

# 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 17-October-2014

Version number 03

Revision date 10-October-2016

Supersedes date 17-October-2014

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

Identified uses Multi-spectrum flocculant and coagulant

Uses advised against No other uses are advised.

#### 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  
Fax: +44 (0) 18758 22229

e-mail aqua@drydenaqua.com

Contact person Graeme McQuarrie

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 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** Causes serious eye damage. May cause an allergic skin reaction.

#### 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 center/doctor.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage**

Store away from incompatible materials.

**Disposal**

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

**Supplemental label information**

None.

**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	-	
<b>Classification:</b>	Met. Corr. 1;H290, Eye Dam. 1;H318				
Aluminium Chlorohydrate	3 - < 5	12042-91-0 234-933-1	01-2119533142-53-xxxx	-	
<b>Classification:</b>	-				
Lanthanum Chloride, Anhydrous	1 - < 3	10099-58-8 233-237-5	01-2119452063-49-xxxx	-	
<b>Classification:</b>	Met. Corr. 1;H290, Skin Sens. 1;H317, Eye Dam. 1;H318, Aquatic Chronic 2;H411				
POLYDADMAC	1 - < 3	26062-79-3	-	-	
<b>Classification:</b>	Aquatic Chronic 3;H412				

**List of abbreviations and symbols that may be used above**

#: This substance has been assigned Community workplace exposure limit(s).  
 PBT: persistent, bioaccumulative and toxic substance.  
 vPvB: very persistent and very bioaccumulative substance.  
 M: M-factor

**Composition comments**

The full text for all H-statements 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**

Move 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 contaminated clothing before reuse.

<b>Eye contact</b>	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.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	May cause temporary blindness and severe eye damage. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Rash. Dermatitis.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

## SECTION 5: Firefighting measures

<b>General fire hazards</b>	Non-combustible, substance itself does not burn. No unusual fire or explosion hazards noted.
<b>5.1. Extinguishing media</b>	
<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>5.2. Special hazards arising from the substance or mixture</b>	This product is an aqueous mixture which will not burn. Irritating and toxic gases or fumes may be released during a fire.
<b>5.3. Advice for firefighters</b>	
<b>Special protective equipment for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Special fire fighting procedures</b>	Move containers from fire area if you can do it without risk. No unusual fire or explosion hazards noted. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

<b>6.1. Personal precautions, protective equipment and emergency procedures</b>	
<b>For non-emergency personnel</b>	Wear appropriate protective equipment and clothing during clean-up. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Avoid breathing mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.
<b>For emergency responders</b>	Use personal protection recommended in Section 8 of the SDS. Keep unnecessary personnel away.
<b>6.2. Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.
<b>6.3. Methods and material for containment and cleaning up</b>	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.  Never return spills to original containers for re-use.
<b>6.4. Reference to other sections</b>	For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

## SECTION 7: Handling and storage

<b>7.1. Precautions for safe handling</b>	Wear appropriate personal protective equipment. Provide adequate ventilation. Do not get this material in contact with eyes. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Observe good industrial hygiene practices.
<b>7.2. Conditions for safe storage, including any incompatibilities</b>	Storage temperature: between 5°C and 35°C. Do not allow material to freeze. Store in corrosive resistant container with a resistant inner liner. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
<b>7.3. Specific end use(s)</b>	Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### United Kingdom

##### Components

Aluminium Chlorohydrate  
(CAS 12042-91-0)

##### Type

TWA

##### Value

2 mg/m3

##### Form

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

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.

##### Eye/face protection

Do not get in eyes. Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear: Safety goggles

##### Skin protection

##### - Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. 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. Contains a potential skin sensitizer.

##### - Other

Wear appropriate chemical resistant clothing. (EN 14605 for splashes, EN ISO 13982 for dust)

##### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

##### Thermal hazards

Not applicable.

#### 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

Avoid release to the environment. Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

##### Physical state

Liquid.

##### Form

Free flowing

##### Colour

Blue

#### Odour

Odourless.

#### Odour threshold

Not available.

