



**SAFETY DATA SHEET**
Zinc Oxide**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

1.1 PRODUCT IDENTIFIER																					
PRODUCT NAME	Zinc Oxide - Any grades.																				
PRODUCT CODE	CAS number: 1314-13-2. EC number: 215-222-5. Index number: 030-013-00-7 Registration number: 01-2119463881-32-0078.																				
COMMON, COMMERCIAL NAME, SYNONYMS	Zinc Oxide - Green Seal, Zinc Oxide - Gold Seal, Zinc Oxide - Silver Seal, Zinc Oxide - Red Seal, Zinc Oxide - Commercial Seal.																				
1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST	Chemical reagent or raw material for production of: rubber compounding (activator) and tires, vulcanization or polymerization processes, ceramics, paints (pigment, anti-corrosive and anti-fouling paints), glass, zinc chemicals production (basic chemical for production of organic and inorganic compounds), basic compound for production of additives in lubricants and fuel and fuels, plastics, animal feed (trace element compound), component of fertilizers, plating agents and metal surface treatment, polymers, electronics (basic component for varistors and ferrites), component in batteries, catalysts, pharmaceuticals (API) and cosmetics (UV-absorber) substances, semiconductors, photosensitive agents and photo-chemicals substances, corrosion inhibitors and anti-scaling agents.																				
1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET																					
MANUFACTURER	A-ESSE S.p.A. Via Conturli, 33 16042 Carasco GE - ITALY Phone company numbers: 0039 185 350177 - 8 (from Mond. to Wedn. from 8.00 am, to 6.00 pm) Fax number: 0039 185 350863 Phone handler numbers: 0039 348 5831754 (h.24) e-mail: ufficiotecnico@a-esse.com - http://www.a-esse.com																				
1.4 EMERGENCY TELEPHONE NUMBER	<table border="1"><tr><td>Tel.: 0039 06 49978000</td><td>Hospital: Centro Antiveleni Azienda ospedaliera universitaria Policlinico Umberto (Roma) - h.24</td></tr><tr><td>Tel.: 0039 06 3054343</td><td>Hospital: Centro Antiveleni Policlinico A. Gemelli (Roma) - h.24</td></tr><tr><td>Tel.: 0039 06 68593726</td><td>Hospital: Centro Antiveleno Ospedale Pediatrico Bambino Gesù (Roma) - h.24</td></tr><tr><td>Tel.: 0039 0382 24444</td><td>Hospital: Centro Antiveleni Fondazione S. Maugeri (Pavia) - h.24</td></tr><tr><td>Tel.: 0039 02 66101029</td><td>Hospital: Centro Antiveleni Ospedale Niguarda Cà Grande (Milano) - h.24</td></tr><tr><td>Tel.: 0039 800 883300</td><td>Hospital: Centro Antiveleni Azienda Ospedaliera Papa Giovanni XXIII (Bergamo) - h.24</td></tr><tr><td>Tel.: 0039 055 7947819</td><td>Hospital: Centro Antiveleni Azienda Ospedaliera "Careggi" U.O. Tossicologia Medica (Firenze) - h.24</td></tr><tr><td>Tel.: 0039 081 5453333</td><td>Hospital: Centro Antiveleni Azienda Ospedaliera A. Cardarelli (Napoli) - h.24</td></tr><tr><td>Tel.: 800183459</td><td>Hospital: Centro Antiveleni Azienda Ospedaliera Università di Foggia (Foggia) - h.24</td></tr><tr><td>Tel.: 800 011858</td><td>Hospital: Centro Antiveleni Veneto (Verona) - h.24</td></tr></table>	Tel.: 0039 06 49978000	Hospital: Centro Antiveleni Azienda ospedaliera universitaria Policlinico Umberto (Roma) - h.24	Tel.: 0039 06 3054343	Hospital: Centro Antiveleni Policlinico A. Gemelli (Roma) - h.24	Tel.: 0039 06 68593726	Hospital: Centro Antiveleno Ospedale Pediatrico Bambino Gesù (Roma) - h.24	Tel.: 0039 0382 24444	Hospital: Centro Antiveleni Fondazione S. Maugeri (Pavia) - h.24	Tel.: 0039 02 66101029	Hospital: Centro Antiveleni Ospedale Niguarda Cà Grande (Milano) - h.24	Tel.: 0039 800 883300	Hospital: Centro Antiveleni Azienda Ospedaliera Papa Giovanni XXIII (Bergamo) - h.24	Tel.: 0039 055 7947819	Hospital: Centro Antiveleni Azienda Ospedaliera "Careggi" U.O. Tossicologia Medica (Firenze) - h.24	Tel.: 0039 081 5453333	Hospital: Centro Antiveleni Azienda Ospedaliera A. Cardarelli (Napoli) - h.24	Tel.: 800183459	Hospital: Centro Antiveleni Azienda Ospedaliera Università di Foggia (Foggia) - h.24	Tel.: 800 011858	Hospital: Centro Antiveleni Veneto (Verona) - h.24
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2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE	<p>Classification according to Regulation (EC) n. 1272/2008 (CLP/GHS)</p> <p>Hazard pictogram:</p>  <p>GHS09: environment</p> <p>Aquatic Acute 1 H400 - Very toxic to aquatic life</p> <p>Aquatic Chronic 1 H410 - Very toxic to aquatic life with long lasting effects</p>
2.2 LABEL ELEMENTS	<p>Labeling according to Regulation (EC) n. 1272/2008 (CLP/GHS)</p>  <p>GHS09 Wng - environment</p> <p>Signal word: warning</p> <p>Hazard statements:</p> <p>H410 - Very toxic to aquatic life with long lasting effects</p> <p>Precautionary statements:</p> <p>P273 - Avoid release to the environment.</p> <p>P391 - Collect spillage.</p> <p>P501 - Dispose of contents / container in accordance with local / regional / national / international.</p>
2.3 OTHER HAZARDS	
CRITERIA FOR PBT AND vPvB	<p>Substance meets the criteria for PBT according to Regulation (EC) N° 1907/2006, Annex XIII</p> <ul style="list-style-type: none"> No <p>Substance meets the criteria for vPvB according to Regulation (EC) N° 1907/2006, Annex XIII:</p> <ul style="list-style-type: none"> No

