



## SAFETY DATA SHEET ALUMINIUM CHLORIDE BASIC SOLUTION

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

#### 1.1. Product identifier

Product name	ALUMINIUM CHLORIDE BASIC SOLUTION
Product number	10975
Synonyms; trade names	PAX XL 60, KLORAL 81, PAX 18, AQUARHONE 18D, FLOCCULANTE 973, PAX XL 610, PAC 18, EKOFLOCK 90 (POLY ALUMINIUM CHLO), FLOCOGIL 418, PLUSPAC 500, FLOCOGIL 424, PAX XL60 (POLY ALUM CHLORIDE), FLOCOGIL 408, IMA FLOC, POLY ALUM CHLORID PLUSPAC S1465, FLOCOGIL 408S, PLUSPAC 1465 S

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

Identified uses	Chemical Flocculating Agent
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#### 1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com
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#### 1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	10975

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (EC 1272/2008)

Physical hazards	Met. Corr. 1 - H290
Health hazards	Eye Dam. 1 - H318
Environmental hazards	Not Classified

#### 2.2. Label elements

##### Pictogram



Signal word	Danger
Hazard statements	H290 May be corrosive to metals. H318 Causes serious eye damage.

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<b>Precautionary statements</b>	P234 Keep only in original packaging.
	P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
	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.
	P390 Absorb spillage to prevent material damage.
	P406 Store in a corrosion-resistant/... container with a resistant inner liner.

**Contains** ALUMINIUM CHLORIDE BASIC

### 2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

<b>ALUMINIUM CHLORIDE BASIC</b>	<b>30-60%</b>
CAS number: 1327-41-9	EC number: 215-477-2
	REACH registration number: 01-2119531563-43-XXXX
<b>Classification</b>	
Met. Corr. 1 - H290	
Eye Dam. 1 - H318	

The full text for all hazard statements is displayed in Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>Inhalation</b>	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Give plenty of water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting. Get medical attention if any discomfort continues.
<b>Skin contact</b>	Remove contaminated clothing and rinse skin thoroughly with water. Wash contaminated clothing before reuse. Get medical attention if any discomfort continues.
<b>Eye contact</b>	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes.

### 4.2. Most important symptoms and effects, both acute and delayed

**Eye contact** Severe irritation, burning and tearing.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes for the doctor** No specific recommendations. If in doubt, get medical attention promptly.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

**Suitable extinguishing media** Use fire-extinguishing media suitable for the surrounding fire.

### 5.2. Special hazards arising from the substance or mixture

**Specific hazards** Toxic gases or vapours. Hydrogen chloride (HCl).

### 5.3. Advice for firefighters

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**Special protective equipment for firefighters** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions** Wear protective clothing as described in Section 8 of this safety data sheet.

#### 6.2. Environmental precautions

**Environmental precautions** Avoid discharge into drains or watercourses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

#### 6.3. Methods and material for containment and cleaning up

**Methods for cleaning up** Absorb in vermiculite, dry sand or earth and place into containers. Neutralise spilled material with crushed limestone, slaked lime (calcium hydroxide), soda ash (sodium carbonate) or sodium bicarbonate. Flush contaminated area with plenty of water.

#### 6.4. Reference to other sections

**Reference to other sections** Wear protective clothing as described in Section 8 of this safety data sheet.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

**Usage precautions** Provide adequate ventilation. Avoid contact with skin and eyes.

#### 7.2. Conditions for safe storage, including any incompatibilities

**Storage precautions** Store in tightly-closed, original container in a dry, cool and well-ventilated place. Suitable containers: polyethylene, glass lined. Unsuitable container materials: Common metals.

**Storage class** Corrosive storage.

#### 7.3. Specific end use(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

### SECTION 8: Exposure Controls/personal protection

#### 8.1. Control parameters

**Ingredient comments** No exposure limits known for ingredient(s).

#### ALUMINIUM CHLORIDE BASIC (CAS: 1327-41-9)

**DNEL**

Workers - Oral; Long term systemic effects: 0.5 mg/kg/day

Workers - Dermal; Long term systemic effects: 4.6 mg/kg

Workers - Inhalation; Long term systemic effects: 16.4 mg/m<sup>3</sup>

Consumer - Oral; Long term systemic effects: 2.3 mg/kg/day

Consumer - Dermal; Long term systemic effects: 2.32 mg/kg/day

Consumer - Inhalation; Long term systemic effects: 4.0 mg/m<sup>3</sup>

#### 8.2. Exposure controls

**Protective equipment**



**Eye/face protection**

The following protection should be worn: Chemical splash goggles. EN 166

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<b>Hand protection</b>	It is recommended that gloves are made of the following material: Polyvinyl chloride (PVC). Rubber (natural, latex). The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. EN 374
<b>Other skin and body protection</b>	Wear rubber footwear. Wear rubber apron.
<b>Hygiene measures</b>	Wash at the end of each work shift and before eating, smoking and using the toilet.
<b>Respiratory protection</b>	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. EN 136/140/141/145/143/149

