

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Polyaluminium Chloride Hydroxide Sulphate (PAC)

Version 6.0

Print Date 2013/10/16

Revision date / valid from 2013/10/16

MSDS code: MPAC100

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

1.1. Product identifier

Trade name : Polyaluminium Chloride Hydroxide Sulphate (PAC)

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

Use of the Substance/Mixture : Water treatment chemical

Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK & Ireland
Albion House, Rawdon Park
GB LS19 7XX Leeds Yeadon

Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

REGULATION (EC) No 1272/2008			
Hazard class	Hazard category	Target Organs	Hazard statements
Serious eye damage	Category 1	---	H318
Corrosive to metals	Category 1	---	H290

For the full text of the H-Statements mentioned in this Section, see Section 16.

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Classification according to EU Directives 67/548/EEC or 1999/45/EC

Directive 67/548/EEC or 1999/45/EC	
Hazard symbol / Category of danger	Risk phrases
Irritant (Xi)	R41


For the full text of the R-phrases mentioned in this Section, see Section 16.

Most important adverse effects

- Human Health : See section 11 for toxicological information.
- Physical and chemical hazards : See section 9 for physicochemical information.
- Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

- Hazard symbols : 
- Signal word : Danger
- Hazard statements : H290 May be corrosive to metals.
H318 Causes serious eye damage.
- Precautionary statements
- Prevention : P234 Keep only in original container.
P280 Wear protective gloves/ eye protection/ face protection.
- Response : 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 or doctor/ physician.
P390 Absorb spillage to prevent material damage.

Hazardous components which must be listed on the label:

- Aluminum chloride hydroxide sulfate

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2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components	Amount [%]	Classification (REGULATION (EC) No 1272/2008)		Classification (67/548/EEC)
		Hazard class / Hazard category	Hazard statements	
Aluminum chloride hydroxide sulfate				
CAS-No. : 39290-78-3	<= 100	Eye Dam.1	H318	Irritant; Xi; R41
EC-No. : 254-400-7		Met. Corr.1	H290	
Registration : 01-2119531540-51-xxxx				

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4: First aid measures

4.1. Description of first aid measures

- General advice : Take off all contaminated clothing immediately.
- If inhaled : Move to fresh air. In case of shortness of breath, give oxygen. If symptoms persist, call a physician. If unconscious place in recovery position and seek medical advice.
- In case of skin contact : Wash off immediately with soap and plenty of water. If skin irritation persists, call a physician.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. Consult an eye specialist immediately.
- If swallowed : Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. If a person vomits when lying on his back, place him in the recovery position. If large quantities of this material are swallowed, call a physician immediately.

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

- Symptoms : irritant effects
- Effects : Irritating to eyes.

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

- Treatment : Treatment according to the doctor's diagnosis of the patient.

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Section 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

- Specific hazards during firefighting : The product itself does not burn.

5.3. Advice for firefighters

- Special protective equipment for firefighters : Wear self-contained breathing apparatus and full protective suit when necessary.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Personal precautions : Wear personal protective equipment. Avoid contact with skin and eyes.

6.2. Environmental precautions

- Environmental precautions : No special precautions required.

6.3. Methods and materials for containment and cleaning up

- Methods and materials for containment and cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Treat recovered material as described in the section "Disposal considerations". Flush away residuals with plenty of water.

6.4. Reference to other sections

- For personal protection see section 8.

Section 7: Handling and storage

7.1. Precautions for safe handling

- Advice on safe handling : Avoid contact with skin, eyes and clothing. Possibility to wash the eye at the place of work. Provide sufficient air exchange and/or exhaust in work rooms.

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Hygiene measures : Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in an area equipped with acid resistant flooring. Use acid resistant materials only. Use chloride resistant materials only. Keep containers tightly closed in a cool, well-ventilated place.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Fire-fighting class : medium-combustible (Flp > 100°C)

Advice on common storage : Store separate from acidic- and chloride sensitive materials. Incompatible with bases.

German storage class : 8B: Non-combustible substances, corrosive

7.3. Specific end use(s)

Specific use(s) : No information available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Component:	Aluminum chloride hydroxide sulfate	CAS-No.
		39290-78-3

Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL
Industrial use, Ingestion : 11.4 mg/kg bw/day

DNEL
Consumer use, Ingestion : 0.3 mg/kg bw/day

Other Occupational Exposure Limit Values

EH40 WEL, Time Weighted Average (TWA):
2 mg/m³

ELV (IE), Time Weighted Average (TWA):
2 mg/m³

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Component:

CAS-No.

39290-78-3

Other Occupational Exposure Limit Values

EH40 WEL, Time Weighted Average (TWA):
2 mg/m³

ELV (IE), Time Weighted Average (TWA):
2 mg/m³

8.2. Exposure controls

Appropriate engineering controls

Refer to protective measures listed in sections 7 and 8.

Personal protective equipment

Respiratory protection

Advice : Breathing apparatus needed only when aerosol or mist is formed.
In case of intensive or longer exposure use self-contained breathing apparatus.
In case of brief exposure or low pollution use breathing filter apparatus.
Combination filter: A-P2

Hand protection

Advice : Neoprene gloves
Protective gloves should be replaced at first signs of wear.