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCE	Substance
CHEMICAL FORMULATION	ZnO

COMPONENT NAME:	CAS NUMBER	%	CE NUMBER (EINECS)	CLASSIFICATION
ZINC OXIDE	1314-13-2	> 95	215-222-5	Environment, Attention, Aquatic Acute 1 H400, Aquatic Chronic 1 H410

The occupancy exposure limits are listed in Section 8 - The complete text of H sentences mentioned is given in Section 16.

4. FIRST AID MEASURES

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4.1 DESCRIPTION OF FIRST AID MEASURES	
INHALATION	Take away from exposure source and let breath fresh air. Place the injured person in a position comfortable for breathing. Making, if necessary, shares of first aid by trained personnel only equipped with specific PPE . Consult a doctor if complaint.
SWALLOWING	Wash the mouth with clean water, remove any dentures. drinking water. Do not induce vomiting. Call a surgery, if problems are evidenced.
SKIN CONTACT	Wash the skin immediately with plenty water. Remove clothing and shoes, wash before use. Call a surgery, if irritation occurs.
EYE CONTACT	Wash eyes immediately with plenty water for several minutes. Check for slow, then remove and rinse out with plenty of water. Call a surgery, if problems are evidenced.
4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	There are no known effects and / or specific symptoms
4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	There are no such situations that require immediate medical consultation. However, in case of symptoms after contact or inhalation or ingestion of the substance, you should consult a physician.