### SECTION 9: Physical and Chemical Properties

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

<b>Appearance</b>	Liquid.
<b>Colour</b>	Yellow.
<b>Odour</b>	Almost odourless.
<b>Odour threshold</b>	No information available.
<b>pH</b>	pH (concentrated solution): 0.4 - 2.0
<b>Melting point</b>	-10°C
<b>Initial boiling point and range</b>	100 - 200°C
<b>Flash point</b>	No information available.
<b>Evaporation rate</b>	No information available.
<b>Evaporation factor</b>	No information available.
<b>Flammability (solid, gas)</b>	No information available.
<b>Upper/lower flammability or explosive limits</b>	No information available.
<b>Other flammability</b>	No information available.
<b>Vapour pressure</b>	No information available.
<b>Vapour density</b>	No information available.
<b>Relative density</b>	1.30 - 1.37
<b>Bulk density</b>	1280 - 1320 kg/m <sup>3</sup>
<b>Solubility(ies)</b>	Miscible with water.
<b>Partition coefficient</b>	: <3
<b>Auto-ignition temperature</b>	No information available.
<b>Decomposition Temperature</b>	No information available.
<b>Viscosity</b>	40 cP @ 20°C
<b>Explosive properties</b>	No information available.
<b>Explosive under the influence of a flame</b>	No information available.
<b>Oxidising properties</b>	No information available.

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### 9.2. Other information

Other information	Not determined.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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#### 10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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#### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not determined.
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#### 10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
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#### 10.5. Incompatible materials

Materials to avoid	Chemically-active metals. Inorganic cyanides. Strong alkalis. Strong oxidising agents.
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#### 10.6. Hazardous decomposition products

Hazardous decomposition products	When heated, vapours/gases hazardous to health may be formed. Hydrogen chloride (HCl).
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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

##### Acute toxicity - oral

Acute toxicity oral (LD <sub>50</sub> mg/kg)	2,000.0
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Species	Rat
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##### Skin corrosion/irritation

Animal data	No information available.
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##### Serious eye damage/irritation

Serious eye damage/irritation	No information available.
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##### Respiratory sensitisation

Respiratory sensitisation	No information available.
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##### Skin sensitisation

Skin sensitisation	No information available.
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### Germ cell mutagenicity

**Genotoxicity - in vitro** No information available.

### Carcinogenicity

**Carcinogenicity** No information available.

### Reproductive toxicity

**Reproductive toxicity - fertility** No information available.

### Specific target organ toxicity - single exposure

**STOT - single exposure** No information available.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** No information available.

### Aspiration hazard

**Aspiration hazard** No information available.

**Inhalation** Vapour may irritate respiratory system/lungs.

**Ingestion** May cause internal injury.

**Skin contact** Irritating to skin.

**Eye contact** Risk of serious damage to eyes.

### Toxicological information on ingredients.

#### ALUMINIUM CHLORIDE BASIC

##### Acute toxicity - oral

**Notes (oral LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Oral, Rat

##### Acute toxicity - dermal

**Notes (dermal LD<sub>50</sub>)** LD<sub>50</sub> >2000 mg/kg, Dermal, Rabbit LD<sub>50</sub> > 5000 mg/kg, Dermal, Rat

##### Acute toxicity - inhalation

**Notes (inhalation LC<sub>50</sub>)** LC<sub>50</sub> > 5 mg/l, Inhalation, Rat

##### Skin corrosion/irritation

**Skin corrosion/irritation** Not irritating. Rabbit OECD 404

##### Serious eye damage/irritation

**Serious eye damage/irritation** Causes serious eye damage. Rabbit OECD 405

##### Skin sensitisation

**Skin sensitisation** Guinea pig maximization test (GPMT) - Guinea pig: Not sensitising. OECD 406

##### Germ cell mutagenicity

**Genotoxicity - in vitro** Bacterial reverse mutation test: Negative. OECD 471 Gene mutation: Negative. OECD 476 DNA damage and/or repair: Negative. OECD 487

**Genotoxicity - in vivo** No specific test data are available.

##### Reproductive toxicity

**Reproductive toxicity - fertility** No evidence of reproductive toxicity in animal studies.

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**Reproductive toxicity - development** No evidence of reproductive toxicity in animal studies. Maternal toxicity: - NOAEL: (P) 1000 mg/kg/day, , Developmental toxicity: - NOAEL: (F1) 1000 mg/kg/day, ,

### Specific target organ toxicity - single exposure

**STOT - single exposure** Not classified as a specific target organ toxicant after a single exposure.

### Specific target organ toxicity - repeated exposure

**STOT - repeated exposure** Not classified as a specific target organ toxicant after repeated exposure.

## SECTION 12: Ecological Information

**Ecotoxicity** The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

### 12.1. Toxicity

**Toxicity** Not considered toxic to fish.

### Ecological information on ingredients.

#### ALUMINIUM CHLORIDE BASIC

##### Acute aquatic toxicity

**Acute toxicity - fish** LC<sub>50</sub>, 96 hour: > 0.156 mg/l, Brachydanio rerio (Zebra Fish)  
(as Al<sup>3+</sup>)

**Acute toxicity - aquatic invertebrates** LC<sub>50</sub>, 48 hour: > 0.15 mg/l, Daphnia magna  
(as Al<sup>3+</sup>)

### 12.2. Persistence and degradability

**Persistence and degradability** The product contains mainly inorganic substances which are not biodegradable. The other substances in the product are not expected to be readily biodegradable.

