

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****Product information**

**Product name**  
**KEMIRA PAX-XL19**

**Recommended use of the chemical and restrictions on use****Use of the Substance/Mixture**

Water treatment chemical

Water treatment chemical

**Recommended restrictions on use**

There are no uses advised against.

**Supplier's details**

Kemira Water Solutions, Inc.  
1000 Parkwood Circle, Suite 500  
30339 Atlanta USA  
Telephone+18635335990, Telefax. +18635337077  
ProductSafety.US.Lakeland@kemira.com

HEAD OFFICE  
Kemira Oyj  
P.O. Box 330  
00101 HELSINKI  
FINLAND  
Telephone +358108611 Telefax +358108621124

**Emergency telephone number**

CHEMTREC: 1-800-424-9300

**2. HAZARDS IDENTIFICATION****Classification of the substance or mixture**

Corrosive to metals; Category 1; May be corrosive to metals.;  
Serious eye damage; Category 1; Causes serious eye damage.;

**GHS-Labeling**

**Hazard pictograms**

:



**Signal word**

:

Danger

**Hazard statements**

:

**Hazard statements:**

H290

May be corrosive to metals.

H318

Causes serious eye damage.

**Precautionary statements**

:

**Prevention:**

P234

Keep only in original container.

P264

Wash face, hands and any exposed skin thoroughly after handling.

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.

**Storage:**

P405

Store locked up.

P406

Store in corrosive resistant container with a resistant inner liner.

**Disposal:**

P501

Dispose of contents/container as special waste in compliance with local and national regulations.

**Other hazards which do not result in classification**

**Advice;** Irritating to eyes, respiratory system and skin. Gastrointestinal irritation

**Inhalation;** May cause respiratory irritation.

**Skin;** May cause skin irritation.

**Eyes;** Causes severe eye irritation.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Substances /Mixtures**

Chemical nature

Aqueous solution

**Further information**

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.

**4. FIRST AID MEASURES****Description of first aid measures****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

Move to fresh air.

**Skin contact**

Rinse with plenty of water. If symptoms persist, call a physician.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If possible use lukewarm water. Consult a physician.

**Ingestion**

Rinse mouth with plenty of water. Drink 1 or 2 glasses of water. If symptoms persist, call a physician.

**Most important symptoms and effects, both acute and delayed****5. FIREFIGHTING MEASURES****Suitable extinguishing media**

Not combustible.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

No special requirements.

**Special hazards arising from the substance or mixture**

Small amounts of hydrogen chloride may be released at temperatures above the boiling point. Heating above the decomposition temperature can cause formation of hydrogen chloride.

**Special protective actions for fire-fighters**

Exposure to decomposition products may be a hazard to health. In the event of fire, wear self-contained breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

For personal protection see section 8.

**Environmental precautions**

Restrict the spread of the spillage by using inert absorbent material (sand, gravel). Cover the drains. Must be disposed of in accordance with local and national regulations.

**Methods and materials for containment and cleaning up**

Clean-up methods - small spillage

Dilute residues with water and then neutralize with lime or limestone powder to a solid consistency. Shovel or sweep up. Must be disposed of in accordance with local and national regulations.

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Clean-up methods - large spillage

Remove spill using a vacuum truck. Dilute residues with water and then neutralize with lime or limestone powder to a solid consistency. Shovel or sweep up remaining material. Must be disposed of in accordance with local and national regulations.

**Additional advice**

Inform the rescue service in case of entry into waterways, soil or drains.

**7. HANDLING AND STORAGE****Precautions for safe handling**

The work place and work methods shall be organized in such a way that direct contact with the product is prevented or minimized. For personal protection see section 8.

Small amounts of hydrogen chloride may be released at temperatures above the boiling point.

**Conditions for safe storage, including any incompatibilities**

Avoid extreme temperatures.

For quality reasons:

Keep at temperatures below 30 °C.