5. FIREFIGHTING MEASURES

5.1 EXTINGUISHING MEDIA	Not combustible substance. Apply an extinguishing substance suitable for delimited fires.
5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	No risk because the substance is not classified as flammable.
5.3 ADVICE FOR FIREFIGHTERS	
SPECIAL FIRE FIGHTING MEASURES	Dike water used to extinguish the fire because contaminated with this substance and prevent access to waterway, sewer or drain.
PROTECTIVE MEASURES FOR FIRE-EXTINGUISHING PERSONNEL	In the case of a fire nearby, use a breathing apparatus with protection shield on face. Use protective clothing suitable for fire fighting

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	Wear suitable protective clothing as described in Section 8. Avoid generating dust. Vacuum up and collect spilled material in appropriate containers.
6.1.1 FOR NON-EMERGENCY PERSONNEL	Wear suitable personal protective equipment as indicated in section 8 to prevent contact with skin and eyes. If it does not involve risks, remove or turn off the sources of release or stop operations. Keep the personnel not assigned to emergency intervention away from the area.
6.1.2 FOR EMERGENCY RESPONDERS	Wear suitable personal protective equipment as indicated in section 8 to prevent contact with skin and eyes.
6.2 ENVIRONMENTAL PRECAUTIONS	Avoid the dispersion and the formation dust. Prevent entry into waterways and ground water, sewer, or water networks. Avoid contamination of soil. Notify authorities if released in large quantities.

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6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP	Vacuum up and collect spilled material in appropriate labelled containers for its recovery or disposal. Dispose of the refusal through company authorized. Avoid dust formation. Prevent entry into waterways and ground water, sewer, or water networks.
6.4 REFERENCE TO OTHER SECTIONS	See section 1 for emergency numbers and section 8 for personal protective equipment. For information on waste disposal refer to section 13.




7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING	<p>Wear appropriate personal protective equipment (see sect. 8). Avoid direct exposure with dust. Store and handle the substance in the original container. During handling, make sure that the container is well closed and intact. Avoid generating dust. Keep away from acids and bases. Keep the handling and storage environment dry and ventilated.</p> <p>Wash hands after use. 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.</p>
7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	<p>Wear suitable personal protective equipment (see sect.8). Keep the product stored in dry, ventilated room, inside closed and labeled containers.</p> <p>Store away from acids and bases.</p> <p>Store in the original containers, make sure that the substance is stored in containers approved according to local, national and international regulations.</p> <p>According to the quantity stored, the substance is subject to the "Seveso" legislation (Italy - Legislative Decree 105/2015 and subsequent amendments, implementation of Directive 2012/18 / EU).</p>
7.3 SPECIFIC END USE(S)	No other information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS	<p>No occupancy safety limits are known – Italy.</p> <p>Substance whose exposure limit values must be monitored at workplaces: zinc oxide (1314-13-2)</p> <p>-Total inhalable dust: TLV-TWA 2 mg/m³</p> <p>- Respirable dust: TLV-STEL 10 mg/m³</p> <p><u>Limits DNELs</u></p> <ul style="list-style-type: none"> • Oral <ul style="list-style-type: none"> DNELoral soluble Zn = 50 mg_{Zn}/day (i.e., 0.83 mg_{Zn}/kg bw/day); DNELoral insoluble Zn = 50 mg_{Zn}/day (i.e., 0.83 mg_{Zn}/kg bw/day); • Dermal <ul style="list-style-type: none"> DNELdermal soluble Zn = 500 mg_{Zn}/day (i.e., 8.3 mg_{Zn}/kg bw/day); DNELdermal insoluble Zn = 5000 mg_{Zn}/day (i.e., 83 mg_{Zn}/kg bw/day); • Inhalation - Worker <ul style="list-style-type: none"> DNELinhal soluble Zn (worker) = 1 mg_{Zn}/m³; DNELinhal insoluble Zn (worker) = 5 mg_{Zn}/m³; • Inhalation - Consumer <ul style="list-style-type: none"> DNELinhal soluble Zn (consumer) = 1.3 mg_{Zn}/m³; DNELinhal insoluble Zn (consumer) = 2.5 mg_{Zn}/m³; <p><u>Limits PNEC</u></p> <ul style="list-style-type: none"> • Water <ul style="list-style-type: none"> PNEC fresh water = 20.6 µg/l; PNEC salt water = 6.1 µg/l;
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	<ul style="list-style-type: none"> Sediment PNEC fresh water sediment = 117.8 mg/kg sediment d.w.; PNEC salt water sediment = 56.5 mg/kg peso sediment d.w.; Soil PNEC soil = 35.6 mg/kg soil d.w.; STP PNEC = 100 µg/l.
8.2 EXPOSURE CONTROLS	
8.2.1 APPROPRIATE ENGINEERING CONTROLS	Cleaning of devices and work equipment. Storage of the substance in dedicated areas. Maintain adequate ventilation of the areas. It is forbidden to drink, eat and smoke in areas where the material is handled, stored or treated.
8.2.2 INDIVIDUAL PROTECTION MEASURES, SUCH AS PERSONAL PROTECTIVE EQUIPMENT	
EYE / FACE PROTECTION	<p>Wear safety goggles (EN 166) where eye exposure is reasonably likely. If face contact is reasonably possible, use a face shield or protective visor.</p> 
SKIN PROTECTION	
hand protection	<p>Use suitable protective gloves for chemical risks (EN 374) of skin contact and / or mechanical risks (EN 388).</p> 
other	Wear appropriate work clothes and safety shoes (EN 20345).
RESPIRATORY PROTECTION	<p>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 (EN 143, EN 149).</p> 
8.2.3 ENVIRONMENTAL EXPOSURE CONTROLS	<p>According to the quantity stored the substance is subject to the "Seveso" regulation (Italy - D.lgs. 105/2015 and subsequent amendments, Directive 2012/18/UE).</p> <p>Avoid dispersion and dust formation. Avoid entry into surface and underground waterways, sewer or water networks. Avoid soil contamination.</p>

