3111
24hour Emergency phone number	:	+27 (0) 11 976 2115

SECTION 2. Hazards Identification

Hazard classes/Hazard categories **Transport – Class 8** Corrosive substance	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 1	H290 May be corrosive to metals

GHS classification of the substance: corrosive liquid, irritating to skin and eyes, and harmful to aquatic life
The most important adverse effects to know in emergency are –
Corrosive – severe aquatic pollutant.
GHS label elements, including precautionary Statements:

Signal word: Warning

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Hazard Statements – Skin and eye irritant; May cause respiratory irritation; Harmful to aquatic life with long lasting effects.

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 cautious
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
P406 store in corrosion resistant containers

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

Special Labelling requirements – refer Section 14 for transport labels
Main hazards
Irritating to eyes, skin and respiratory system.

SECTION 3. Composition/information on ingredients

Chemical identity	:	Mixture
Other means of identity	:	Clear blue liquid with slight amine odour
Common name, synonyms, etc	:	Cationic Polymer
CAS number	:	12042-91-0 + 42751-79-1
EC number	:	234-933-1 + 610-057-9
IUPAC names	:	Diallyldimethylammonium chloride polymer
Impurities and stabilizing additives	:	none

Ingredient name	UN Number	CAS number	%	Classification EC1272/2008
Aluminium chloride pentahydroxide	3264	12042-91-0	50-60	234-933-1
1,2-Ethanediamine, polymer with (chloromethyl)oxirane and N-methylmethanamine	2375	42751-79-1	25-30	610-057-9
Blue Dye			0.005	

Hazardous components ACH and Polyamine (U5100)

SECTION 4. First Aid Measures

Product in eye
Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 20 minutes, by the clock, holding the eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If irritation persists, obtain medical attention immediately.

Product on skin
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.

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Product ingested
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
Remove to fresh air obtain 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 2016 and SANS 10232 - 3 Guide 153

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.

Special hazards - Use water to keep containers cool to prevent pressure build up and possible explosion. Caution – thermal decomposition may produce carbon monoxide, carbon dioxide, ammonia, and/or oxides of nitrogen.
Avoid use of metal containers as corrosive to iron, copper and aluminium, use PVC, HDPE, Polypropylene or rubber equipment and buckets.

Protective clothing - Wear full protective clothing and self-contained, positive breathing apparatus for large fires.
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 to scoop up as much as possible and then wash and scrub away with plenty of water to remove any residue. Spill may be neutralized with soda ash to pH between 6 and 9; Caution as this 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
Small spills: scoop up as much as possible and then wash and scrub away with plenty of water to remove any residue. Spill may be neutralized with soda ash to pH between 6 and 9; this will liberate carbon dioxide gas.

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SECTION 7. Handling and Storage

Storage requirements

Store in a cool place out of direct sun and avoid sources of potential contamination.

Handling precautions

Keep drums tightly closed when not in use. Avoid contact with skin, eyes or clothing. Avoid breathing mist.

Handle as a corrosive liquid, wear rubber gloves if likely to come into skin contact.

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
SANS 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
Dialuminiumchloride pentahydroxide	50-60	Not listed - no data available
1,2-Ethanediamine, polymer with (chloromethyl)oxirane and N-methylmethanamine	25-35	Not listed - no data available

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

Personal protection – respiratory: Unlikely route of exposure, but if mists are encountered it 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.

Personal protection – skin: listed skin irritant thus wear overalls, safety shoes/boots and apron, NB 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.

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SECTION 9. Physical and Chemical Properties

Appearance	Clear blue liquid.
Odour	Mild
pH	3.5 – 4.5
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	1.1 -1.2
Viscosity	40-100 cps
% Volatile by volume	~60
Evaporation rate	Similar to that of water
Solubility - water	Complete

SECTION 10. Stability and Reactivity

Stability: Stable under normal conditions of handling and storage.
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 and/or hydrogen chloride.
Polymerization: Hazardous polymerization will not occur.

SECTION 11. Toxicological Information

Acute toxicity	Result	Species		Caution
Oral	No available data			Ingestion may cause nausea and vomiting
Dermal	No available data			
Inhalation	No available data			

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

Germ Cell Mutagenicity: Not Classified

Carcinogenicity: Not Classified

Reproductive Toxicity: Not Classified

STOT – Specific Target Organ Toxicity Single or Repeat Exposure: Not Classified

Aspiration Hazard: Not Classified but inhalation of mist may irritate the respiratory tract

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SECTION 12. Ecological GHS – EU Group Classification, and C & L Inventory: Information

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

Hazardous to the Aquatic Environment

Chronic (long term) Category 3 – Hazard Statement H412 Harmful to aquatic life with long lasting effects

Hazardous to the Ozone layer: No evidence - not Classified

Biodegradability	No data available
Bio-accumulation	No data available
Mobility	No data available

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

	SANS 10228:2012	IMDG	IATA
UN Number	UN 2735	UN 2735	UN 2735
UN proper shipping name – PSN	AMINES, LIQUID, CORROSIVE, N.O.S.	AMINES, LIQUID, CORROSIVE, N.O.S.,	AMINES, LIQUID CORROSIVE, N.O.S
Transport Class 8 and hazard - Corrosive			
Packing group	III	III	III
Environmental hazards	Aquatic Pollutant	No	N/A
Additional information			
Emergency Response Guide - ERG 2020	Refer Guide 153 for Corrosive liquid info on Emergency Response	Refer IMDG 40-20 2020 and Supplement	Refer ICAO & IATA 62nd edition January 2021

SECTION 15. Regulatory information

NSF/ AINSI 60 Standard for Drinking Water Treatment Chemicals

OHS Act - Occupational Health and Safety Act 85 of 1993 and Regulations:
Hazardous Chemical Agents Regulations – HCA, March 2021: Regulation 14 requires GHS Classification, GHS Compliant SDS – Safety Data Sheets and Labelling, and Regulation 5 Operational Site Risk Assessment to identify chemical exposure levels to inform requirements for personnel Health and Biological Monitoring.

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MHI – Major Hazards Installations Regulations - OHS Act: require site Risk Assessment to ascertain potential impacts outside of the site and potential impacts on the 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
EU Directive EC 1272/2008 (EU GHS /CLP) – Safety Data Sheets and Labelling

SECTION 16. Other information

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 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
ISO 11014:2009 Safety Data Sheets for Chemical Products – adopted as SANS 11014:2010
UN Recommendations for Transport of Dangerous Goods Model Regulations commonly known as **the "Orange Books"** 21st revision currently in effect, 22nd revision published June 2021
UN Globally Harmonized System of Classification and Labelling of Chemicals – GHS commonly known as **the "Purple Book" 8th** revision in effect, 9th revision published June 2021
IMDG – International Maritime Dangerous Goods Code, 2020 edition, Amendment 40-20 **ICAO Dangerous Goods Regulations** 2021/22 edition
IATA Technical Regulations 62nd edition, January 2021

Date of original MSDS	**: 2003-07-28**	**Compiled by J de Villiers**
Date of previous MSDS	**: 2012-02-23**	**Compiled by HH Maringa**
Date of Revision 5	**: 2016-11-16**	**Compiled by E Anderson**
Date of Revision 6	**: 2021-10-01**	**Reviewed by E Anderson**

Approved as per Management of Change No. 3-12-2021-255

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.