

# Kemira SAFETY DATA SHEET

KEMIRA ALS

Ref. /US/EN

Revision Date: 02/20/2015

Previous date: 00/00/0000

Print Date:05/18/2015



## Product information

**Product name**  
KEMIRA ALS

### Recommended use of the chemical and restrictions on use

#### Use of the Substance/Mixture

Water treatment chemical, Additive in paper industry.

#### 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



## 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

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**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 hands thoroughly after handling.  
P280 Wear 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:**

P406 Store in corrosive resistant container with a resistant inner liner.

Hazardous components which must be listed on the label:

- 10043-01-3 Aluminium sulphate

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



**Substances /Mixtures**

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Chemical nature Aluminium sulphate solution.

## Hazardous components

Chemical Name	CAS-No.	Concentration[%]
Aluminium sulphate	10043-01-3	20 - 30 %

## Further information

This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

This product contains WHMIS regulated (hazardous) components.

## Description of first aid measures

### General advice

Show this safety data sheet to the doctor in attendance.

### Inhalation

Move to fresh air.

If breathing is difficult, give oxygen. If breathing has stopped, apply artificial respiration. Obtain medical attention.

### Skin contact

Rinse with plenty of water. If skin irritation persists, call a physician. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

### Eye contact

Rinse immediately with plenty of water for at least 15 minutes. Seek medical advice.

### Ingestion

Rinse mouth with water. Drink 1 or 2 glasses of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

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

## Suitable extinguishing media

Not combustible.

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

## Unsuitable extinguishing media

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No materials to be especially mentioned.

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

Heating above the decomposition temperature will release toxic gases. ( Sulphur oxides (SOx) )

**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. Protective clothing.

Use NIOSH/MSHA approved respiratory protection.

**Personal precautions, protective equipment and emergency procedures**

For personal protection see section 8. Soak up or flush with plenty of water to prevent slipping hazard.

Handle in accordance with good industrial hygiene and safety practice.

**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.

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.

**Precautions for safe handling**

Danger for slipping. 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.

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

Avoid freezing. Keep away from incompatible materials.

For quality reasons:

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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, concrete coated with epoxy, titanium, acid-resistant steel, rubber-coated steel

#### Materials to avoid:

Avoid contact with unalloyed steel or galvanized surfaces., non-acid proof metals (for example aluminium, copper and iron), hypochlorites, chlorites, sulphites, Bases

#### Storage stability:

Storage period 12 Months

Other data Stable under recommended storage conditions.

#### Components with workplace control parameters

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

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Tightly fitting safety goggles or face-shield. Eye wash bottle with pure water

### Information on basic physical and chemical properties

<b>Physical state</b>	liquid,
<b>Colour</b>	colourless, clear
<b>Odour</b>	not significant
<b>pH</b>	ca. 2
<b>Melting point/range</b>	Crystallisation point/range -10 °C
<b>Initial boiling point and boiling range</b>	Boiling point/boiling range 110 - 120 °C
<b>Flash point</b>	Not applicable, inorganic compound
<b>Flammability (solid, gas)</b>	Does not sustain combustion.
<b>Density</b>	1.30 - 1.34 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>Oxidising potential</b>	Not oxidizing
<b>Volatile organic content (VOC)</b>	Not applicable

### Reactivity

Corrosive to metals.

### Chemical stability

Stable under normal conditions.

### Possibility of hazardous reactions

Hazardous reactions: Contact with certain metals may form hydrogen gas, which in turn may form explosive mixtures of gases with air.

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### Conditions to avoid

Conditions to avoid: Avoid temperatures below crystallization range.  
Avoid storage at high temperatures.

### Incompatible materials

Materials to avoid: Avoid contact with unalloyed steel or galvanized surfaces.  
non-acid proof metals (for example aluminium, copper and iron)  
hypochlorites  
chlorites  
sulphites  
Bases

### Hazardous decomposition products

Hazardous decomposition products: Thermal decomposition products:  
Sulphur oxides (SOx)

### Information on toxicological effects

**Acute oral toxicity** **Aluminium sulphate :**  
Conclusion: Not classified as harmful if swallowed.  
/OECD Test Guideline 401/Rat/> 2,000 mg/kg/LD50

**Acute inhalation toxicity** **Aluminium sulphate :**  
LC50/Rat/aerosol: />5 mg/l/OECD Test Guideline 403  
Remarks: No known significant effects or critical hazards.,  
Read-across (Analogy), CAS-No., 39290-78-3

**Acute dermal toxicity** **Aluminium sulphate :**  
LD50/Rabbit/>  
/5,000 mg/kg/OECD Test Guideline 402/no  
Conclusion: Not classified as harmful to health.

**Skin corrosion/irritation**  
Conclusion: Repeated or prolonged skin contact may cause:,  
Skin irritation, dry skin

**Skin corrosion/irritation** **Aluminium sulphate :**  
Rabbit  
Result: No skin irritation  
/OECD Test Guideline 404

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**Serious eye damage/eye irritation**

Conclusion: May cause irreversible eye damage.

**Serious eye damage/eye irritation**

**Aluminium sulphate :**

Rabbit

Result: Severe eye irritation

/OECD Test Guideline 405

Conclusion: May cause irreversible eye damage.

**Respiratory or skin sensitisation**

**Skin sensitisation**

**Aluminium sulphate :**

/Guinea pig/OECD Test Guideline 406

Remarks: Read-across (Analogy), CAS-No., 1327-41-9

Conclusion: Not sensitizing.

