1 Identification of substance and company

Product name: Zirconium basic sulfate

Product code: 13733, R5105

Relevant use and restrictions on use: Research and product development

Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com

Emergency information:
CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:

Pictogram(s):

Signal word(s):
Danger

Hazard statements:
H314 Causes severe skin burns and eye damage
H318 Causes serious eye damage

Precautionary statements:
P260 Do not breathe dust or mist
P264 Wash skin thoroughly after handling
P280 Wear protective gloves/protective clothing/eye protection/face protection
P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+340+310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P395+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
P310 Immediately call a POISON CENTER or doctor/physician
P363 Wash contaminated clothing before reuse
P405 Store locked up
P501 Dispose of contents/container to an approved waste disposal plant

GHS Classification:
Skin corrosion - 1B
Serious eye damage - 1

Hazards not otherwise classified: None

HMIS ratings (scale 0-4):
Health hazard: 3
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Zirconium basic sulfate

Designation: ZrO(OH)0.8(SO4)0.6

CAS number: 62010-10-0
EC number: 263-372-5

4 First aid measures

After inhalation: Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact: Wash off with soap and plenty of water. Consult a physician.

After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

After ingestion: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Consult a physician.

Information for doctor:
Show this safety data sheet to the doctor in attendance
**Symptoms/effects; acute and delayed:**
Burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
Causes deep ulcerations and scarring. Destructive to mucous membranes, eyes and skin.

**Immediate medical attention and special treatment needed:**
See above

**5 Fire-fighting measures**

| Suitable and unsuitable extinguishing agents: | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide |
| Special hazards caused by the material, its products of combustion or resulting gases: | Oxides of zirconium and sulfur (SOx) |
| Special fire fighting procedures: | Wear self-contained breathing apparatus (SCBA) and fully protective fire fighting equipment/clothing |
| Unusual fire and explosion hazard: | No data available |

**6 Accidental release measures**

| Person-related safety precautions: | Use personal protective equipment. Avoid dust formation. Avoid breathing dust. |
| Measures for environmental protection: | Do not let product enter drains. Discharge into the environment must be avoided. |
| Measures for cleaning/collecting: | Sweep or scoop up and remove. Place in a suitable container for proper disposal. |
| Additional information: | See Section 7 for information on safe handling |

**7 Handling and storage**

| Information for safe handling: | Avoid contact with skin and eyes. Avoid formation of dust. Use with adequate ventilation. |
| Information about protection against explosions and fires: | Normal measures for preventive fire protection. |
| Storage requirements to be met by storerooms and containers: | Keep container tightly closed in dry and well-ventilated place |
| Incompatibility (avoid contact with): | Strong oxidizers, acids |
| Further information about storage conditions: | No further information available |

**8 Exposure controls/personal protection**

| Ventilation requirements: | Use with adequate ventilation |
| Components with exposure limits that require monitoring: | ACGIH TLV: TWA 5 mg(Zr)/m3 |
| | OSHA PEL: TWA 5 mg(Zr)/m3 |
| Additional information: | No further information available |
| General protective and hygienic measures: | The usual precautionary measures for handling chemicals should be adhered to |
| | Keep away from foodstuffs, beverages and food |
| | Instantly remove any soiled and impregnated garments |
| | Wash hands during breaks and at the end of the work |
| | Avoid contact with the eyes and skin |
| Personal protective equipment: | Filter-dust, fume, mist respirator |
| Respiratory protection: | (Use only NIOSH or CEN approved Equipment) |
| Hand protection: | Impervious gloves |
| Eye protection: | Safety glasses with side-shields and face shield |
| Skin protection: | Protective work clothing |
| Additional protective equipment: | Sufficient to prevent contact. Emergency eyewash and safety shower. |
| Precautionary labeling: | Wash thoroughly after handling |
| | Do not get in eyes, on skin or on clothing |
| | Do not breathe dust, vapor, mist, or gas |

