SAFETY DATA SHEET

Dryden Aqua

Date of issue: 24 November 2022
Version: V1.0

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

APF Water Treatment

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

1.1 Product Identifier

Product Name	APF Water Treatment
Product Code	20012 & 20018
Unique Formula Identifier (UFI)	RFJ0-W0X6-500D-3E5W
Nanoform	The product does not contain nanoparticles.

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

Identified use(s)	Multi-spectrum flocculant and coagulant
Uses advised against	Anything other than the above.

1.3 Details of the supplier of the safety data sheet

Company Identification	Dryden Aqua Ltd Butlerfield Industrial Estate, Bonnyrigg, Edinburgh EH19 3JQ, United Kingdom
Telephone	+44 (0) 18758 22222
Fax	+44 (0) 18758 22229
E-mail (competent person)	agnieszka@drydenaqua.com (Agnieszka Szewczyk)

1.4 Emergency telephone number

Emergency Phone No.	01 809 2166	Office hours: 8am - 10pm, 7 days per week
	+44 (0) 800 246 1274	24/7 EcoStar Environmental
Language(s) spoken:	English	

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP)

Met Corr. 1; H290
Eye Dam. 1; H318
Aquatic Chronic 3; H412

2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)

Product name: APF Water Treatment

Contains: Aluminium chloride, basic; Lanthanum(III) chloride hydrate

Hazard Pictogram(s)

Signal Word(s): DANGER

Hazard Statement(s):
H290: May be corrosive to metals.
H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects.

Precautionary Statement(s):
P234: Keep only in original packaging.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing and eye/face protection.

P310: Immediately call a POISON CENTER/doctor.
P390: Absorb spillage to prevent material damage.
P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental information — EUH208: Contains: Lanthanum(III) chloride hydrate. May produce an allergic reaction.

2.3 Other hazards — None known

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Not applicable

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Aluminium Chloride	3- 10	1327-41-9	215-477-2	Not yet assigned in the supply chain	Met. Corr. 1 ; H290 Eye Dam. 1 ; H318
Lanthanum(III) chloride hydrate	3 - <5	20211-76-1	233-237-5	01-2119452063-49-0002	Met. Corr. 1 ; H290 Eye Dam. 1 ; H318 Skin Sens. 1 ; H317 Aquatic Chronic 2 ; H411 EUH208
Aluminium Hydroxychloride	1 - 5	12042-91-0	234-933-1	01-2119533142-53-xxxx	Met. Corr. 1 ; H290
2-Propen-1-aminium, N,N-dimethyl-N-2-propen-1-yl-, chloride (1:1), homopolymer	1 - 2.5	26062-79-3	607-855-4	Not yet assigned in the supply chain	Aquatic Chronic 3 ; H412

Specific concentration limit (SCL) & M-factor

Chemical identity of the substance	CAS No.	EC No.	Specific concentration limit (SCL)	M-factor
Lanthanum(III) chloride hydrate	20211-76-1	233-237-5	Skin Sens. 1; H317 ≥ 10	-

Note: For full text of H phrases see section 16.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider — No action should be taken involving personal risk. Use personal protective equipment as required. Ensure adequate ventilation. Avoid breathing vapours. Avoid all contact. Contaminated clothing should be laundered before reuse.

	Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
	Skin contact	IF ON SKIN: Gently wash with plenty of soap and water. If irritation develops and persists, get medical attention.
	Eye contact	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/doctor.
	Ingestion	IF SWALLOWED: Rinse mouth. Give plenty of water to drink. Do NOT induce vomiting. May cause damage to the digestive tract if swallowed. Seek medical treatment.
4.2	**Most important symptoms and effects, both acute and delayed**	Causes serious eye damage. May produce an allergic reaction.
4.3	**Indication of any immediate medical attention and special treatment needed**	Treat symptomatically.
	IF IN EYES:	IF IN EYES: Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

