

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

Product name
KEMIRA SternPAC

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

There are no uses advised against.

Supplier's details

Kemira Water Solutions, Inc.
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30339 Atlanta USA
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ProductSafety.US.Lakeland@kemira.com

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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.

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 irritation of respiratory tract.

Skin; Causes moderate skin irritation.

Eyes; Causes eye irritation.

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

Chemical nature

Aqueous solution

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.

4. FIRST AID MEASURES**Description of first aid measures****Inhalation**

If breathing is difficult, remove to fresh air and provide oxygen. If not breathing, give artificial respiration. Seek medical attention if cough or other symptoms develop.

Skin contact

Wash off immediately with plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If possible use lukewarm water. Seek medical advice.

Ingestion

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Drink 1 or 2 glasses of water. Obtain medical attention.

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

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

Special hazards arising from the substance or mixture

Not combustible. Thermal decomposition products:
aluminium compounds, Sulphur oxides, hydrogen chloride (HCl)

Special protective actions for fire-fighters

Wear self-contained breathing apparatus and protective suit.

Further information

Cool containers/tanks with water spray.

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

Wear personal protective equipment.

Environmental precautions

Should not be released into the soil, surface water or ground water system. Must be disposed of in accordance with local and national regulations.

Methods and materials for containment and cleaning up

Small amounts:

Absorb with materials such as; Clay. or Neutralize with lime or soda. Collect for subsequent disposal.

Large amounts:

In case of large spillage, contain by damming up. Collect by pump or with suitable inert absorbent material. Neutralize with lime or soda. Flush away traces with water.

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

Avoid contact with skin, eyes and clothing. Wash contact areas after handling.

Conditions for safe storage, including any incompatibilities

Store in original container. Follow all MSDS/label precautions even after container is emptied because they may retain product residues. Store in corrosive resistant stainless steel container with a resistant inner liner. plastic with fiberglass reinforcement or plastic

Keep containers tightly closed in a cool, well-ventilated place.

Materials for packaging

Suitable material: butyl-rubber, plastic

Materials to avoid:

Iron, steel, metals (including their alloys)

Corrodes base metals., Carbon steel, aluminium, carbon, brass, Nylon
mineral acids, Bases, Alkaline materials

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

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

Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location.

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

When there is potential for airborne exposures in excess of applicable limits, wear NIOSH/MSHA approved respiratory protection.

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

Wear suitable protective clothing.

Eye protection

Tightly fitting safety goggles or face-shield.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state , liquid

Colour clear, amber, or, colourless

Odour	slight
pH	2.1 - 3.1
Freezing point :	-12 °C 10.4 °F
Initial boiling point and boiling range	Boiling point/boiling range 102 °C Boiling point/boiling range 215.6 °F
Relative vapour density	1.3
Density	1.18 - 1.28 g/cm ³
Solubility(ies):	
Water solubility	completely soluble
Volatile organic content (VOC)	Not applicable

10. STABILITY AND REACTIVITY

Reactivity

Chemical stability

Possibility of hazardous reactions

Hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid

Conditions to avoid: Stable
Avoid extreme temperatures.

Incompatible materials

Materials to avoid: Iron
steel
metals (including their alloys)

Corrodes base metals.
Carbon steel
aluminium
carbon

brass
Nylon

mineral acids
Bases
Alkaline materials

Hazardous decomposition products

Hazardous decomposition products: Sulphur oxides (SO_x)
Aluminium oxide
Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute oral toxicity	Aluminium chloride hydroxide sulfate: /OECD Test Guideline 401/Rat/2,360 mg/kg/LD50
Acute inhalation toxicity	Aluminium chloride hydroxide sulfate: LC50/Rat/4 h/aerosol: />/5 mg/l/OECD Test Guideline 403
Acute dermal toxicity	Aluminium chloride hydroxide sulfate: LD50/Rat/male and female/> /2,000 mg/kg/OECD Test Guideline 402
Skin corrosion/irritation	Conclusion: Repeated or prolonged skin contact may cause, Skin irritation, dry skin
Skin corrosion/irritation	Aluminium chloride hydroxide sulfate: Rabbit Result: No irritating effects. /OECD Test Guideline 404
Serious eye damage/eye irritation	Conclusion: May cause irreversible eye damage.
Serious eye damage/eye irritation	Aluminium chloride hydroxide sulfate: Rabbit Result: No eye irritation /OECD Test Guideline 405/72 h
Respiratory or skin sensitisation	

