

# Zn(Zinc) Nanoparticle high purity, 99.995+%, 60-70 nm

## SAFTY DATA SHEET

Revised Date 07/12/2017

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name: Zn(Zinc) Nanoparticle high purity, 99.995+%, 60-70 nm

Product Number : NG04EO2403

Zinc (CAS# 7440-66-6)

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Research

#### 1.3 Details of the supplier of the safety data sheet

Company: Nanografi Nanotechnology

ODTÜ Teknokent İkizler Binası B-1/H

ODTÜ Teknokent 06531- ANKARA

Telephone: +90 312 285 85 09

Fax: +90 312 210 13 09

#### 1.4 Emergency telephone number

Emergency Phone # : +90 312 285 85 09

### 2 HAZARDS IDENTIFICATION

#### Hazard description

F Highly flammable

#### Information pertaining to particular dangers for man and environment

R 15 Contact with water liberates extremely flammable gases.

R 17 Spontaneously flammable in air.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Zn(Zinc) Nanoparticle high purity, 99.995+%, 60-70 nm  
zinc (CAS# 7440-66-6)

### 4. FIRST AID MEASURES

#### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.

#### After skin contact

Immediately wash with water and soap and rinse thoroughly.  
Seek immediate medical advice.

#### After eye contact

Rinse opened eye for several minutes under running water.

#### Then consult a doctor.

After swallowing Seek medical treatment.

### 5. FIREFIGHTING MEASURES

#### Suitable extinguishing agents

Special powder for metal fires.  
Do not use water.  
Limestone powder  
Dry sand

#### Protective equipment:

Wear self-contained respirator.  
Wear fully protective impervious suit

### 6. ACCIDENTAL RELEASE MEASURES

#### Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

#### Measures for environmental protection:

Do not allow material to be released to the environment.

#### Measures for cleaning/collecting:

Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents Keep away from ignition sources.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information..

## 7. HANDLING AND STORAGE

### Handling

**Information for safe handling:**

Keep container tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:**

The product is not flammable

### Storage

**Requirements to be met by storerooms and receptacles:**

No special requirements.

**Information about storage in one common storage facility:**

Do not store together with acids.

**Further information about storage conditions:**

Protect from humidity and water. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers.

## 8 EXPOSURE CONTROL AND PERSONEL PROTECTION

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with limit values that require monitoring at the workplace:**

Not required.

**Additional information:** No data

### Personal protective equipment

### Breathing equipment:

Use suitable respirator when high concentrations are

present.

**Protection of hands:** Impervious gloves

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing

**General protective and hygienic measures**

1. The usual precautionary measures for handling chemicals should be followed.
2. Keep away from foodstuffs, beverages and feed.
3. Remove all soiled and contaminated clothing immediately.
4. Wash hands before breaks and at the end of work.
5. Avoid contact with the eyes.
6. Avoid contact with the eyes and skin.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### General Information

**Form:** Powder

**Color:** Black

**Odor:** Odorless

**Value/Range Unit Method**

**Change in condition**

**Melting point/Melting range:** 419,5 ° C

**Boiling point/Boiling range:** 907 ° C

**Sublimation temperature / start:** Not determined

**Flash point:** Not applicable

**Flammability (solid, gaseous):** Product is not flammable.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Danger of explosion:**

Product does not present an explosion hazard.

**Explosion limits:**

**Lower:** Not determined

**Upper:** Not determined

**Vapor pressure:** Not determined

**Density:** at 20 ° C 7.133 g/cm<sup>3</sup>

**Solubility in / Miscibility with**

**Water:** Insoluble

Not determined

## 10 STABILITY AND REACTIVITY

**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:**

Amines Water/moisture

Acids

Oxidizing agents Bases

Acid chlorides

**Dangerous reactions:** No dangerous reactions known

**Dangerous products of decomposition:** No dangerous decomposition products known

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:**

**Oral: LD50: >5000 mg/kg (rat)**

**Primary irritant effect:**

**On the skin:** Irritant to skin and mucous membranes.

**On the eye:** Powder: irritant effect

**Sensitization:** No sensitizing effects known.

**Subacute to chronic toxicity:**

Zinc containing fumes may cause metal fume fever. Effects include dry throat, metallic taste, chest pain, dyspnea, rales and dry cough. Several hours later, chills may occur with lassitude, malaise, fatigue, headache, back pain, muscle cramps, blurred vision, nausea, fever, perspiration, vomiting and leukocytosis.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

## 12 ECOLOGICAL INFORMATION

**General notes:**

Do not allow this material to be released to the environment without proper governmental perm

## 13 DISPOSAL CONSIDERATION

**Product:**

**Recommendation:**

Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:**

Disposal must be made according to official regulations.

## 14 TRANSPORT INFORMATION

Not a hazardous material for transportation.

**DOT regulations:**

**Hazard class:** 4,3

**Land transport ADR/RID (cross-border)**

**ADR/RID class:** None

**Maritime transport IMDG:**

**IMDG Class:** None

**Air transport ICAO-TI and IATA-DGR:**

**ICAO/IATA Class:** None

**Transport/Additional information:** Not dangerous according to the above specifications.

## 15. REGULATIONS

### **Product related hazard information:**

Observe the general safety regulations when handling chemicals.

Hazard symbols: F Highly flammable

Risk phrases:

15 Contact with water liberates extremely flammable gases.

17 Spontaneously flammable in air.

Safety phrases:

2 Keep out of the reach of children.

7/8 Keep container tightly closed and dry.

43 In case of fire, use metallic extinguishing powder.

Never use water.

### **National regulations:**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.

### **Information about limitation of use:**

For use only by technically qualified individuals.

## 16 OTHER INFORMATION

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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