5. SECTION 5: FIREFIGHTING MEASURES

5.1	**Extinguishing media**	
	Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials
	Unsuitable extinguishing media	Do not use water jet. Direct water jet may spread the fire.
5.2	**Special hazards arising from the substance or mixture**	This product is an aqueous mixture which will not burn.
5.3	**Advice for firefighters**	Fire fighters should wear complete protective clothing including self-contained breathing apparatus. and Chemical protection suit. Keep containers cool by spraying with water if exposed to fire. If it is safe to do so, containers should be removed from fire area because they are likely to rupture under fire conditions.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1	**Personal precautions, protective equipment and emergency procedures**	No action should be taken involving personal risk. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid breathing vapours. Avoid all contact. Remove contaminated clothing and wash all affected areas with plenty of water.
6.2	**Environmental precautions**	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.
6.3	**Methods and material for containment and cleaning up**	Stop leak if safe to do so. Wipe up with absorbent material (eg. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. Ventilate the area and wash spill site after material pick-up is complete.
6.4	**Reference to other sections**	See Also Section: 8, 13.

7. SECTION 7: HANDLING AND STORAGE

7.1	**Precautions for safe handling**	When using do not eat or drink. Provide adequate ventilation when using the material and follow the principles of good occupational hygiene to control personal exposures. Avoid all contact. Do not ingest. Wear protective gloves/eye protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.
7.2	**Conditions for safe storage, including any incompatibilities**	Keep only in original packaging. Keep in a well ventilated place. Keep container closed. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Keep from direct sunlight.
	Storage temperature	Stable at ambient temperatures.
	Incompatible materials	Non acid-proof metals, Bases, Unalloyed steel, Galvanized surfaces.

7.3 Specific end use(s) See Section: 1.2.

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational exposure limits

Substance	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		Notes
		(ppm)	mg/m3	(ppm)	mg/m3	
Titandioxid Total Inhalable Dust Respirable Dust	13463-67-7	- -	10 4	- -	- -	-

Source: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2 Biological limit value Not established.

8.1.3 PNECs and DNELs Not applicable

8.2 Exposure controls

8.2.1 Appropriate engineering controls Provide adequate ventilation (typically 10 air changes per hour) when using the material and follow the principles of good occupational hygiene to control personal exposures. If exposure limits have not been established, maintain airborne levels to an acceptable level. Guarantee that the eye flushing systems and safety showers are closely located to the working place.

8.2.2 Individual protection measures, such as personal protective equipment Take care for general good hygiene and housekeeping. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing. Avoid all contact. Do not eat, drink or smoke at the work place.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/ face protection

Wear eye protection with side protection (EN166). Eyewash bottles should be available.

Skin protection

Hand protection: Wear impervious gloves (EN374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer. Recommended: Neoprene

Body protection: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Recommended: EN143 Type A-P2

	Thermal hazards	Not applicable.
8.2.3	**Environmental exposure controls**	Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Blue
Odour	Odourless
Melting point/freezing point	< -3 °C (< 26.6 °F)
Boiling point or initial boiling point and boiling range	102 °C (215.6 °F)
Flammability	Not applicable
Lower and upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not available
Decomposition temperature	Not available
pH	3.0 – 4.0
Kinematic viscosity	60 - 100 cP @ 25°C
Solubility	Water: miscible Other: Not available
Partition coefficient: n-octanol/water (log value)	Not available
Vapour pressure	Not applicable
Density and/or relative density	1.10 - 1.30 g/cm³
Relative vapour density	Not available
Particle characteristics	Not applicable