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES	
PHYSICAL STATE	Solid (powder or granules).
COLOUR	White

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ODOUR	Odourless
MELTING POINT/ FREEZING POINT	1970 ÷ 1975 °C a 1.1013,25 hPa
BOILING POINT OR INITIAL BOILING POINT AND BOILING INTERVAL	Not applicable to solids with a melting point above 300°C or which decompose before reaching the boiling point. The substance decomposes before boiling, (column 2 of Annex VII of the REACH Regulation (EC) n. 1907/2006).
FLAMMABILITY	All grades of zinc oxide powder were not to be considered as flammable. The substance is not flammable.
EVAPORATION RATE	Not applicable to solids.
LOWER AND UPPER EXPLOSIVITY LIMITS	Not applicable to solids.
FLASH POINT	Not applicable to solids.
SELF-IGNITION TEMPERATURE	Not applicable.
DECOMPOSITION TEMPERATURE	Not applicable.
PH	6.72 (ECHA)
KINEMATIC VISCOSITY	Not applicable.
SOLUBILITY	2.9 mg/l a 20 C°
PARTITION COEFFICIENT N-OCTANOL / WATER (LOGARITHMIC VALUE)	Not applicable.
VAPOUR PRESSURE	Not applicable.
VAPOUR DENSITY	Not applicable
DENSITY AND/OR RELATIVE DENSITY	5.68 g/cm ³ a 20 °C e a 1.1013,25 hPa.
VAPOR DENSITY	Not applicable.
CHARACTERISTICS OF THE PARTICLES	La D50 è di 1,05 µm, la D80 è < 20 µm.
OCTANOL/WATER PARTITION COEFFICIENT	Not applicable if the substance is inorganic (column 2 of Annex VII of the REACH regulation (EC) n. 1907/2006)
9.2 OTHER INFORMATION	
9.2.1 INFORMATION WITH REGARD TO PHYSICAL HAZARDS CLASSES	No relevant information.
9.2.2 OTHER SAFETY CHARACTERISTICS	No additional information.

