



SAFETY DATA SHEET
Ultrox S, Ultrox S+, Ultrox S+K, Ultrox Z+

1. IdentificationProduct identifier

Product name Ultrox S, Ultrox S+, Ultrox S+K, Ultrox Z+
Product number 51415,51451,51451(K),51453

Recommended use of the chemical and restrictions on use

Application Ceramic

Details of the supplier of the safety data sheet**Supplier**

Supplier: Trebol Florida LLC
11400 New Berlin Road
Jacksonville
Florida
32226
USA
Tel. ++1 904 751 2828
Fax ++1 904 751 6828

Emergency telephone number

Emergency telephone ++1 904 607 3011

2. Hazard(s) identificationClassification of the substance or mixture

Physical hazards Not Classified
Health hazards Carc. 1A - H350 STOT RE 1 - H372
Environmental hazards Not Classified

Label elements**Pictogram**

Signal word Danger

Hazard statements H350 May cause cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

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Precautionary statements	<p>P201 Obtain special instructions before use.</p> <p>P260 Do not breathe vapor/spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P308+P313 If exposed or concerned: Get medical advice/attention.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/container in accordance with national regulations.</p>
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Contains Crystalline Silica / Silicon Dioxide

3. Composition/information on ingredients

Mixtures

Zirconium silicate	95 - 100%
CAS number: 14940-68-2	
Classification Not Classified	
Crystalline Silica / Silicon Dioxide	1 - 4%
CAS number: 14808-60-7	
Classification Carc. 1A - H350 STOT RE 1 - H372	

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

Inhalation	Move affected person to fresh air at once.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Keep affected person under observation. Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
Skin Contact	Remove contaminated clothing and rinse skin thoroughly with water.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing. Show this Safety Data Sheet to the medical personnel.

Most important symptoms and effects, both acute and delayed

General information Not available.

Indication of immediate medical attention and special treatment needed

Notes for the doctor No specific recommendations.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	The product is non-combustible. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	None.

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Special hazards arising from the substance or mixture

Specific hazards	None. No unusual fire or explosion hazards noted.
Hazardous combustion products	No known hazardous decomposition products.
<u>Advice for firefighters</u>	
Protective actions during firefighting	No specific firefighting precautions known.
Special protective equipment for firefighters	Use protective equipment appropriate for surrounding materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure suitable respiratory protection is worn during removal of spillages in confined areas. For personal protection, see Section 8.
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Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground.
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Methods and material for containment and cleaning up

Methods for cleaning up	Collect powder using special dust vacuum cleaner with High-Efficiency Particulate Arrestance (HEPA) vacuum filter or carefully sweep into suitable waste disposal containers and seal securely. Wash thoroughly after dealing with a spillage.
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Reference to other sections	For personal protection, see Section 8. For waste disposal, see section 13.
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7. Handling and storage

Precautions for safe handling

Usage precautions	Good personal hygiene procedures should be implemented. Use mechanical ventilation if there is a risk of handling causing formation of airborne dust. Avoid eating, drinking and smoking when using the product.
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Conditions for safe storage, including any incompatibilities

Storage precautions	Store in tightly-closed, original container. Store locked up. Keep container dry.
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Specific end uses(s)

Specific end use(s)	Not known.
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8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

Zirconium silicate

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³

Short-term exposure limit (15-minute): ACGIH 10 mg/m³

Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³

Short-term exposure limit (15-minute): OSHA 10 mg/m³

Crystalline Silica / Silicon Dioxide

Long-term exposure limit (8-hour TWA): ACGIH 0.025 mg/m³ respirable fraction
A2

Long-term exposure limit (8-hour TWA): OSHA 0.05 mg/m³

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ACGIH = American Conference of Governmental Industrial Hygienists.

A2 = Suspected Human Carcinogen.

OSHA = Occupational Safety and Health Administration.

Exposure controls

Appropriate engineering controls	Provide adequate ventilation. Avoid inhalation of dust. Observe any occupational exposure limits for the product or ingredients.
Eye/face protection	Wear tight-fitting, dust-resistant, chemical splash goggles if airborne dust is generated.
Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
Other skin and body protection	No specific recommendations.
Respiratory protection	If respiratory protection is necessary, respirator usage is recommended as follows: A NIOSH-approved tight fit respirator with an organic vapor cartridge and an N, R or P100 filter should be worn, or an air supplied full face respirator or hood should be worn.
Thermal hazards	Not relevant.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Powder.
Color	White/off-white.
Odor	Odorless.
Odor threshold	Not applicable.
pH	pH (concentrated solution): ~ 6.3
Melting point	2550°C
Initial boiling point and range	Not available.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	4.6 g/ml @ °C
Solubility(ies)	Insoluble in water.
Partition coefficient	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not applicable.
Viscosity	Not applicable.
Explosive properties	Not considered to be explosive.
Other information	None.