Keep at temperatures above 0 °C. Handling operations become difficult due to increased viscosity.  
 Materials for packaging  
 Suitable material: plastic (PE, PP, PVC), polyester with fibreglass reinforcement, rubber-coated steel, titanium

Materials to avoid:  
 chlorites, hypochlorites, sulphites, galvanized surfaces, Iron, Strong bases

Storage stability:

Storage period                      8 Months

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Form of exposure	Control parameters	Update	Basis

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.  
 Eye wash bottle or emergency eye-wash fountain must be found in the work place.

### Individual protection measures, such as personal protective equipment

#### Respiratory protection

Respiratory protection is not required under normal handling conditions. If aerosols or mist are formed, eg. when cleaning containers with a high pressure washer, use half mask with dust filter P2.

#### Hand protection

Glove material: PVC and neoprene gloves  
 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.  
 Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.  
 Break through time: > 480 min

#### Skin and body protection

#### Eye protection

Eye wash bottle with pure water Tightly fitting safety goggles.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

<b>Physical state</b>	liquid,
<b>Colour</b>	colourless, clear
<b>Odour</b>	not significant
<b>Melting point/range</b>	Crystallisation point/range -10 °C
<b>Initial boiling point and boiling range</b>	Boiling point/boiling range 100 - 120 °C
<b>Flash point</b>	Not applicable, inorganic compound
<b>Flammability (solid, gas)</b>	The product is not flammable.
<b>Explosive properties:</b>	
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Density</b>	1.3 - 1.4 g/cm <sup>3</sup>
<b>Solubility(ies):</b>	
<b>Water solubility</b>	( 20 °C) completely soluble
<b>Partition coefficient: n-octanol/water</b>	Not applicable, inorganic compound
<b>Decomposition temperature</b>	> 200 °C
<b>Oxidising potential</b>	Not oxidizing

### 10. STABILITY AND REACTIVITY

#### Reactivity

May be corrosive to metals.

#### Chemical stability

Stable under normal conditions.

#### Possibility of hazardous reactions

Hazardous reactions: Bases cause exothermic reactions.

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**Conditions to avoid**

Conditions to avoid:	Avoid freezing.
	Do not expose to temperatures above .?.
	200 °C

**Incompatible materials**

Materials to avoid:	chlorites hypochlorites sulphites galvanized surfaces Iron Strong bases
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**Hazardous decomposition products**

Hazardous decomposition products:	Small amounts of hydrogen chloride may be released at temperatures above the boiling point.
Thermal decomposition:	>200 °C

**11. TOXICOLOGICAL INFORMATION****Information on toxicological effects**

<b>Acute oral toxicity</b>	Conclusion: Low order of acute toxicity.
<b>Acute oral toxicity</b>	<b>Polyaluminium chloride:</b> yes/OECD Test Guideline 401/>/Rat/2,000 mg/kg/LD50 <b>Polyaluminium chloride:</b> Conclusion: Calculated as Al />/487 mg/kg/LD50
<b>Acute inhalation toxicity</b>	<b>Polyaluminium chloride:</b> LC50/Rat/>/5.6 mg/l/OECD Test Guideline 403  <b>Polyaluminium chloride:</b> LC50/Rat/>/1.4 mg/l Conclusion: Calculated as Al

