



# Zincol Ossidi S.p.A.

Factory of Vado Ligure

## SAFETY DATA SHEET

Conform to Regulation UE 453/2010

Date of issue: 28/06/2017 (Rev. 13)

### ZINC OXIDE



#### 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

<b>PRODUCT IDENTIFICATION</b>	
<b>PRODUCT NAME:</b>	Zinc Oxide
<b>PRODUCT CODE:</b>	Cas number: 1314-13-2, REACH registration number : 01-2119463881-32-xxxx
<b>COMMON NAME, COMMERCIAL NAME AND SYNONYMS</b>	Zinc Oxide - Green Seal, Zinc Oxide - Gold Seal, Zinc Oxide - Commercial Seal, Zinc Oxide - Pink Seal, Zinc Oxide - Violet Seal, Zinc Oxide - Pharma Seal, Zinc Oxide - Tricolor Seal, Zinc Oxide - Orange Seal
<b>RELEVANT IDENTIFIED USES OF THE SUBSTANCE AND RECOMMENDED USES:</b>	Chemical reagent or raw material for production of rubber (catalyst) and tires, vulcanization or polymerization processes, ceramics, intermediate, paint (pigments, paints anti-corrosive and anti-fouling), glass, chemicals, zinc (basic chemical for the production of organic and inorganic), basic substance for the production of additives for lubricants and fuels, plastics, animal feed (trace elements in trace amounts), a component of fertilizers, agents, plating and metal surface treatment, polymers, electronics (basic component for varistors and Ferrites), a component in batteries, catalysts, pharmaceuticals (APIs) and cosmetics (UV filters), semiconductor, photosensitive agent and photochemical substances, corrosion inhibitors and anti-scaling agents
<b>DETAILS OF THE SUPPLIER OF SAFETY DATA SHEET:</b>	
<b>MANUFACTURER:</b>	Zincol Ossidi S.p.A. Factory address: via Leopardi 1 17047 Vado Ligure (SV) Italy Tel: 0039 19 880126 Fax: 0039 19880063 zincox@zincolossidi.it
<b>EMERGENCY TELEPHONE NUMBER:</b>	Tel.: 0039 19 880126 (only in office hours) Tel.: 0039 2 66101029 Poison Center Niguarda (MI)

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## 2. HAZARDS IDENTIFICATION

<b>CLASSIFICATION OF SUBSTANCE:</b>	Classification according to Regulation (EC) No 1272/2008 hazard pictograms:  GHS09 environment WARNING H400– Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects Acute toxicity to the aquatic environment Cat.1 Chronic toxicity to the aquatic environment Cat.1
<b>LABEL ELEMENTS:</b>	Labelling according to Regulation (EC) No 1272/2008:  GHS09 environment WARNING Notice: warning Hazards indications: H410 - Very toxic to aquatic life with long lasting effects Safety advice: P273 – avoid release to the environment P391 – collect spillage P501 – dispose of contents/container in accordance with local/regional/national/international regulations
<b>OTHER HAZARDS</b>	
<b>CRITERIA FOR PBT E vPvB</b>	Accordino to Regulation 1907/2006 Annex XIII,substance meets the criteria for PBT No Accordino to Regulation 1907/2006 Annex XIII,substance meets the criteria for vPvB No

For more detailed information about effects on health and symptoms, see Section 11

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## 3. COMPOSITION/INGREDIENT INFORMATION

<b>SUBSTANCE:</b>	Substance
<b>CHEMICAL FORMULATION:</b>	ZnO

<b>COMPONENT NAME:</b>	<b>CAS NUMBER</b>	<b>%</b>	<b>CE NUMBER (EINECS)</b>
ZINC OXIDE	1314-13-2	90-100	215-222-5

Occupational exposure limits are listed in Section 8 - The complete text of the hazard indications H is in the Section 16

## 4. FIRST AID MEASURES

<b>FIRST AID MEASURES DESCRIPTION</b>	
<b>INHALATION:</b>	Take away from exposure source and let breath fresh air. Call a surgery, if problems are evidenced.
<b>SWALLOWING:</b>	Wash the mouth with clean water. Drink a lot of water. Do not induce vomiting. Call asurgery, if problems are evidenced.
<b>SKIN CONTACT::</b>	Wash the skin immediately with plenty water. Wash the cloths, before re-wearing. Call asurgery, if irritation occurs.
<b>EYE CONTACT::</b>	Wash eyes immediately with plenty water for at least 15 minutes. Call a surgery, if problemsare evidenced.
<b>EFFECTS AND SYMPTOMS:</b>	No specific effect and/or symptom is known.
<b>STATEMENT OF THE NEED TO CONSULT A MEDIC IMMEDIATELY OR SPECIAL CURE</b>	There are no such situations that require immediate medical consultation. However, in case of symptoms after contact with the substance, you should consult a medic