9.2 Other information

Percent Volatile (%):	85.2 % estimated
Specific Gravity	1.05 – 1.25

10. SECTION 10: STABILITY AND REACTIVITY

10.1	**Reactivity**	Stable under normal conditions.
10.2	**Chemical stability**	Stable under normal conditions.
10.3	**Possibility of hazardous reactions**	Hazardous polymerisation will not occur.
10.4	**Conditions to avoid**	Avoid prolonged storage at elevated temperature. Keep from direct sunlight. Do not freeze. Keep away from incompatible materials.
10.5	**Incompatible materials**	Non acid-proof metals, Bases, Unalloyed steel, Galvanized surfaces
10.6	**Hazardous decomposition products**	None known.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity - Ingestion	Mixture: Based upon the available data, the classification criteria are not met. Calculated acute toxicity estimate (ATE) >2,000 mg/kg.
Acute toxicity - Inhalation	Mixture: Based upon the available data, the classification criteria are not met. Calculated acute toxicity estimate (ATE) >5 mg/L (air)
Acute toxicity - Skin contact	Mixture: Based upon the available data, the classification criteria are not met. Calculated acute toxicity estimate (ATE) > 2,000 mg/kg.
Skin corrosion/irritation	Mixture: Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Mixture: Eye Dam. 1; Causes serious eye damage.

	Aluminium Chloride	Eye Dam. 1; H318: Causes serious eye damage. Test Result; not fully reversible within: 21 days Reference: ECHA registration dossier
	Lanthanum(III) chloride hydrate	Eye Dam. 1; H318: Causes serious eye damage. Causes serious eye damage. (rabbit) (OECD 405)
	Respiratory or skin sensitisation	Mixture: EUH208: Contains: Lanthanum(III) chloride hydrate. May produce an allergic reaction.
	Lanthanum(III) chloride hydrate	Skin Sens. 1; H317: May cause an allergic skin reaction. Sensitisation (mouse) Positive (OECD 429)
	Germ cell mutagenicity	Mixture: Based upon the available data, the classification criteria are not met.
	Carcinogenicity	Mixture: Based upon the available data, the classification criteria are not met.
	Reproductive toxicity	Mixture: Based upon the available data, the classification criteria are not met.
	STOT - Single Exposure	Mixture: Based upon the available data, the classification criteria are not met.
	STOT - Repeated Exposure	Mixture: Based upon the available data, the classification criteria are not met.
	Aspiration hazard	Mixture: Based upon the available data, the classification criteria are not met.
11.2	**Information on other hazards**	
11.2.1	Endocrine disrupting properties	No substances identified as having endocrine-disrupting properties.
11.2.2	Other information	None

12. SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Mixture: Aquatic Chronic 3; H412: Harmful to aquatic life with long lasting effects. Estimated LC50 (Mixture): > 10 to ≤ 100 mg/l.
	Lanthanum(III) chloride hydrate	Aquatic Chronic 2; H411: Toxic to aquatic life with long lasting effects. NOEC Cyprinus carpio (Common Carp); 0.46 mg/L (OECD 204) Reference: EU classification and labelling inventory / ECHA registration dossier
	2-Propen-1-aminium, N,N-dimethyl-N-2-propen-1-yl-, chloride (1:1), homopolymer	Aquatic Chronic 3; H412: Harmful to aquatic life with long lasting effects. Reference: EU classification and labelling inventory (512 Notifiers)
12.2	**Persistence and degradability**	The product contains inorganic compounds which are not biodegradable. The other components of the product are slowly biodegradable.
	Aluminium Chloride	Not applicable for inorganic substances.
	Aluminium Hydroxychloride	Not applicable for inorganic substances.
	2-Propen-1-aminium, N,N-dimethyl-N-2-propen-1-yl-, chloride (1:1), homopolymer	No information available.
	Lanthanum(III) chloride hydrate	No information available.
12.3	**Bioaccumulative potential**	The product has low potential for bioaccumulation.
	Aluminium Chloride	No information available.
	Aluminium Hydroxychloride	The substance has no potential for bioaccumulation.
	2-Propen-1-aminium, N,N-dimethyl-N-2-propen-1-yl-, chloride (1:1), homopolymer	No information available.
	Lanthanum(III) chloride hydrate	No information available.
12.4	**Mobility in soil**	The product is miscible with water. May spread in water systems.
	Aluminium Chloride	No information available.
	Aluminium Hydroxychloride	No information available.
	2-Propen-1-aminium, N,N-dimethyl-N-2-propen-1-yl-, chloride (1:1), homopolymer	No information available.
	Lanthanum(III) chloride hydrate	Mobility in soil not to be expected. Log Koc; 5.67 - 6.92 Source; ECHA registration dossier
12.5	**Results of PBT and vPvB assessment**	Not classified as PBT or vPvB. None of the substances in this product fulfil the criteria for being regarded as a PBT or vPvB substance.
12.6	**Endocrine disrupting properties**	No substances identified as having endocrine-disrupting properties.
12.7	**Other adverse effects**	None