Skin sensitisation**Aluminium chloride hydroxide sulfate:**

/Guinea pig

Not sensitizing./OECD Test Guideline 406

Remarks: Read-across (Analogy), CAS-No., 12042-91-0

Germ cell mutagenicity**Genotoxicity in vitro****Aluminium chloride hydroxide sulfate:**

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

Result: negative

OECD Test Guideline 471

Aluminium chloride hydroxide sulfate:

micronucleus test/In vitro mammalian cells/with and without

Result: negative

OECD Test Guideline 487

Remarks: Read-across (Analogy), 1327-41-9

Aluminium chloride hydroxide sulfate:

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

Result: negative

OECD Test Guideline 476

Remarks: Read-across (Analogy), 1327-41-9

Carcinogenicity**Carcinogenicity****Aluminium chloride hydroxide sulfate:**

Not believed to be a carcinogen.

Reproductive toxicity**Toxicity for reproduction****Aluminium chloride hydroxide sulfate:**

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.

Aluminium chloride hydroxide sulfate:

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

Remarks: Read-across (Analogy), 1327-41-9

Conclusion: No known effect.

Teratogenicity
Aluminium chloride hydroxide sulfate:

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

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 (Al³⁺) 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.

Aluminium chloride hydroxide sulfate:

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

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

NOEC/Danio rerio/semi-static test/OECD Test Guideline 203: > 1,000 mg/l

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

LC50/Danio rerio/semi-static test/OECD Test Guideline 203: > 0.156 mg/l

Calculated as Al Maximum soluble concentration under the test conditions.

EC50/48 h/Daphnia magna (Water flea)/OECD Test Guideline 202: 98 mg/l

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

NOEC/Daphnia magna (Water flea)/OECD Test Guideline 202: 24 mg/l

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

EC50/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 14 mg/l

EC50: 3.4 mg/l

Calculated as Al

NOEC/72 h/Pseudokirchneriella subcapitata (green algae)/static test/OECD Test Guideline 201: 1 mg/l

NOEC: 0.24 mg/l

Calculated as Al

Toxicity to other organisms
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:

Aluminium chloride hydroxide sulfate:

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

Bioaccumulative potential

The product is not expected to bioaccumulate.

Aluminium chloride hydroxide sulfate:

The product is not expected to bioaccumulate.

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

Mobility in soil

Water solubility: completely soluble

Other adverse effects

13. DISPOSAL CONSIDERATIONS

Product	Must be disposed of in accordance with local and national regulations.
	EPA Hazardous Waste - NO
Contaminated packaging	Packages that cannot be cleaned must be disposed of the same way as the unused product.

14. TRANSPORT INFORMATION

UN number 3264

Land transport

DOT:

Description of the goods: UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Aluminium chloride hydroxide sulfate)

Proper shipping name

Class: 8

Packaging group: III

DOT-Labels 8

KEMIRA SternPAC

Ref. /US/EN

Revision Date: 02/12/2015

Previous date: 00/00/0000

Print Date:11/02/2015

Sea transport

IMDG:

Description of the goods:

UN proper shipping name

UN3264, CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.
(ALUMINIUM CHLORIDE HYDROXIDE SULFATE)

Class:

8

Packaging group:

III

IMDG-Labels:

8

Air transport

ICAO/IATA:

Description of the goods:

UN proper shipping name

UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Aluminium chloride
hydroxide sulfate)

Class:

8

Packaging group:

III

ICAO-Labels:

8

Special precautions for user

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

None Present ()

There are no WHMIS Ingredient Disclosure Listed components present above the

component's WHMIS Concentration Threshold.

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 : None

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 NOT included 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 NOT included on the Philippine (PICCS) inventory.
- : All components of this product are NOT included 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 NOT included on the New Zealand Inventory of Chemical Substances.
- : This product's Taiwan Toxic Chemical Substances Control Act Inventory status has NOT been determined.

16. OTHER INFORMATION

HMIS Rating

Health: 2

Flammability: 0

Reactivity: 1

NFPA Rating

Health: 2

Fire: 0

Reactivity: 1

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.