

## 1- Product and Company Identification

### 1.1 Product identification

<b>Trade name:</b>	<b>ZTA10, ZTA10-BA, ZTA12, ZTA12-BA, ZTA25, ZTA25-BA</b>
<b>Chemical Name:</b>	Zirconia Toughened Alumina
<b>Chemical formula:</b>	ZrO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub>

**1.2 Identified use** Laboratory chemicals, Manufacture of substances

**1.3 Manufacturer/Supplier** Nanoe SAS  
6 rue des Frênes  
91160 Ballainvilliers  
France  
+33 9 81 98 33 64

**1.4 Emergency Number** +33 1 45 42 59 59 (24/24h)

## 2- Hazards identification

### 2.1 Classification

Regulation CLP EC 1272/2008: Not classified

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP] : Not applicable

Precautionary statements:  
P280 Wear protective gloves and clothing  
P284 Wear respiratory protection

### 2.3 Other hazards

Manipulation and/or transformation of this substance could create some dust which could lead to a mechanical irritation of eyes, skin, nose and throat.

## 3- Composition/Data on components

CAS number	EC number	REACH number	Substances	Classification 1272/2008	%
<b>1344-28-1</b>	215-691-6	01-2119529248-35-0348	Aluminium oxide	Not classified	72 – 88
<b>64417-98-7</b>	264-885-7	01-2119486976-14-0083	Zirconium oxide	Not classified	9 – 25
<b>1309-48-4</b>	215-171-9	-	Magnesium oxide	Not classified	0 - 0.1
-	-	-	Organic additives	Not classified	1 - 3
-	-	-	Loss of Ignition	-	2 - 4.5

## 4- First aid measures

### 4.1 Description of first aid measures

- After inhalation** Supply fresh air.  
If required, provide artificial respiration.  
Call a doctor if some symptoms develop.
- After skin contact** Immediately wash with water and soap and rinse thoroughly.
- After swallowing** Rinse mouth with water. Consult immediately a doctor.
- After eye contact** Rinse opened eye for at least 15 minutes under running water.  
Call a doctor in case of irritation.

### 4.2 Principal symptoms

- After inhalation** At concentration superior to the legal exposition limits, the inhalation could lead to irritation of nose, throat and lungs
- After skin contact** No important effect or hazard known.
- After swallowing** No important effect or hazard known.
- After eye contact** At concentration superior to the legal exposition limits, the inhalation could lead to irritation of eyes.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically

## 5- Fire Fighting Measures

### 5.1 Suitable extinguishing agents

All firefighting measures could be used with that product

### 5.2 Special hazards arising from the substance or mixture

Non-combustible, non-explosive

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary

## 6- Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment (see section 8).

### 6.2 Environmental precautions

Do not let product enter drains

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For emergency number see section 1  
 For personal protection see section 8  
 For disposal see section 13

## 7- Handling and storage

### **7.1 Handling precautions**

Use personal protection equipment. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation of places where dust is formed. Wash hands and face before eating, drinking or smoking.

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

Keep containers tightly closed in a dry and well-ventilated place  
 Keep in dry place.

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated

## 8- Exposure controls and personal protection

### **8.1 Control parameters**

Component	Cas-No	Value	Control parameters	Basis
Aluminium oxide	1344-28-1	<b>TWA</b>	<b>10 mg/m<sup>3</sup></b>	<b>France. Threshold Limit Values (TLV) for 8h</b>
Zirconium compounds	7440-67-7	<b>TWA</b>	<b>5 mg/m<sup>3</sup></b>	<b>ACGIH Threshold Limit Values (TLV), OSHA for 8 hours (TWA)</b>
Zirconium compounds	7440-67-7	<b>STEL</b>	<b>10 mg/m<sup>3</sup></b>	<b>ACGIH, OSHA for 15 minutes (STEL)</b>
Magnesium oxide	1309-48-4	<b>VME</b>	<b>10 mg/m<sup>3</sup></b>	<b>France. Threshold Limit Values (TLV)</b>

It could be necessary to do some exams of peoples, atmosphere on the working place in order to determine the efficiency of ventilation and of the respiratory protection

