

1- Product and Company Identification

1.1 Product identification

Trade name:	ATZ70/30, ATZ70/30-BA, ATZ80/20, ATZ80/20-BA, ATZ90/10, ATZ90/10-BA
Chemical Name:	Alumina Toughened Zirconia
Chemical formula:	ZrO ₂ -Al ₂ O ₃

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	%
1344-28-1	215-691-6	01-2119529248-35-0348	Aluminium oxide	Not classified	9 – 30
64417-98-7	264-885-7	01-2119486976-14-0083	Zirconium oxide	Not classified	68 – 89
1309-48-4	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 eat, drink or smoke.

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	TWA	10 mg/m³	France. Threshold Limit Values (TLV) for 8h
Zirconium compounds	7440-67-7	TWA	5 mg/m³	ACGIH Threshold Limit Values (TLV), OSHA for 8 hours (TWA)
Zirconium compounds	7440-67-7	STEL	10 mg/m³	ACGIH, OSHA for 15 minutes (STEL)
Magnesium oxide	1309-48-4	VME	10 mg/m³	France. Threshold Limit Values (TLV)

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	DNEL	Oral short term basis	6.2mg/kg
Aluminium oxide	1344-28-1	DNEL	Inhalation short term basis	15.6 mg/m³

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

Physical state	Powder
Color	White
Odor	Odorless
Odor threshold	Not applicable
pH	Not applicable
Melting point	2054°C
Boiling point	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Fireproof
Upper/lower flammability or explosive limits	No data available
Vapor pressure	Not applicable
Vapor density	No data available
Theoretical Density	5.25 – 5.78 g/cm ³
Water solubility	Insoluble in water
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	Not applicable
Viscosity	Not applicable
Explosive properties	No data available
Oxidizing properties	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

Acute toxicity	Zirconium oxide: Oral route: DL50 > 5000mg/kg (rat) OECD 401 Zirconium oxide: Inhalation route: CL50 > 4.3 mg/L OECD 436
Inhalation	Not irritating
Dermal	Not irritating
Skin and eyes corrosion/irritation	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 ³ for 30 days (animal) Zirconium oxide: NOAEC > 15.4mg/m ³ for 60 days (animal)
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available

12- Ecological information

Toxicity	Aluminium oxide: 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 Zirconium oxide: 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
Persistence and degradability	No data available
Bio accumulative potential	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	Not applicable
Other adverse effects	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.