

Dryden Aqua Ltd

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture APF Private

Registration number -

Synonyms None.

Issue date 21-August-2014

Version number 01

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

Identified uses Multi-spectrum flocculant and coagulant

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Dryden Aqua Ltd

Address Butlerfield Industrial Estate
Bonnyrigg
Edinburgh EH19 3JQ
GB

Telephone +44 (0) 18758 22222
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1.4. Emergency telephone number +44 (0) 18758 22222

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification Xi;R36, R43

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Serious eye damage/eye irritation Category 1 H318 - Causes serious eye damage.

Skin sensitisation Category 1 H317 - May cause an allergic skin reaction.

Hazard summary

Physical hazards Not classified for physical hazards.

Health hazards Irritating to eyes. May cause sensitisation by skin contact. Occupational exposure to the substance or mixture may cause adverse health effects.

Environmental hazards Not classified for hazards to the environment.

Specific hazards None known.

Main symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Aluminium chloride hydroxide sulphate, Aluminium Chlorohydrate, Lanthanum Chloride, Anhydrous

Hazard pictograms

Signal word Danger

Hazard statements

H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

Precautionary statements**Prevention**

P261 Avoid breathing mist or vapour.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTRE or doctor/physician.
P321 Specific treatment (see this label).
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

Storage Not required

Disposal

P501 Dispose of contents/container (in accordance with related regulations).

Supplemental label information EUH210 - Safety data sheet available on request.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Aluminium chloride hydroxide sulphate	5 - < 10	39290-78-3 254-400-7	01-2119531540-51-xxxx	-	
Classification:	DSD:	Xn;R20, Xi;R41			
	CLP:	Met. Corr. 1;H290, Eye Dam. 1;H318, Acute Tox. 3;H331			
Aluminium Chlorohydrate	3 - < 5	12042-91-0 234-933-1	01-2119533142-53-xxxx	-	
Classification:	DSD:	-			
	CLP:	-			
Lanthanum Chloride, Anhydrous	1 - < 3	10099-58-8 233-237-5	01-2119452063-49-xxxx	-	
Classification:	DSD:	Xi;R41, R43, N;R51/53			
	CLP:	Met. Corr. 1;H290, Skin Sens. 1;H317, Eye Dam. 1;H318, Aquatic Chronic 2;H411			

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
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POLYDADMAC	1 - < 3	26062-79-3	-	-	
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Classification: **DSD:** R52/53
CLP: Aquatic Chronic 3;H412

Other components below reportable levels 80 - < 90

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

#: This substance has workplace exposure limit(s).

Composition comments The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation If inhaled, remove to fresh air. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash clothing separately before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Rinse mouth thoroughly. If ingestion of a large amount does occur, call a poison control centre immediately.

4.2. Most important symptoms and effects, both acute and delayed Severe eye irritation. Irritation of eyes and mucous membranes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
 May cause an allergic skin reaction. Rash. Dermatitis.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards Non-combustible, substance itself does not burn. No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2). Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture This product is an aqueous mixture which will not burn.
 Irritating and toxic gases or fumes may be released during a fire.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear self-contained breathing apparatus and protective clothing.

Special fire fighting procedures Move containers from fire area if you can do so without risk.
 Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. No unusual fire or explosion hazards noted.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapour. Ensure adequate ventilation. For personal protection, see section 8. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
6.3. Methods and material for containment and cleaning up	<p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for re-use.</p>
6.4. Reference to other sections	For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not get this material in contact with eyes. Avoid breathing mist or vapour. Avoid release to the environment. Do not empty into drains.
7.2. Conditions for safe storage, including any incompatibilities	<p>Storage temperature: between 5°C and 35°C. Store in corrosive resistant container with a resistant inner liner.</p> <p>Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place.</p> <p>Keep from freezing.</p> <p>Store away from incompatible materials (see Section 10 of the SDS).</p>
7.3. Specific end use(s)	The specified uses for this material are shown in section 1 of this document

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Components	Type	Value	Form
Aluminium Chlorohydrate (12042-91-0)	TWA	2 mg/m3	soluble aluminium salts

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Provide adequate general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. Launder contaminated clothing before reuse.

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended. Do not get in eyes. (EN166)

Skin protection

- Hand protection	Wear appropriate chemical resistant gloves. Contains a potential skin sensitizer. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.
Environmental exposure controls	Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major releases. Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Blue liquid
Physical state	Liquid.
Form	Liquid.
Colour	Blue
Odour	Odourless.
Odour threshold	Not applicable
pH	3.0 - 4.0
Melting point/freezing point	< -3 °C (< 26.6 °F)
Initial boiling point and boiling range	102 °C (215.6 °F)
Flash point	Not applicable
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Miscible
Solubility (other)	Not available.
Auto-ignition temperature	Not applicable
Decomposition temperature	Not available
Viscosity	60 - 100 cP @ 25C
Explosive properties	Not applicable
Oxidizing properties	Not applicable
9.2. Other information	
Density	1.10 - 1.30 g/cm ³
Percent volatile	85.2 % estimated
Specific gravity	1.1 - 1.3

SECTION 10: Stability and reactivity

10.1. Reactivity	Material is stable under normal conditions.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Hazardous polymerisation does not occur.
10.4. Conditions to avoid	Contact with incompatible materials. None under normal conditions. Do not expose to temperatures above 75 °C. Do not freeze.
10.5. Incompatible materials	Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. May be corrosive to metals.
10.6. Hazardous decomposition products	No dangerous reaction known under conditions of normal use.