Glove thickness : 0.75 mm

Eye protection

Advice : Tightly fitting safety goggles

Skin and body protection

Advice : impervious clothing

Environmental exposure controls

General advice : No special precautions required.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form : liquid

Colour : clear

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	to cloudy
Odour	: odourless
Odour Threshold	: no data available
pH	: 2 - 3 (20 °C)
Melting point/range	: -12 - -10 °C
Boiling point/boiling range	: > 100 °C
Flash point	: not applicable
Evaporation rate	: no data available
Flammability (solid, gas)	: not applicable
Upper explosion limit	: not applicable
Lower explosion limit	: not applicable
Vapour pressure	: 22 hPa (20 °C)
Relative vapour density	: no data available
Density	: ca. 1.2 - 1.3 g/cm ³
Water solubility	: completely soluble
Partition coefficient: n-octanol/water	: not applicable
Auto-ignition temperature	: not applicable
Thermal decomposition	: > 200 °C Do not allow evaporation to dryness.
Viscosity, dynamic	: ca. 5 - 20 mPa.s (20 °C)
Explosivity	: not applicable
Oxidizing properties	: none

9.2. Other information

No further information available.

Section 10: Stability and reactivity

10.1. Reactivity

Advice : No decomposition if stored and applied as directed.

Polyaluminium Chloride Hydroxide Sulphate (PAC)

10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : Reacts exotherm with alkalis. May be corrosive to metals.
Gives off hydrogen by reaction with metals.

10.4. Conditions to avoid

Conditions to avoid : Extremes of temperature and direct sunlight. Keep from freezing
Thermal decomposition : >200 °C
Do not allow evaporation to dryness.

10.5. Incompatible materials

Materials to avoid : Oxidizing agents, Bases, hypochlorites, Chlorite, Sulphite,
Galvanised metals, Iron

10.6. Hazardous decomposition products

Hazardous decomposition products : No decomposition if stored and applied as directed.

Section 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Oral

LD50 : > 2000 mg/kg (rat)

Inhalation

For this product currently is no toxicological data available.

Dermal

no data available

Irritation

Skin

Result : slight irritation

Eyes

Result : Causes serious eye irritation.

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Sensitisation

Result : No sensitizing effect known.

CMR effects

CMR Properties

Carcinogenicity : Contains no ingredient listed as a carcinogen

Mutagenicity : Contains no ingredient listed as a mutagen

Teratogenicity : It is not considered teratogenic.

Reproductive toxicity : Contains no ingredient listed as toxic to reproduction

Specific Target Organ Toxicity

Single exposure

remark : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

remark : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Repeated dose toxicity

no data available

Aspiration hazard

No aspiration toxicity classification

Component: Aluminum chloride hydroxide
sulfate

CAS-No.
39290-78-3

Acute toxicity

Inhalation

LC50 : > 5 mg/l (rat; 4 h)

Dermal

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LD50 : > 2000 mg/kg (rat)

Section 12: Ecological information

12.1. Toxicity

Component:	Aluminum chloride hydroxide sulfate	CAS-No.
		39290-78-3
Acute toxicity		
Fish		
LC50	: > 1000 mg/l (Danio rerio (zebra fish)) (OECD Test Guideline 203) Information given is based on data obtained from similar substances.	
algae		
no data available		

12.2. Persistence and degradability

Persistence and degradability		
Biodegradability		
Result	: The methods for determining biodegradability are not applicable to inorganic substances.	

12.3. Bioaccumulative potential

Bioaccumulation		
Result	: Bioaccumulation is unlikely.	

12.4. Mobility in soil

Mobility		
Result	: The product is water soluble., Known distribution to environmental compartments	

12.5. Results of PBT and vPvB assessment

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Results of PBT and vPvB assessment

Result : This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT)., This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Other adverse effects

Additional ecological information

Result : Solutions with low pH-value must be neutralized before discharge. Ecological injuries are not known or expected under normal use.

Section 13: Disposal considerations

13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Contact waste disposal services.

Contaminated packaging : Empty remaining contents. Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Suitable cleaning agents: Water

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

Section 14: Transport information

14.1. UN number

3264

14.2. UN proper shipping name

ADR : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(Aluminum chloride hydroxide sulfate)

RID : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(Aluminum chloride hydroxide sulfate)

IMDG : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(Aluminum chloride hydroxide sulfate)

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14.3. Transport hazard class(es)

ADR-Class (Labels; Classification Code; Hazard identification No; Tunnel restriction code)	: 8 8; C1; 80; (E)
RID-Class (Labels; Classification Code; Hazard identification No)	: 8 8; C1; 80
IMDG-Class (Labels; EmS)	: 8 8; F-A, S-B

14.4. Packaging group

ADR	: III
RID	: III
IMDG	: III

14.5. Environmental hazards

Labeling according to 5.2.1.8 ADR	: no
Labeling according to 5.2.1.8 RID	: no
Labeling according to 5.2.1.6.3 IMDG	: no
Classification as environmentally hazardous according to 2.9.3 IMDG	: no

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

Section 15: Regulatory information

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

15.2. Chemical Safety Assessment

There is no data available for this product.

Section 16: Other information

Full text of R-phrases referred to under sections 2 and 3.

R41 Risk of serious damage to eyes.

Full text of H-Statements referred to under sections 2 and 3.

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H290 May be corrosive to metals.
H318 Causes serious eye damage.

Further information

Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

|| Indicates updated section.