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10. Stability and reactivity

Reactivity	There are no known reactivity hazards associated with this product.
Stability	No particular stability concerns.
Possibility of hazardous reactions	Not known. Will not polymerize.
Conditions to avoid	There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid	No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Hazardous decomposition products	No known hazardous decomposition products.

11. Toxicological information

Information on toxicological effects

General information	<p>Zirconium Silicate contains small quantities of radioactive isotopes of Uranium and Thorium. The average concentrations in Zirconium Silicate are 300 ppm of Uranium and 180 ppm of Thorium. The radioactivity of Zirconium Silicate is due to its natural radionuclides which are not processed, and which have not been processed, in view of their radioactive, fissile or fertile properties.</p> <p>Work activities involving Zirconium Silicates are regulated under a specific regulation (Council Directive 96/29/EURATOM of 13 May 1996), which is different to that concerning radioactive substances. This Directive, establishes the need to assess the radiation exposure to which workers are or may be exposed. The radiation level established by the International Commission on Radiological Protection (ICRP) sets an annual radiation dose of 1 mSv over which physical surveillance of workers becomes required. This value has been adopted by the Commission of the European Communities.</p> <p>Studies c have concluded that when workers exposure to Zirconium Silicate is continuous (2000 hours per year), the radiation dose may reach 1 mSv over the year.</p>
Inhalation	<p>Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. IARC Classification Group 1: human carcinogenic.</p>
Skin Contact	Skin irritation should not occur when used as recommended.
Eye contact	Particles in the eyes may cause irritation and smarting.
Acute and chronic health hazards	Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Toxicological information on ingredients.

Zirconium silicate

Carcinogenicity

IARC carcinogenicity Not listed.

OSHA Carcinogenicity Not listed.

Crystalline Silica / Silicon Dioxide

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Carcinogenicity

IARC carcinogenicity	IARC Group 1 Carcinogenic to humans.
NTP carcinogenicity	Known human carcinogen.
OSHA Carcinogenicity	Not listed.

12. Ecological Information

Ecotoxicity There are no data on the ecotoxicity of this product. The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

Toxicity

Toxicity Not considered toxic to fish.

Acute toxicity - fish Not available.

Acute toxicity - aquatic invertebrates Not available.

Acute toxicity - aquatic plants Not available.

Acute toxicity - microorganisms Not available.

Acute toxicity - terrestrial Not available.

Persistence and degradability

Persistence and degradability The product is not biodegradable.

Bioaccumulative potential

Bio-Accumulative Potential No data available on bioaccumulation.

Partition coefficient Not applicable.

Mobility in soil

Mobility Not known.

Results of PBT and vPvB assessment

Results of PBT and vPvB assessment Not applicable.

Other adverse effects

Other adverse effects Not available.

13. Disposal considerations

Waste treatment methods

Disposal methods Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).

UN Number

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Not applicable.

UN proper shipping name

Not applicable.

Transport hazard class(es)

No transport warning sign required.

Packing group

Not applicable.

Environmental hazards**Environmentally Hazardous Substance**

No.

Special precautions for user

Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

Regulatory Status Not subject to the provisions of SARA 313 Title III. Not subject to TSCA Export Notification Section 12b.

US Federal Regulations**SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities**

None of the ingredients are listed or exempt.

SARA 313 Emission Reporting

None of the ingredients are listed or exempt.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed or exempt.

US State Regulations**California Proposition 65 Carcinogens and Reproductive Toxins**

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed or exempt.

California Directors List of Hazardous Substances

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

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Massachusetts "Right To Know" List

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

Rhode Island "Right To Know" List

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

Minnesota "Right To Know" List

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

New Jersey "Right To Know" List

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

Pennsylvania "Right To Know" List

The following ingredients are listed or exempt:

Crystalline Silica / Silicon Dioxide

Inventories

EU - EINECS/ELINCS

All the ingredients are listed or exempt.

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None of the ingredients are listed or exempt.

Australia - AICS

All the ingredients are listed or exempt.

Japan - MITI

None of the ingredients are listed or exempt.

Korea - KECI

All the ingredients are listed or exempt.

China - IECSC

All the ingredients are listed or exempt.

Philippines - PICCS

All the ingredients are listed or exempt.

New Zealand - NZIOC

None of the ingredients are listed or exempt.

16. Other information

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Revision date	6/17/2016
Revision	9
Supersedes date	3/23/2016
Hazard statements in full	H350 May cause cancer. H372 Causes damage to organs through prolonged or repeated exposure. H372 Causes damage to organs (Respiratory system, lungs) through prolonged or repeated exposure if inhaled.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.