<b>Acute dermal toxicity</b>	<p><b>Polyaluminium chloride:</b> LD50/&gt; /2,000 mg/kg/OECD Test Guideline 402 Remarks: Read-across (Analogy), CAS-No., 39290-78-3</p> <p><b>Polyaluminium chloride:</b> LD50/&gt; /550 mg/kg Remarks: Calculated as Al</p>
<b>Skin corrosion/irritation</b>	<p>Conclusion: Repeated or prolonged skin contact may cause:, Skin irritation, dry skin</p>
<b>Skin corrosion/irritation</b>	<p><b>Polyaluminium chloride:</b> Rabbit Result: No skin irritation /OECD Test Guideline 404Remarks: (45% solution)</p>
<b>Serious eye damage/eye irritation</b>	<p>Conclusion: May cause irreversible eye damage.</p>
<b>Serious eye damage/eye irritation</b>	<p><b>Polyaluminium chloride:</b> Rabbit Result: Eye irritation /OECD Test Guideline 405 Remarks: (45% solution)</p> <p><b>Polyaluminium chloride:</b> Rabbit /OECD Test Guideline 405 Conclusion: Causes severe irritation to eyes in animal experiments.</p> <p><b>Polyaluminium chloride:</b> Conclusion: May cause irreversible eye damage.</p>
<b>Respiratory or skin sensitisation</b>	
<b>Skin sensitisation</b>	<p>Not sensitizing.</p>
<b>Skin sensitisation</b>	<p><b>Polyaluminium chloride:</b> Not sensitizing.</p>
<b>Germ cell mutagenicity</b>	<p>Not sensitizing.</p>



<b>Genotoxicity in vitro</b>	<p><b>Polyaluminium chloride:</b> AMES test/Mutagenicity (Salmonella typhimurium - reverse mutation assay)/with and without Result: negative OECD Test Guideline 471</p> <p><b>Polyaluminium chloride:</b> micronucleus test/In vitro mammalian cells/with and without Result: negative OECD Test Guideline 487</p> <p><b>Polyaluminium chloride:</b> Lymphoma/In vitro gene mutation study in mammalian cells/with and without Result: negative OECD Test Guideline 476</p>
<b>Carcinogenicity</b>	
<b>Carcinogenicity</b>	<p><b>Polyaluminium chloride:</b></p> <p>Not believed to be a carcinogen.</p>
<b>Reproductive toxicity</b>	
<b>Toxicity for reproduction</b>	<p><b>Polyaluminium chloride:</b> Reproductive effects/Rat/female/Oral/3,225 mg/kg/OECD Test Guideline 452 Remarks: Read-across (Analogy), CAS-No., 31142-56-0 Conclusion: No known effect.</p> <p><b>Polyaluminium chloride:</b> Screening test/Rat/male and female/Oral/1,000 mg/kg/OECD Test Guideline 422 Conclusion: No known effect.</p>
<b>Teratogenicity</b>	<p><b>Polyaluminium chloride:</b> Rat/female/Oral/1,075 mg/kg/OECD Test Guideline 452 Conclusion: Read-across (Analogy), Did not show mutagenic or teratogenic effects in animal experiments., CAS-No., 31142-56-0</p>

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity effects

#### Aquatic toxicity

This material is not classified as dangerous for the environment. At environmentally relevant pH 5,5 – 8, the solubility of aluminium is low. Aluminium salts dissociate with water resulting in rapid formation and precipitation of aluminium hydroxides. At pH <5.5, the free ion (Al<sup>3+</sup>) becomes the prevalent form, the

increased availability at this pH is reflected in higher toxicity. At pH 6.0–7.5, solubility declines due to the presence of insoluble  $Al(OH)_3$ . At higher pH (pH >8.0), the more soluble  $Al(OH)_4^-$  species predominate, which again increases availability.

Aluminium salts must not be released to rivers and lakes in an uncontrolled way and pH variations around 5 - 5.5 should be avoided.

**Polyaluminium chloride:**

LC50/96 h/Danio rerio/OECD Test Guideline 203: > 1,000 mg/l

LC50: > 243 mg/l

Calculated as Al

NOEC/Danio rerio/OECD Test Guideline 203: > 1,000 mg/l

LC50: > 0.156 mg/l

Calculated as Al Maximum soluble concentration under the test conditions.

EC50/Daphnia magna (Water flea)/semi-static test/OECD Test Guideline 202: 98 mg/l

EC50: 24 mg/l

Calculated as Al

EC50/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 15.6 mg/l

EC50: 3.8 mg/l

Calculated as Al

NOEC/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 1.1 mg/l

NOEC: 0.27 mg/l

Calculated as Al

**Toxicity to other organisms**

No data is available on the product itself.