## 5. FIRE-FIGHTING MEASURES

<b>EXTINGUISHING DEVICES::</b>	Not combustible. Apply an extinguishing substance suitable for delimited fires.
<b>SPECIAL HAZARDS ARISING FROM SUBSTANCE</b>	No danger of the substance because it is not classified as flammable.
<b>RECOMMENDATIONS FOR FIRE- EXTINGUISHING PERSONNEL</b>	
<b>SPECIAL FIRE-FIGHTING MEASURES:</b>	Dike water used to extinguish the fire, which is contaminated by this substance, and avoid itreaching watercourses, waste water piping or discharge piping.
<b>PROTECTIVE MEASURES FOR FIRE-EXTINGUISHING PERSONNEL:</b>	Use a self-breathing device, with face protection mask. Wear proper protective cloths.

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## 6. MEASURES IN CASE OF ACCIDENTAL SPREADING

<b>PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND PROCEDURES IN CASE OF EMERGENCY</b>	Wear proper protective clothing as described in Section 8. Avoid generating dust. Vacuum up and collect spilled material in appropriate container
<b>ENVIRONMENTAL PREVENTIVEMEASURES:</b>	Avoid spreading. Avoid letting the product reach watercourses, waste water piping, or watersupply piping. Avoid ground contamination.
<b>CLEANING MEASURES:</b>	Suction and collect the spread out material into suitable containers. Avoid generating dust.
<b>REFERENCES TO OTHER SECTIONS</b>	See section 8 for informations about personal protective equipment and section 13 for waste disposal


## 7. HANDLING AND STORAGE

<b>HANDLING:</b>	Avoid Exposure. Apply suitable protective measures. Avoid generating dust. Do not eat, drink or smoke in areas where the material is handled, stored and processed. Remove contaminated clothing and protective equipment before entering areas where you eat.
<b>STORAGE:</b>	Keep the product stored in dry, ventilated room, inside closed containers. Store away from acids and bases.
<b>PACKAGING MATERIALS:</b>	Store inside the original containers.

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## 8. PERSONAL PROTECTION/EXPOSURE CONTROL

<b>EXPOSURE LIMIT VALUES:</b>	No occupancy safety limits are known – Italy List exposure limits adopted in the workplace (WELS) / EH40 total respirable dust: TWA 10 mg/m <sup>3</sup> respirable dust: TWA 4 mg/m <sup>3</sup>
<b>EXPOSURE CONTROL</b>	
<b>APPROPRIATE TECHNICAL CONTROLS</b>	Cleaning of equipment and work equipment. Storage of the substance in dedicated areas.
<b>PROFESSIONAL EXPOSURE CONTROL</b>	Adopt a sufficient general aerating system. Eating, drinking and smoking are prohibited in the material handling, storing, or treatment areas.
<b>BREATHING PROTECTION:</b>	No specific protective measures are suggested, but in exceptional cases, that is when high atmospheric pollution occurs, they can be required. In this case, wear a mask provided with dust filter P2.
<b>HAND PROTECTION:</b>	Wear suitable protective gloves, of leather, cotton, rubber, to avoid risks of skin contact.
<b>EYE PROTECTION:</b>	Wear safety glasses, where eye exposure is reasonably possible.
<b>SKIN PROTECTION:</b>	Wear suitable work cloths.
<b>PROTECTIVE EQUIPMENT</b>	
<b>ENVIRONMENTAL EXPOSURE CONTROL</b>	According to the quantity stored the substance is subject to the Seveso Directive (Italy - D. Lgs. 334/99 and subsequent amendments).