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.
<b>Upper/lower flammability or explosive limits</b>	
Flammability limit - lower (%)	Not applicable
Flammability limit - upper (%)	Not applicable
Vapour pressure	Not available
Vapour density	Not available
Relative density	Not available.
<b>Solubility(ies)</b>	
Solubility (water)	Miscible
Solubility (other)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available
Viscosity	60 - 100 cP @ 25C
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
<b>9.2. Other information</b>	
Density	1.10 - 1.30 g/cm <sup>3</sup>
Percent volatile	85.2 % estimated
Specific gravity	1.05 - 1.25

## SECTION 10: Stability and reactivity

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

## SECTION 11: Toxicological information

<b>General information</b>	Incomplete toxicological data are available for this product. Occupational exposure to the substance or mixture may cause adverse effects.
<b>Information on likely routes of exposure</b>	
<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.
<b>Symptoms</b>	May cause temporary blindness and severe eye damage. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause an allergic skin reaction. Dermatitis. Rash.

## 11.1. Information on toxicological effects

**Acute toxicity** May cause an allergic skin reaction.

<b>Product</b>	<b>Species</b>	<b>Test results</b>
APF Private (CAS Mixture)		
<b>Acute</b>		
<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
<b>Components</b>		
<b>Species</b>		
<b>Test results</b>		
Aluminium chloride hydroxide sulphate (CAS 39290-78-3)		
<b>Acute</b>		
<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
Aluminium Chlorohydrate (CAS 12042-91-0)		
<b>Acute</b>		
<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)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 1638 mg/kg bw
<i>Oral</i>		
LD50	Rat	2361 - 2909 mg/kg bw
POLYDADMAC (CAS 26062-79-3)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

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

<b>Skin corrosion/irritation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory sensitisation</b>	Due to partial or complete lack of data the classification is not possible.
<b>Skin sensitisation</b>	May cause an allergic skin reaction.
<b>Germ cell mutagenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Carcinogenicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Reproductive toxicity</b>	Due to partial or complete lack of data the classification is not possible.
<b>Specific target organ toxicity - single exposure</b>	Due to partial or complete lack of data the classification is not possible.

<b>Specific target organ toxicity - repeated exposure</b>	Due to partial or complete lack of data the classification is not possible.
<b>Aspiration hazard</b>	Due to partial or complete lack of data the classification is not possible.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.  
Contains a substance which causes risk of hazardous effects to the environment.

Components		Species	Test results
Aluminium chloride hydroxide sulphate (CAS 39290-78-3)			
<b>Aquatic</b>			
Algae	ErC50	Algae	14 mg/l, 72 hours dissolved Al = 0.24mg/l
	NOEC	Algae	1 mg/l Growth rate (0.02mg/l as Al)
Crustacea	EC50	Daphnia	> 200 mg/l, 48 hours
			> 0.15 mg/l, 48 hours dissolved Al
Fish	EC50	Danio (Danio)	> 0.357 mg/l dissolved Al
Aluminium Chlorohydrate (CAS 12042-91-0)			
<b>Aquatic</b>			
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)			
<b>Aquatic</b>			
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
	NOEC	Daphnia	0.176 mg/l, 21 days mortality
Fish	NOEC	Carp (Cyprinus carpio)	0.46 mg/l, 21 days OECD 24
POLYDADMAC (CAS 26062-79-3)			
<b>Aquatic</b>			
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.

<b>12.2. Persistence and degradability</b>	The product contains inorganic compounds which are not biodegradable. The other components of the product are slowly biodegradable.
<b>12.3. Bioaccumulative potential</b>	Theoretically low bioaccumulation potential
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	The product is miscible with water. May spread in water systems.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations. 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).
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Special precautions</b>	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** Not established.

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

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

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

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

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

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.

#### Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

#### 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 2012/18/EU on major accident hazards involving dangerous substances

Not listed.

#### 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, as amended.

### National regulations

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

### 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** Not available.

**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 H-statements not written out in full under Sections 2 to 15** H290 May be corrosive to metals.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.

**Training information**

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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