**Germ cell mutagenicity**

**Genotoxicity in vitro**

**Aluminium sulphate :**

AMES test/Mutagenicity (Salmonella typhimurium - reverse mutation assay)/with and without

Result: negative

OECD Test Guideline 471

**Aluminium sulphate :**

micronucleus test/In vitro mammalian cells/with and without

Result: negative

OECD Test Guideline 487

**Aluminium sulphate:**

Lymphoma/In vitro gene mutation study in mammalian cells/with and without

Result: negative

OECD Test Guideline 476

**Carcinogenicity**

**Carcinogenicity**

**Aluminium sulphate :**

/Rat/Oral/2 years

Did not show carcinogenic effects in animal experiments.

**Reproductive toxicity**

**Toxicity for reproduction**

**Aluminium sulphate :**

Reproductive effects/Rat/female/Oral/3,225 mg/kg/OECD Test Guideline 452

Remarks: bw/day, Read-across (Analogy), CAS-No., 31142-56-0

Conclusion: Not believed to be toxic for reproduction.



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#### Teratogenicity

##### Aluminium sulphate :

Reproductive effects/Rat/female/Oral/300 mg/kg/OECD Test Guideline 452

Remarks: bw/day, Calculated as AI, Read-across (Analogy), CAS-No., 31142-56-0

##### Aluminium sulphate :

Developmental toxicity test/Rat/male and female/Oral/1,000 mg/kg/1,000 mg/kg/OECD Test Guideline 422

Remarks: bw/day, Read-across (Analogy), CAS-No., 1327-41-9

Conclusion: Not believed to be toxic for reproduction., In animal studies, did not interfere with reproduction.

##### Aluminium sulphate :

/male and female/Oral/90 mg/kg/90 mg/kg/OECD Test Guideline 422

Remarks: bw/day, Calculated as AI, Read-across (Analogy), CAS-No., 1327-41-9

##### Aluminium sulphate :

Rat/Oral/323 mg/kg/3,225 mg/kg/OECD Test Guideline 452

Conclusion: bw/day, Read-across (Analogy), CAS-No., 31142-56-0

##### Aluminium sulphate :

Rat/Oral/30 mg/kg/300 mg/kg/OECD Test Guideline 452

Conclusion: bw/day, Calculated as AI, CAS-No., 31142-56-0, Read-across (Analogy)

#### 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)<sub>3</sub>. At higher pH (pH >8.0), the more soluble Al(OH)<sub>4</sub><sup>-</sup> 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.

##### Aluminium sulphate :

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LC50/96 h/Danio rerio/semi-static test/OECD Test Guideline 203: > 562 mg/l  
NOEC/96 h/Danio rerio/semi-static test/OECD Test Guideline 203: > 562 mg/l  
LC50/96 h/Danio rerio/semi-static test/OECD Test Guideline 203: > 0.247 mg/l  
Calculated as AI Maximum soluble concentration under the test conditions.

EC50/48 h/Daphnia magna (Water flea)/semi-static test/OECD Test Guideline 202: > 90 mg/l  
NOEC/48 h/Daphnia magna (Water flea)/semi-static test/OECD Test Guideline 202: > 90 mg/l  
LC50/48 h/Daphnia magna (Water flea)/OECD Test Guideline 202: > 0.176 mg/l  
Calculated as AI Maximum soluble concentration under the test conditions.

EC50/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 24 mg/l  
EC50/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 3.8 mg/l  
Calculated as AI  
NOEC/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 1.7 mg/l  
NOEC/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 0.27 mg/l  
Calculated as AI

#### Toxicity to other organisms

**Aluminium sulphate :**  
No data available

#### Persistence and degradability

Biological degradability:

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

#### Biological degradability:

**Aluminium sulphate :**

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

#### Bioaccumulative potential

The product is not expected to bioaccumulate.  
Partition coefficient: n-octanol/water: Not applicable, inorganic compound

**Aluminium sulphate :**

The product is not expected to bioaccumulate.  
Partition coefficient: n-octanol/water: Not applicable, inorganic compound

#### Mobility in soil

Water solubility: completely soluble ( 20 °C)

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### Other adverse effects

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

### Product

Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.

### Contaminated packaging

Thoroughly cleaned packaging material may be recycled. Packages that cannot be cleaned must be disposed of the same way as the unused product. Must be disposed of in accordance with local and national regulations.

### UN number

3264

### Land transport

#### DOT:

#### Description of the goods:

UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Aluminium sulphate )

#### Proper shipping name

#### Class:

8

#### Packaging group:

III

#### DOT-Labels

8

#### Reportable quantity

Aluminium sulphate

### Sea transport

#### IMDG:

#### Description of the goods:

UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (ALUMINIUM SULPHATE )

#### UN proper shipping name

#### Class:

8

#### Packaging group:

III

#### IMDG-Labels:

8

#### Environmentally Hazardous

Not a Marine Pollutant

### Air transport

#### ICAO/IATA:

#### Description of the goods:

UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Aluminium sulphate )

#### UN proper shipping name

#### Class:

8



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Packaging group: III

ICAO-Labels: 8

Special precautions for user

## 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;  
Reactivity Hazard: No;  
Sudden Release Of Pressure Hazard: No;

### SARA 313 - Specific Toxic Chemical Listings

None Present ()

### CERCLA Hazardous substance (Reportable Quantities)

Aluminium sulphate (10043-01-3)  
5,000 lb

Aluminium sulphate \* 14 H<sub>2</sub>O (10043-01-3)

### 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

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- 
- 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.
  - : All components of this product are included in the New Zealand inventory (NZIoC) or are not required to be listed on the New Zealand inventory (NZIoC).
  - : This product's Taiwan Toxic Chemical Substances Control Act Inventory status has NOT been determined.

#### HMIS Rating

Health: 3  
Flammability: 0  
Reactivity: 0

#### NFPA Rating

Health: 3  
Fire: 0  
Reactivity: 0

#### Training advice

Read the safety data sheet before using the product.

#### Further information

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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.