10. STABILITY AND REACTIVITY

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10.1 REACTIVITY	No reactions or decomposition of the product under normal storage conditions. It is not corrosive to metals. It does not react with water.
10.2 CHEMICAL STABILITY	Stable under normal environmental conditions (ambient temperature and pressure) for storage and handling.
10.3 POSSIBILITY OF HAZARDOUS REACTIONS	Possibility of dangerous exothermic reactions if it comes into contact with acids and bases.
10.4 CONDITIONS TO AVOID	No particular conditions to avoid. No particular conditions to avoid
10.5 INCOMPATIBLE MATERIALS	Acids and bases.
10.6 HAZARDOUS DECOMPOSITION PRODUCTS	No dangerous decomposition product under normal environmental conditions of storage and handling.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON HAZARD CLASSES AS DEFINED IN REGULATION (EC) NO. 1272/2008	
ACUTE TOXICITY- ORAL	LD ₅₀ (rat) > 5000 mg _{ZnO} /kg of body weight, does not lead to acute oral toxicity classification (OECD guideline 401).
ACUTE TOXICITY - SKIN	LD ₅₀ rat > 2000 mg/kg of body weight, not classified (OECD guideline 402).
ACUTE TOXICITY - INHALATION	LC ₅₀ (rat - 4 hours) > 5.7 mg _{ZnO} /l, not leading to classification for acute inhalation toxicity (OECD guideline 403).
SKIN CORROSION / SKIN IRRITATION	Based on available data it is classified as non-irritating.
SERIOUS EYE DAMAGE / EYE IRRITATION	Based on available data it is classified as non-irritating (Test method B.5 OECD guideline 405).
RESPIRATORY OR SKIN SENSITIZATION	Based on available data it is classified as not sensitizing (OECD guideline 406).
GERM CELL MUTAGENICITY	Based on available data, no biologically relevant genotoxic activity is detected (study result: negative, OECD guidelines 471 and 474).
CARCINOGENICITY	No conclusive experimental evidence exists to justify the classification of carcinogenic activity, (Chemical safety report (CSR)).
REPRODUCTION TOXICITY	No experimental effects observed to justify the classification for reproductive and developmental toxicity, (Chemical safety report (CSR)).
SPECIFIC TARGET ORGAN TOXICITY(STOT) - SINGLE EXPOSURE	No experimental / epidemiological evidence sufficient for specific target organ toxicity - single exposure (Chemical Safety Report (CSR)).
SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE	No experimental / epidemiological evidence sufficient for specific target organ toxicity - repeated exposure (Chemical Safety Report (CSR)).
ASPIRATION HAZARD	No data available.
11.2 INFORMATION ON OTHER HAZARDS	

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11.2.1 ENDOCRINE DISRUPTING PROPERTIES	No information available.
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12. ECOLOGICAL INFORMATION