Component	Cas-No	Type	Exposition	Value
Aluminium oxide	1344-28-1	<b>DNEL</b>	<b>Oral short term basis</b>	<b>6.2mg/kg</b>
Aluminium oxide	1344-28-1	<b>DNEL</b>	<b>Inhalation short term basis</b>	<b>15.6 mg/m<sup>3</sup></b>

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday

## Personal protective equipment

### Eye/Face protection

Safety glasses with side-shields conforming to EN166

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Body protection

No specific clothes are required

### Respiratory protection

Use suitable breathing equipment (FFP3 masks)

### Control of environmental exposure

Do not let product enter drains

## 9- Properties of the product

<b>Physical state</b>	<b>Powder</b>
<b>Color</b>	White
<b>Odor</b>	Odorless
<b>Odor threshold</b>	Not applicable
<b>pH</b>	Not applicable
<b>Melting point</b>	2054°C
<b>Boiling point</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Flammability</b>	Fireproof
<b>Upper/lower flammability or explosive limits</b>	No data available
<b>Vapor pressure</b>	Not applicable
<b>Vapor density</b>	No data available
<b>Theoretical Density</b>	4.12 – 4.36 g/cm <sup>3</sup>
<b>Water solubility</b>	Insoluble in water
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	Not applicable
<b>Viscosity</b>	Not applicable
<b>Explosive properties</b>	No data available
<b>Oxidizing properties</b>	No data available

## 10- Stability and reactivity

### **10.1 Reactivity**

No data available

### **10.2 Chemical stability**

Stable

### **10.3 Possibility of hazardous reactions**

In normal conditions of storage and use, no hazardous reactions can happen

### 10.4 Conditions to avoid

No conditions known

### 10.5 Incompatible materials

No incompatible materials

### 10.6 Hazardous decomposition products

In normal conditions of storage and use, no hazardous decomposition products

## 11- Toxicological information

<b>Acute toxicity</b>	<b>Zirconium oxide Oral route DL50 &gt; 5000mg/kg (rat) OECD 401</b> <b>Zirconium oxide Inhalation route CL50 &gt; 4.3 mg/L OECD 436</b>
<b>Inhalation</b>	Not irritating
<b>Dermal</b>	Not irritating
<b>Skin and eyes corrosion/irritation</b>	No significant irritation
Respiratory of skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	Not carcinogen
Reproductive toxicity	Not consider as toxic for reproductive system
Toxicity by inhalation - repeated exposure	Zirconium oxide NOAEC > 100.8 mg/m <sup>3</sup> for 30 days (animal) Zirconium oxide NOAEC > 15.4mg/m <sup>3</sup> for 60 days (animal)
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available

## 12- Ecological information

<b>Toxicity</b>	<b>Aluminium oxide</b> CE50 > 100 mg/l for <i>Selenastrum capricornutum</i> for an exposition of 72h CE50 > 100 mg/l for <i>Daphnia magna</i> for an exposition of 48h CE50 > 100 mg/l for <i>Salmo trutta</i> for an exposition of 96h <b>Zirconium oxide</b> For fish no toxic effect at 100mg/L For aquatic invertebrates no acute effects on <i>Daphnia Magna</i> with an initial charge of 100mg/L For algae and cyanobacteria significative effect on <i>Scenedesmus subspicatus</i> growing (measured after 72h of maximal charge of 100mg/L). For land plants no adverse effect
<b>Persistence and degradability</b>	No data available
<b>Bio accumulative potential</b>	No data available
<b>Mobility in soil</b>	No data available
<b>Results of PBT and vPvB assessment</b>	Not applicable
<b>Other adverse effects</b>	No hazard known

## 13- Disposal considerations

### Waste treatment methods

#### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### **Contaminated packaging**

Dispose of as unused product

## 14- Transportation information

DOT (US) / IMDG / IATA / ADR / RID not dangerous goods

## 15- Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Not applicable

### 15.2 Chemical Safety Assessment

This product contains substances still needing an evaluation of chemical risk

## 16- Other Information

**Full text of H-statements referred to under sections 2 and 3. Not applicable**

### **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. Nanoe shall not be held liable for any damage resulting from handling or from contact with the above product.