

# OTTO CHEMIE PVT LTD

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ISO 9001: 2015

## MATERIAL SAFETY DATA SHEET

### 1 Identification

1.1 GHS Product identifier  
Zirconium oxide nanopowder, APS 20 nm, 99%  
Code: ZO 115

### 2. Hazard identification

2.1 Classification of the substance or mixture  
Not classified.  
2.2 GHS label elements, including precautionary statements  
Pictogram(s) No symbol.  
Signal word No signal word.  
Hazard statement(s) none  
Precautionary statement(s)  
Prevention none  
Response none  
Storage none  
Disposal none  
2.3 Other hazards which do not result in classification  
none

### 3. Composition/information on ingredients

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Zirconium dioxide	Zirconium dioxide	1314-23-4	none	100%

### 4. First-aid measures

4.1 Description of necessary first-aid measures  
General advice  
Consult a physician. Show this safety data sheet to the doctor in attendance.  
If inhaled  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  
In case of skin contact  
Wash off with soap and plenty of water. Consult a physician.  
In case of eye contact  
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.  
If swallowed  
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.  
4.2 Most important symptoms/effects, acute and delayed  
no data available  
4.3 Indication of immediate medical attention and special treatment needed, if necessary  
no data available

### 5. Fire-fighting measures

5.1 Extinguishing media  
Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  
5.2 Specific hazards arising from the chemical  
no data available  
5.3 Special protective actions for fire-fighters  
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. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.  
Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.  
6.2 Environmental precautions  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.  
6.3 Methods and materials for containment and cleaning up  
Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

### 8.2 Appropriate engineering controls

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

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

## 9. Physical and chemical properties

Physical state

White Bead

Colour

no data available

Odour

no data available

Melting point/ freezing point

2700\°C

Boiling point or initial boiling point and boiling range

5000\°C(lit.)

Flammability

no data available

Lower and upper explosion limit / flammability limit

no data available

Flash point

5000\°C

Auto-ignition temperature

no data available

Decomposition temperature

no data available

pH

no data available

Kinematic viscosity

no data available

Solubility

In water:insoluble

Partition coefficient n-octanol/water (log value)

no data available

Vapour pressure

no data available

Density and/or relative density

5.89g/mL at 25\°C(lit.)

Relative vapour density

no data available

Particle characteristics

no data available

## 10. Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available



## 15.Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Zirconium dioxide	Zirconium dioxide	1314-23-4	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

## Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