12.1 TOXICITY	
ACQUATIC TOXICITY	<p><i>Short-term toxicity to fish:</i></p> <p>LC₅₀: Oncorhynchus Mykiss: 0,169 mg_{Zn}/l (single value) at pH > 7 ÷ 8.5 and low hardness,</p> <p>LC₅₀: Pimephales promelas (single value): 0,780 mg_{Zn}/l at pH < 7 and high hardness, and 0,330 mg_{Zn}/l at pH > 7 ÷ 8.5 and high hardness.</p> <p><i>Long-term toxicity to fish:</i></p> <p>fresh water – NOEC: 0,44 ÷ 0,530 mg_{Zn}/l (dissolved concentrations),</p> <p>marine – NOEC = 0,025 mg_{Zn}/l (dissolved concentrations)</p> <p><i>Short-term toxicity to aquatic invertebrates:</i></p> <p>EC₅₀: Ceriodaphnia dubia: 0,413 mg_{Zn}/l (single value) at pH < 7 and low hardness, > 0,53 mg_{Zn}/l (single value) at pH < 7 and high hardness, 0,147 mg_{Zn}/l (geomean value) at pH > 7 ÷ 8.5 and low hardness, 0,228 mg_{Zn}/l (geomean value) at pH > 7 ÷ 8.5 and high hardness.</p> <p><i>Long-term toxicity to aquatic invertebrates:</i></p> <p>fresh water – NOEC: 0,014 ÷ 0,400 mg_{Zn}/l (dissolved concentrations)</p> <p>marine – NOEC: 0,0056 ÷ 0,9 mg_{Zn}/l (dissolved concentrations)</p> <p><i>Toxicity to aquatic algae and cyanobacteria:</i></p> <p>acute toxicity to freshwater algae: IC₅₀ minimum 0,136 mg_{Zn}/l (Selenastrum capricornutum; single value) (pH > 7 ÷ 8.5),</p> <p>chronic toxicity to freshwater algae: NOEC minimum 0,019 mg_{Zn}/l (Pseudokirchneriella subcapitata=Selenastrum capricornutum; geomean of 27 data)</p> <p>chronic toxicity to marine algae: NOEC: 0,0078 ÷ 0,67 mg/l (dissolved concentrations)</p> <p><i>Toxicity to aquatic plants other than algae:</i></p> <p>NOEC chronic for multicellular alga: 0,06 mg_{Zn}/l,</p> <p>NOEC chronic on all four species tested > 650 µg_{Zn}/l.</p> <p><i>Toxicity to microorganisms:</i></p> <p>NOEC: 100 µg_{Zn}/l.</p>
EARTH TOXICITY	<p><i>Toxicity to soil macroorganisms with the exception of arthropods:</i></p> <p>NOEC or EC₁₀ on soil macroorganisms covering 6 different species of worms: from 35.7 mg_{Zn} / kg for Enchytraeus albidus to 1634 mg_{Zn} / kg dw for Lumbricus terrestris.</p> <p><i>Toxicity to terrestrial arthropods:</i></p> <p>NOEC or EC₁₀ for the toxicity of Zn for the reproduction of terrestrial arthropods, vary between 14.6 and 1000 mg_{Zn} / kg dw (both for Folsomia candida).</p> <p><i>Toxicity to terrestrial plants:</i></p> <p>NOEC or EC₁₀ vary between 32 mg_{Zn} / kg dw for Trifolium pratense and Vicia sativa, to 5855 mg_{Zn} / kg dw for Triticum aestivum.</p> <p><i>Toxicity to soil microorganisms:</i></p> <p>NOEC or EC₁₀ range from 17 mg_{Zn} / kg dw for respiration to 2623 mg_{Zn} / kg dw for phosphatase.</p>
12.2 PERSISTENCE AND DEGRADABILITY	Not applicable to inorganic substances.




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12.3 BIOACCUMULATIVE POTENTIAL	Not relevant. Zinc is a natural, essential element, which is needed for the optimal growth and development of all living organisms, including man. All living organisms have homeostasis mechanisms that actively regulate zinc uptake and absorption/excretion from the body; due to this regulation, zinc and zinc compounds do not bioaccumulate or biomagnify.
12.4 MOBILITY IN SOIL	Solids-water partitioning coefficient: 158.5 l/kg. (Chemical Safety report (CSR) zinc oxide. 2010).
12.5 RESULTS OF PBT AND vPvB ASSESSMENT	The substance is not PBT or vPvB.
12.6 ENDOCRINE DISRUPTING PROPERTIES	No relevant known information.
12.7 OTHER ADVERSE EFFECTS	No data available.






13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS	<p>The generation of waste should be avoided or minimized. Collect, reprocess, recycle if possible.</p> <p>Classify the waste in accordance with the national or international regulations in force.</p> <p>Dispose of waste in compliance with local, regional and national environmental laws in force.</p> <p>Avoid dispersion in the environment, do not disperse in water courses or sewers.</p> <p>Keep the product in its original packaging or pack and transport waste in compliance with current national and international regulations.</p>
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14. TRANSPORT INFORMATION

	14.1 UN number or ID number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards	Labels	Other Information
LAND:road / rail ADR/RID Classification	UN3077	Environmentally hazardous substance, solid, n.a.s. (zinc oxide)	9	III	M7 dangerous substance in the aquatic environment, solid	 	<u>Danger Identification Number 90</u> Excepted quantities E1 Limited quantities of 5 kg Transport category 3
	14.1 UN number or ID number	14.2 UN official designation	14.3 Transport-related hazard classes	14.4 Packing group	14.5 Dangers to the environment	Labels	Other Information
WATER COURSES: Navigable channel ADN Classification	UN3077	Environmentally hazardous substance, solid, n.a.s. (zinc oxide)	9	III	Dangerous substance in the aquatic environment, solid		