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>GENERAL INFORMATION</b>	
<b>PHYSICAL STATE:</b>	Solid (powder or granules)
<b>COLOUR:</b>	white
<b>ODOUR:</b>	Neutral
<b>pH:</b>	7-8 (suspension, water) ISO 787/9
<b>MELTING POINT:</b>	1970 – 1975 °C

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<b>BOILING POINT:</b>	Not applicable
<b>FLAMMABILITY POINT:</b>	Not applicable
<b>FLAMMABILITY:</b>	Not applicable
<b>EVAPORATION RATE</b>	Not applicable
<b>FLAMMABILITY LIMITS AND EXPLOSION LIMITS</b>	Not applicable
<b>VAPOR PRESSURE</b>	Not applicable if the melting point is above 300 ° C (column 2 of Annex VII of REACH)
<b>VAPOR DENSITY</b>	Not applicable
<b>RELATIVE DENSITY:</b>	5.68 g/cm <sup>3</sup>
<b>SOLUBILITY IN WATER::</b>	2.9 mg/l
<b>OCTANOL/WATER PARTITION COEFFICIENT:</b>	Not applicable to inorganic substances(column 2 of Annex VII of REACH)
<b>AUTOIGNITION TEMPERATURE</b>	The substance is not auto-flammable
<b>DECOMPOSITION TEMPERATURE</b>	Not applicable
<b>VISCOSITY</b>	Not applicable
<b>EXPLOSION CHARACTERISTICS:</b>	Zinc oxide has no properties of flammability, explosive or self-ignition
<b>GRADATION</b>	D <sub>50</sub> of ZnO is 1,05 micron, D <sub>80</sub> is < 20 micron

<b>OTHER INFORMATION</b>	
<b>MOLE WEIGHT (AT WT):</b>	81.38 g/mol
<b>SPECIFIC GRAVITY (water=1):</b>	5.6 a 20°C

## 10. STABILITY AND REACTIVITY

<b>REACTIVITY:</b>	No reactivity in normal conditions
<b>CHEMICAL STABILITY:</b>	Stabile in normal conditions
<b>POSSIBILITY OF HAZARDOUS REACTIONS:</b>	No possibility of hazardous reactions if stored away from acids and bases.
<b>CONDITIONS TO AVOID</b>	Avoid contact with acids and bases
<b>MATERIALS TO BE AVOIDED:</b>	Acids and bases
<b>DANGEROUS DECOMPOSITION PRODUCTS:</b>	No dangerous decomposition product

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## 11. TOXICOLOGICAL INFORMATION

<b>INFORMATIONS ON TOXICOLOGICAL EFFECTS:</b>	
<b>MOOUTH – ACUTE TOXICITY:</b>	LD <sub>50</sub> (rat) > 15000 mg ZnO/kg - Löser (1972)
<b>SKIN TOXICITY - ACUTE:</b>	Not available
<b>INHALATION TOXICITY - ACUTE:</b>	LC <sub>50</sub> (rat - 4 hours) - >5.7 mg ZnO/l - Klimisch et al. 1982, not determine the classification of acute toxicity by inhalation
<b>SKIN IRRITATION:</b>	Not irritating (Löser, 1977; Lansdown, 1991)
<b>EYE IRRITATION:</b>	Not irritating (Van Huygevoort, 1999e; Thijssen,1978; Löser,1977)
<b>SENSIBILITY:</b>	No sensibility potential is known (Van Huygevoort, 1999 g,h)
<b>MUTAGENICITY OF GERMINAL CELL</b>	No biologically significant genotoxic activity (Chemical Safety Report (CSR))
<b>CARCINOGENICITY:</b>	No conclusive evidence for carcinogenic activity. (Chemical Safety Report (CSR))
<b>REPRODUCTION TOXICITY:</b>	No experimental / epidemiological evidence that justifies the classification for toxicity of reproduction or development (Chemical Safety Report (CSR))
<b>SPECIFIC TOXICITY FOR TARGET ORGAN (STOT)-SINGLE EXPOSURE</b>	No experimental / epidemiological evidence sufficient for specific toxicity for target organ - Single exposure. (Heydon and Kagan, 1990, Gordon et al, 1992, Mueller and Seger. 1985 [Chemical Safety Report (CSR)])
<b>SPECIFIC TOXICITY FOR TARGET ORGAN (STOT)- REPEATED EXPOSURE</b>	No experimental / epidemiological evidence sufficient for specific toxicity for target organ - Repeated exposure (Lam et al, 1985, 1988; Conner et al, 1988[Chemical Safety Report (CSR)])
<b>DANGER IN CASE OF INHALATION</b>	Not applicable