**Persistence and degradability**

Biological degradability:

The methods for determining biodegradability are not applicable to inorganic substances.

Chemical degradation:

When reacting with water on pH range 5,8 - 8 precipitates of aluminium hydroxides are formed.

**Biological degradability:**
**Polyaluminium chloride:**

The methods for determining the biological degradability are not applicable to inorganic substances.

**Chemical degradation:**
**Polyaluminium chloride:**

When reacting with water on pH range 5,8 - 8 precipitates of aluminium hydroxides are formed.

**Bioaccumulative potential**

The product is not expected to bioaccumulate.

Partition coefficient: n-octanol/water: Not applicable, inorganic compound

**Polyaluminium chloride:**

Partition coefficient: n-octanol/water: Not applicable, inorganic compound

**Mobility in soil**

Water solubility: completely soluble ( 20 °C)

**Other adverse effects**

May lower the pH of water and thus be harmful to aquatic organisms.

**13. DISPOSAL CONSIDERATIONS**

<b>Product</b>	Classified as hazardous waste. Must be disposed of in accordance with local and national regulations. Thoroughly cleaned packaging material may be recycled.
<b>Contaminated packaging</b>	Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.

**14. TRANSPORT INFORMATION**

**UN number** 3264

**Land transport****DOT:**

**Description of the goods:** UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.

**Proper shipping name** (Polyaluminium chloride )

**Class:** 8

**Packaging group:** III

**DOT-Labels** 8

**Sea transport****IMDG:**

**Description of the goods:** UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.  
**UN proper shipping name**

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<b>Class:</b>	(POLYALUMINIUM CHLORIDE ) 8
<b>Packaging group:</b>	III
<b>IMDG-Labels:</b>	8
<b>Environmentally Hazardous</b>	Not a Marine Pollutant

**Air transport****ICAO/IATA:****Description of the goods:****UN proper shipping name** UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Polyaluminium chloride )**Class:** 8**Packaging group:** III**ICAO-Labels:** 8**Special precautions for user**

polyaluminium chloride = aluminium chloride, basic = aluminium hydroxy chloride, The product is classified as dangerous goods, as it is slightly corrosive to metals.

**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****SARA Title III Section 311 Categories**

Immediate (Acute) Health Effects: Yes;  
Delayed (Chronic) Health Effects: No;  
Fire Hazard: No;  
Sudden Release Of Pressure Hazard: No;  
Reactivity Hazard: No;

**SARA 313 - Specific Toxic Chemical Listings**

None Present ()

**WHMIS Classification**

E Corrosive Material

Poyaluminium chloride (1327-41-9)

#### California Proposition 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

None Present ()

#### Other regulations

: No restrictions identified other than those already covered in regulations.

#### Notification status

- :
- : All components of this product are included in the United States TSCA Chemical Inventory or are not required to be listed on the United States TSCA Chemical Inventory.
- : All components of this product are included in the Canada Domestic Substance List (DSL) or are not required to be listed on the Canada Domestic Substance List (DSL).
- : All components of this product are included in the Australian Inventory of Chemical Substances (AICS) or are not required to be listed on the Australian Inventory of Chemical Substances (AICS).
- : All components of this product are included on the Chinese inventory or are not required to be listed on the Chinese inventory.
- : All components of this product are included in the Korean (ECL) inventory or are not required to be listed on the Korean (ECL) inventory.
- : All components of this product are included on the Philippine (PICCS) inventory or are not required to be listed on the Philippine (PICCS) inventory.
- : All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese (ENCS) inventory.
- : All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) or are not required to be listed on EINECS.
- :

## 16. OTHER INFORMATION

#### HMIS Rating

Health: 1

Flammability: 0

Reactivity: 0

**NFPA Rating**

Health: 1

Fire: 0

Reactivity: 0

**Training advice**

Read the safety data sheet before using the product.

**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Sources of key data used to compile the Safety Data Sheet**

Regulations, databases, literature, own tests.

**Additions, Deletions, Revisions**

Relevant changes have been marked with vertical lines.