### Ecological information on ingredients.

#### ALUMINIUM CHLORIDE BASIC

**Persistence and degradability** Not applicable. Substance is inorganic.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential** The product does not contain any substances expected to be bioaccumulating.

**Partition coefficient** : <3

### Ecological information on ingredients.

#### ALUMINIUM CHLORIDE BASIC

**Bioaccumulative potential** The product is not bioaccumulating.

### 12.4. Mobility in soil

**Mobility** The product is soluble in water.

### 12.5. Results of PBT and vPvB assessment

**Results of PBT and vPvB assessment** This product does not contain any substances classified as PBT or vPvB.

### Ecological information on ingredients.

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**Results of PBT and vPvB assessment** This substance is not classified as PBT or vPvB according to current EU criteria.

### 12.6. Other adverse effects

**Other adverse effects** Not determined.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**General information** Do not puncture or incinerate, even when empty. Waste is classified as hazardous waste.

**Disposal methods** Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

## SECTION 14: Transport information

**General** Wear protective clothing as described in Section 8 of this safety data sheet.

### 14.1. UN number

**UN No. (ADR/RID)** 3264

**UN No. (IMDG)** 3264

**UN No. (ICAO)** 3264

**UN No. (ADN)** 3264

### 14.2. UN proper shipping name

**Proper shipping name (ADR/RID)** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS ALUMINIUM CHLORIDE BASIC)

**Proper shipping name (IMDG)** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS ALUMINIUM CHLORIDE BASIC)

**Proper shipping name (ICAO)** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS ALUMINIUM CHLORIDE BASIC)

**Proper shipping name (ADN)** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS ALUMINIUM CHLORIDE BASIC)

### 14.3. Transport hazard class(es)

**ADR/RID class** 8

**ADR/RID classification code** C1

**ADR/RID label** 8

**IMDG class** 8

**ICAO class/division** 8

**ADN class** 8

**Transport labels**



### 14.4. Packing group



## ALUMINIUM CHLORIDE BASIC SOLUTION

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

### 14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

### 14.6. Special precautions for user

EmS	F-A, S-B
ADR transport category	3
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	80
Tunnel restriction code	(E)

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

## SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015.
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Inventory Information	EINECS AICS IECS ECL TSCA PICCS
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### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

## SECTION 16: Other information

## ALUMINIUM CHLORIDE BASIC SOLUTION

### Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.  
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.  
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.  
 CAS: Chemical Abstracts Service.  
 DNEL: Derived No Effect Level.  
 IATA: International Air Transport Association.  
 IMDG: International Maritime Dangerous Goods.  
 Kow: Octanol-water partition coefficient.  
 LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.  
 LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).  
 PBT: Persistent, Bioaccumulative and Toxic substance.  
 PNEC: Predicted No Effect Concentration.  
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.  
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.  
 vPvB: Very Persistent and Very Bioaccumulative.  
 IARC: International Agency for Research on Cancer.  
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.  
 cATpE: Converted Acute Toxicity Point Estimate.  
 BCF: Bioconcentration Factor.  
 BOD: Biochemical Oxygen Demand.  
 EC<sub>50</sub>: 50% of maximal Effective Concentration.  
 LOAEC: Lowest Observed Adverse Effect Concentration.  
 LOAEL: Lowest Observed Adverse Effect Level.  
 NOAEC: No Observed Adverse Effect Concentration.  
 NOAEL: No Observed Adverse Effect Level.  
 NOEC: No Observed Effect Concentration.  
 LOEC: Lowest Observed Effect Concentration.  
 DMEL: Derived Minimal Effect Level.  
 EL50: Exposure Limit 50  
 hPa: Hectopascal  
 LL50: Lethal Loading fifty  
 OECD: Organisation for Economic Co-operation and Development  
 POW: Octanol-water partition coefficient  
 SCBA: self-contained breathing apparatus  
 STP: Sewage Treatment Plant  
 VOC: Volatile Organic Compounds

### Classification abbreviations and acronyms

Acute Tox. = Acute toxicity  
 Aquatic Acute = Hazardous to the aquatic environment (acute)  
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

### Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

### Revision date

05/12/2016

### Version number

1.002

### Supersedes date

02/11/2016

### SDS number

10975

### SDS status

Approved.

## ALUMINIUM CHLORIDE BASIC SOLUTION

**Hazard statements in full**      H290 May be corrosive to metals.  
H318 Causes serious eye damage.

**Signature**                      Lisa Bland

Supplied By:

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