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## 12. ENVIRONMENTAL INFORMATION

<b>TOXICITY:</b>	
<b>ACUTE AQUATIC TOXICITY:</b>	EC50: x pH < 7: 0.83 mgZnO/l (48 hours - Ceriodaphnia dubia test: (EPA 821-R-02-012), (Hyne et al 2005). EC50: x pH > 7-8.5: 0.27 mgZnO/l (Selenastrum capricornutum test: (OECD201), (Van Ginneken, 1994).
<b>CHRONIC AQUATIC TOXICITY:</b>	Fresh water: 20.6 µg/L, salt water: 6.1 µg/l.
<b>SEDIMENTS TOXICITY</b>	Dry sediment of fresh water: 235.6 mg/kg, dry sediment of salt water: 113 mg/kg
<b>SOIL TOXICITY</b>	106.8 mg/kg weight dry soil
<b>MICRO-ORGANISMS IN STP TOXICITY</b>	52 µg/l
<b>PERSISTENCE/DEGRADABILITY</b>	Not applicable to inorganic substances
<b>BIO-ACCUMULATION POTENTIAL:</b>	Not applicable
<b>SOIL MOBILITY:</b>	Partition coefficient soil / water: 158.5 l/kg
<b>RESULTS OF PBE AND vPvB VALUTATION</b>	Substance IS not PBT or vPvB

## 13. REMARKS FOR DISPOSAL









<b>DISPOSAL PROCEDURES:</b>	Avoid or minimize production of wastes. Take back, re-treat, re-cycle, whenever possible. To be disposed according to environmental law prescriptions and directives of Local Authorities.
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## 14. TRANSPORT INFORMATION

LAND: Road/Railway	UN NUMBER	Transport Name	Class	Package Group	labels	Other Information
ADR/RID Classification	UN3077	Environmentally hazardous substance, solid, n.o.s. (zinc oxide)	9	III	 	Danger Identification Number 90  Quantity Limit 5 kg
WATER COURSES: Navigable channels	UN NUMBER	Transport Name	Class	Package Group	labels	Other Information
ADN Classification	UN3077	Environmentally hazardous substance, solid, n.o.s. (zinc oxide)	9	III	 	-
SEA:	UN NUMBER	Transport Name	Class	Package Group	labels	Other Information
IMO/IMDG Classification	UN3077	Environmentally hazardous substance, solid, n.o.s. (zinc oxide)	9	III	 	Marine pollutant : Si (P) EMS Number: F-A, S-F.
AIR:	UN NUMBER	Transport Name	Class	Package Group	labels	Other Information
ICAO/ IATA Classification	UN3077	Environmentally hazardous substance, solid, n.o.s. (zinc oxide)	9	III	 	

See sections 7 and 8 for information on precautions for the users.

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## 15. REGULATORY INFORMATION

<b>SPECIFIC LEGISLATION ON HEALTH, SAFETY AND ENVIRONMENT FOR SUBSTANCE:</b>	There are no known additional national regulations. According to the quantity stored, substance is subject to the Seveso Directive (Italy - D. Lgs. 334/99 and subsequent amendments).
<b>REPORT ON CHEMICAL SAFETY:</b>	Chemical Safety Report (CSR) was developed in REACH Consortium Zinc (IZA-Europe), according to the requirements of the REACH Regulation (EC) No 1907/2006 for the registration of the product

## 16. OTHER INFORMATION

<b>LIST OF RELEVANT R-PHRASES / DANGER INDICATIONS / CAUTIONS:</b>	Reg. (CE) 1272/2008: H400– Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects Notice: warning
<b>HISTORY</b>	
<b>Preliminary submission number, Registration, REACH (CE) n. 1907/2006</b>	DD9319xx-xx
<b>DATE OF ISSUE:</b>	28/06/2017 (Rev. 13)
<b>VERSION:</b>	
<b>DATE OF PREVIOUS ISSUES:</b>	30/06/2016 (Rev. 12)

This Safety Sheet has been adapted to the REACH Regulation (EC) n. 1907/2006 and to ADR 2009.

Information of this Safety Sheet is precise and reliable according to the state of the art as per the publication date. They shall be taken as safety directive for use, handling, disposal, storage, and transport, and cannot be considered as warranty and specification.

The user is responsible for making sure about suitability of the information for the special use foreseen for the material.