**9 Physical and chemical properties**

| Physical state: | Solid |
| Color: | White |
| Odor: | May have slight acidic odor |
| Odor threshold: | No data available |
| Molecular Weight (Calculated): | 178.46 (anhydrous) |
| pH | No data available |
| Melting point/freezing point/range: | No data available |
| Sublimation temperature/start: | No data available |
| Boiling point/range: | No data available |
| Flammability (solid, gas): | No data available |
| Autoignition temperature: | No data available |
| Danger of explosion: | No data available |
| Flammable limits: | Lower: No data available |
| Upper: No data available |
| Evaporation Rate: | No data available |
| Vapor pressure (mm Hg): | No data available |
| Vapor density: | No data available |
| Specific gravity: | No data available |
| Bulk density: | No data available |
Solubility in/Miscibility with water: Insoluble
Partition coefficient n-octanol/water: No data available
Viscosity: No data available

10 Stability and reactivity
Reactivity: No data available
Chemical stability: Stable
Possibility of hazardous reactions: No data available
Conditions to be avoided: Excessive heat
See section 7 for information on proper handling and storage
Materials to be avoided: Strong acids, oxidizers
Dangerous reactions: No data available
Hazardous decomposition products: Oxides of zirconium and sulfur (SOx)

11 Toxicological information
LD/LC50 values that are relevant for classification: oral-rat LD₅₀: 3500 mg/kg
Irritation or corrosion of skin: No data available
Irritation or corrosion of eyes: No data available
Primary irritant or corrosive effect: on the skin: Causes deep ulcerations and scarring
on the eye: Extremely destructive
Sensitization: No data available
Potential health effects:
Inhalation: See below
Ingestion: See below
Skin: See below
Eyes: See below
Signs and symptoms of exposure: Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Material causes deep ulcerations and scarring. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known
Carcinogenicity: Not listed as a carcinogen with IARC, ACGIH, NTP or OSHA
Additional information: No additional information available

12 Ecotoxicological information
Toxicity to fish: No data available
Toxicity to daphnia and other aquatic invertebrates: No data available
Toxicity to algae: No data available
Persistence and degradability: No data available
Biodegradability: No data available
Bioaccumulative potential: No data available
Bioaccumulation: No data available
Mobility in soil: No data available
Other adverse effects: May be harmful to aquatic organisms due to the shift in pH. Avoid release to the environment.

13 Disposal considerations
Recommendation: Consult state, local or national regulation for proper disposal
Allow professional disposal company to handle waste
Must be specially treated under adherence to official regulations
Unclean packagings recommendation: Disposal must be made according to official regulations

14 Transport information
Proper shipping name: Corrosive solid, n.o.s.
Technical name: Zirconium basic sulfate
DOT Hazard Class: 8
UN Identification number: UN1759
Label(s): Corrosive
Packing group: III
North American Emergency Response Guidebook No.: 171
Air transport ICAO-TI and IATA-DGR:

Proper shipping name: Corrosive solid, n.o.s.
Technical name: Zirconium basic sulfate
DOT Hazard Class: 8
UN Identification number: UN1759
Label(s): Corrosive
Packing group: III
North American Emergency Response Guidebook No.: 171

UPS Ground / FedEx Ground

Proper shipping name: Corrosive solid, n.o.s.
Technical name: Zirconium basic sulfate
DOT Hazard Class: 8
UN Identification number: UN1759
Label(s): Corrosive
Packing group: III
North American Emergency Response Guidebook No.: 171

UPS Air

Proper shipping name: Corrosive solid, n.o.s.
Technical name: Zirconium basic sulfate
DOT Hazard Class: 8
UN Identification number: UN1759
Label(s): Corrosive
Packing group: III
North American Emergency Response Guidebook No.: 171

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPOs: Not subject
SARA Section 311 / 312 hazards: Acute Health Hazard
SARA Section 313 components: Not subject
California Proposition 65 components: Not subject
TSCA: Material is listed on TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control, NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.