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	14.1 UN number or ID number	14.2 UN official designation	14.3 Transport-related hazard classes	14.4 Packing group	14.5 Dangers to the environment	Labels	Other Information
SEA: IMO/IMDG Classification	UN3077	Environmentally hazardous substance, solid, n.a.s. (zinc oxide)	9	III	Dangerous substance in the aquatic environment, solid	 	Marine pollutant : Si (P) EMS Number: F-A, S-F.
	14.1 UN number or ID number	14.2 UN official designation	14.3 Transport-related hazard classes	14.4 Packing group	14.5 Dangers to the environment	Labels	Other Information
AIR: ICAO/IATA Classification	UN3077	Environmentally hazardous substance, solid, n.a.s. (zinc oxide)	9	III	Dangerous substance in the aquatic environment, solid	 	Packing instruction: Y911 if gross weight < 30 kg 911 if gross weight ≥ 30 kg
14.6 SPECIAL PRECAUTIONS FOR USERS		Refer to Sections 7 and 8 for information about precautions for users.					
14.7 MARITIME TRANSPORT IN BULK ACCORDING TO IMO INSTRUMENTS		Not applicable for packaged goods.					

15. REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE	National regulations: in Italy, the zinc oxide is not subject to specific regulations (Italy - D.lgs. 81/08 and subsequent amendments). According to the quantity stored the substance is subject to the "Seveso" regulation, (Italy - D.lgs. 105/2015 and subsequent amendments; Directive 2012/18/EU).
15.2 CHEMICAL SAFETY ASSESSMENT	Within REACH Cosortium Zinc (IZA-Europe), according to the requirements of the REACH Regulation (EC) No 1907/2006 for the registration of the product, was developed the Chemical Safety Report (CSR) from which have been drawn from the information contained in this safety data sheet.

16. OTHER INFORMATION

REASON FOR THE REVIEW	Update point 1, and from point 7 to point 15 for adaptation to regulation (EU) 2020/878
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<p>ABBREVIATIONS AND ACRONYMS</p>	<p>RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.</p> <p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>IMDG: International Maritime Dangerous Goods Code.</p> <p>IATA: International Air Transport Association.</p> <p>P: Marine Pollutant.</p> <p>GHS: Globally Harmonised System of Classification and Labelling of Chemicals.</p> <p>EINECS: European Inventory of Existing Commercial Chemical Substances.</p> <p>CAS: Chemical Abstracts Service.</p> <p>DNEL: Derived No Effect Level (REACH).</p> <p>PNEC: Predicted No Effect Concentration (REACH).</p> <p>LC50: Lethal concentration, 50 percent.</p> <p>LD50: Lethal dose, 50 percent.</p> <p>PBT: Persistent, Bioaccumulative and Toxic.</p> <p>vPvB: very Persistent and very Bioaccumulative.</p>
<p>BIBLIOGRAPHIC REFERENCES AND SOURCES</p>	<p>REACH Regulation (EC) n. 1907/2006 subsequent changes.</p> <p>CLP Regulation (EC) n. 1272/2008 subsequent changes.</p> <p>Regulation (UE) 2015/830.</p> <p>GHS - Globally Harmonized System of Classification and Labelling of Chemicals.</p> <p>Directive 2012/18/UE.</p> <p>D. lgs. 81/2008 subsequent changes.</p> <p>Directive 2008/68/CE - internal transport of dangerous goods</p> <p>CRS - Chemical Safety Report.</p>
<p>LIST OF DANGER INDICATIONS - H / TIPS OF PRUDENCE - P / WARNINGS</p>	<p>Regulation (EC) n. 1272/2008 (CLP/GHS)</p> <p>H400 - Very toxic to aquatic life.</p> <p>H410 - Very toxic to aquatic life with long lasting effects.</p> <p>P273 - Avoid release to the environment.</p> <p>P391 - Collect spillage.</p> <p>P501 - Dispose of contents/container in accordance with local/regional/national/international.</p> <p>Warning: attention.</p>
<p>DATE PREVIOUS REVISION</p>	<p>Revision 11 of 20/04/2020</p>
<p>Information of this Data 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.</p> <p>The user is responsible for making sure about suitability of the information for the special use foreseen for the material.</p>	

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