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13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of wastes in an approved waste disposal facility. Recover or recycle if possible.
	Waste classification according to Directive 2008/98/EC (Waste Framework Directive)	Waste code: HP4 (Irritant — skin irritation and eye damage)

14. SECTION 14: TRANSPORT INFORMATION

		ADR/RID	ADN	IMDG	IATA/ICAO
14.1	**UN number or ID number**	UN 2581	UN 2581	UN 2581	UN 2581
14.2	**UN proper shipping name**	Aluminium Chloride Solution	Aluminium Chloride Solution	Aluminium Chloride Solution	Aluminium Chloride Solution
14.3	**Transport hazard class(es)**	8	8	8	8
14.4	**Packing group**	III	III	III	III
14.5	**Environmental hazards**	Environmentally hazardous substance	Environmentally hazardous substance	Classified as a Marine Pollutant.	Environmentally hazardous substance
14.6	**Special precautions for user**	See Section: 2			
14.7	**Maritime transport in bulk according to IMO instruments**	Not applicable			
14.8	**Additional information**	None			

15. SECTION 15: REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	
15.1.1	**EU regulations**	
	Authorisations and/or restrictions on use	Not restricted
	EU - REACH (1907/2006) CoRAP Substance Evaluation	Aluminium Chloride: Substance evaluated in 2015
	To follow:	Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work
15.1.2	**National regulations**	
	Germany	Water hazard class: 2 (Self classification)
15.2	**Chemical Safety Assessment**	A chemical safety assessment is not required under REACH.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: V1.0 - Not applicable

Version: V1.0 **Date of issue:** 24 November 2022

References:
Existing ECHA registration(s) for Aluminium chloride (CAS No. 1327-41-9), Lanthanum(III) chloride hydrate (CAS No. 20211-76-1), and Dialuminium Chloride Pentahydroxide (CAS No. 12042-91-0).
EU classification and labelling inventory for 2-Propen-1-aminium, N,N-dimethyl-N-2-propen-1-yl-, chloride (1:1), homopolymer (CAS No. 26062-79-3)

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification procedure
Met. Corr. 1 ; H290	Expert judgement

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Eye Dam. 1 ; H318	Threshold Calculation
Aquatic Chronic 3 ; H412	Threshold Calculation

Legend

ADR	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	ADN: European Agreement on the International Transport of Dangerous Goods by Inland Waterways
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
IATA	IATA: International Air Transport Association
ICAO	ICAO: International Civil Aviation Organization
IMDG	IMDG: International Maritime Dangerous Goods
LTEL	Long term exposure limit
PBT	PBT: Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	RID: Regulations concerning the international railway transport of dangerous goods
STEL	Short term exposure limit
vPvB	vPvB: very Persistent and very Bioaccumulative

Hazard classification / Classification code:	**Hazard Statement(s)**
Met. Corr. 1; Corrosive to metals, Category 1	H290: May be corrosive to metals.
Skin Sens. 1; Skin sensitizer, Category 1	H317: May cause an allergic skin reaction.
Eye Dam. 1; Eye damage, category 1	H318: Causes serious eye damage.
Aquatic Chronic 2; Hazardous to the aquatic environment, Chronic , Category 2	H411: Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3; Hazardous to the aquatic environment, Chronic , Category 3	H412: Harmful to aquatic life with long lasting effects.

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Disclaimers

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Annex to the extended Safety Data Sheet (eSDS)

Not applicable