SECTION 11: Toxicological information

General information	Incomplete toxicological data are available for this product. Data shown in this section has been published in the substance(s) REACH dossier Occupational exposure to the substance or mixture may cause adverse effects.
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Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Not available.

Symptoms	Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Skin contact may provoke the following symptoms: Sensitisation
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11.1. Information on toxicological effects

Acute toxicity	According to concentration, aqueous solution causes irritation or burns of eyes, skin and mucous membranes. May be harmful if swallowed. May cause an allergic skin reaction. Contains a potential skin sensitizer. Skin irritation
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Product	Species	Test results
APF Private (CAS Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rat	20605 mg/kg bw
<i>Inhalation</i>		
LC50	Rat	66 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	16794 mg/kg bw
Components		
Species		
Test results		
Aluminium chloride hydroxide sulphate (CAS 39290-78-3)		
Acute		
<i>Dermal</i>		
LD50	Rat	2360 mg/kg bw
<i>Inhalation</i>		
LC50	Rat	5 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg bw

Components	Species	Test results
Aluminium Chlorohydrate (CAS 12042-91-0)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg bw
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg bw
Lanthanum Chloride, Anhydrous (CAS 10099-58-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 1638 mg/kg bw
<i>Oral</i>		
LD50	Rat	2361 - 2909 mg/kg bw
POLYDADMAC (CAS 26062-79-3)		
Acute		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory sensitisation	Due to partial or complete lack of data the classification is not possible.
Skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Due to partial or complete lack of data the classification is not possible.
Carcinogenicity	Due to partial or complete lack of data the classification is not possible.
Reproductive toxicity	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - repeated exposure	Due to partial or complete lack of data the classification is not possible.
Aspiration hazard	Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information	No information available.
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity Contains a substance which causes risk of hazardous effects to the environment. May cause long lasting harmful effects to aquatic life.

Components	Species	Test results
Aluminium chloride hydroxide sulphate (CAS 39290-78-3)		
Aquatic		
Algae	ErC50	14 mg/l, 72 hours dissolved Al
	NOEC	1 mg/l Growth rate
Crustacea	EC50	> 200 mg/l, 48 hours
		> 0.15 mg/l, 48 hours dissolved Al
Fish	EC50	> 0.357 mg/l dissolved Al

Components		Species	Test results
Aluminium Chlorohydrate (CAS 12042-91-0)			
Aquatic			
Algae	NOEC	Algae	1 mg/l Growth rate
Crustacea	NOEC	Daphnia	> 160 mg/l, 48 hours similar substance
Fish	LC50	Zebra danio (Danio rerio)	> 100 mg/l, 96 hours
	NOEC	Zebra danio (Danio rerio)	> 0.357 mg/l, 96 hours aluminium
Lanthanum Chloride, Anhydrous (CAS 10099-58-8)			
Aquatic			
Algae	EC50	Algae	28.2 mg/l, 72 hours Growth inhibition
Crustacea	EC50	Daphnia	43.2 µg/l, 48 hours static
			0.974 mg/l, 21 days mortality
Fish	NOEC	Daphnia	0.176 mg/l, 21 days mortality
	NOEC	Carp (Cyprinus carpio)	0.46 mg/l, 21 days OECD 24
POLYDADMAC (CAS 26062-79-3)			
Aquatic			
Crustacea	EC50	Daphnia	> 10 mg/l, 48 hours OECD202
Fish	LC50	Fish	> 10 mg/l, 96 hours OECD203

* Estimates for product may be based on additional component data not shown.

12.2. Persistence and degradability	The product contains inorganic compounds which are not biodegradable. The other components of the product are slowly biodegradable.
12.3. Bioaccumulative potential	Does not bioaccumulate.
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	The product is miscible with water. May spread in water systems.
Mobility in general	This product is miscible in water.
12.5. Results of PBT and vPvB assessment	Not available.
12.6. Other adverse effects	May cause long-term adverse effects in the aquatic environment. Do not discharge into drains, water courses or onto the ground. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

ADN

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, Article 59(1). Candidate List

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use

Not regulated.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not regulated.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding.

Not regulated.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Always applicable.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment No Chemical Safety Assessment has been carried out.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

SECTION 16: Other information

List of abbreviations LC50: median lethal concentration
LD50: median lethal dose
NOEC: no observable effect concentration
STP: Sewage Treatment Plant

References Not available.

Information on evaluation method leading to the classification of mixture The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R20 Harmful by inhalation.
R36 Irritating to eyes.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
H290 May be corrosive to metals.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

Revision information None.

Training information Read safety instructions, SDS and emergency procedures before handling. Follow training instructions when handling this material.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.

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