



Empils-zinc Ltd.
196/126, Lermontovskaya Str.
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**Material Safety Data Sheet of Zinc Oxide
according to Regulation (EC) No.1907/2006 (REACH)**

Previous version date: 26.03.2007
Actual version date: 20.05.2009

Version: No.2
Printed: 20.05.2009

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

Product name: Zinc Oxide

Recommended intended purpose(s): Zinc oxide is widely used as an additive into numerous materials and products including rubber, cable, ceramics, chemical products, compounds, paints, glass, catalysts, animal feed

Manufacturer: Empils-zinc Ltd.
196/126 Lermontovskaya Street,
344010 Rostov-on-Don,
Russian Federation

Advice: Leading specialist in charge of the sales question:
Mr. Andrey Yablokov (speaks Russian and English):
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in charge of the quality question:
Mrs. Yulia Gorbunova (speaks only Russian):
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2. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	CAS, No.	EC No.	Trade names of produced zinc oxide grades				
			BZ0M	Grade A	Tyre Quality	Pure	Grey
			% Range				
Zinc Oxide	1314-13-2	215-222-5	99.7 min	98.0 min	99.0 min	99.0 min	77.0 min
Lead, as PbO	1317-36-8	215-267-0	0.01 max	0.1 max	0.1 max	0.01 max	
Cadmium, as CdO	1306-19-0	215-146-2			0.006 max		

REACH

Name: Zinc oxide

Pre-registration number: 05-2117009004-64-0000

Submission date: 20/11/2008

Deadline date: 30/11/2010



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3. HAZARDS IDENTIFICATION

Special hazards information for humans and environment

Classification

Human health hazards:

May cause irritation of eyes, mucous and respiratory system

Environmental hazards:

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard symbols

N; Dangerous for the environment

R- phrase

50/53; Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General information:

In case of persisting adverse effects consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

In case of inhalation:

If respiratory discomfort occurs, remove the exposed person from the hazardous place to fresh air. Remove contaminated clothing. Ensure calmness and warmth (cover the victim with blankets). Control breath and pulse.

In case of skin contact:

Remove contaminated clothing. Wash the contaminated clothing before using it again. When in contact with the skin, clean with soap and water.

In case of eye contact:

Immediately take off contact lenses and flush open eyes with large amounts of water for at least 15 minutes. Avoid a strong water stream in order not to harm the cornea. If one eye is contaminated, protect the other one during rinsing. If symptoms do not recede, get medical attention.

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5. FIRE FIGHTING MEASURES

Basic Fire-Fighting Instructions

- § inform about fire,
- § call the Fire Brigade immediately,
- § secure the emergency route,
- § remove everybody from the hazardous place who does not participate in extinguishing fire,
- § do not let the fire sewage flow into sewers or watercourses and secure the contaminated equipment and the agents applied to extinguish fire.
- § Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Caution: Eliminate the collected waste materials according to the Environmental Protection Department regulations or according to the regulations of the department fulfilling its functions

Suitable extinguishing media:

- § All extinguishing media

Other information

Collect contaminated fire fighting water separately, must not be discharged into the drains.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

- § Evacuate everybody from the hazardous area who does not participate in the fire-fighting action.
- § Use breathing apparatus when with independent air supply (isolated)
- § Use personal protective clothing and glasses

Environmental precautions:

- § Do not discharge in to the leaked container
- § Do not discharge into the drains/surface water/groundwater
- § Do not discharge into the subsoil/soil
- § Report water contamination to local authorities

Methods for cleaning up

- § Pick up mechanically.
- § Avoid raising dust.
- § Send in suitable containers for recovery or disposal.
- § If it is possible reuse the material.

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7. HANDLING AND STORAGE

Handling:

- § Comply with the general safety and fire protection regulations
- § Avoid contact with eyes and skin
- § Provide good ventilation of working area (local exhaust ventilation if necessary).
- § Do not eat and drink in the working place; wash hands (or even the whole body) after the work
- § Keep the personal protective clothing clean
- § Advice on protection against fire and explosion
 - Keep away from sources of ignition - refrain from smoking. Dust can form an explosive mixture with air.
 - Take precautionary measures against static charges.

Requirements for storage rooms and vessels:

- § Use only containers that are approved specifically for the substance/product
- § Advice on storage compatibility
 - Do not store together with foodstuffs.
 - Do not store together with animal feedstocks.
 - Do not store together with:
 - Acids
 - Bases
- § Further information on storage conditions
 - Keep container tightly closed and dry in a cool, well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit values

DUST OES/EH40

- § Total inhalable dust: TWA 10 mg/m³
- § Irrespirable dust: TWA 4 mg/m³

EU Occupational Exposure Limits. (Chemical = Zinc Oxide, CAS 1314-13-2)	
Zinc Oxide (United Kingdom OEL)	TWA – 8 hour: 5 mg/m ³ (nuisance dust) STEL – 15 minutes: 10 mg/m ³ (nuisance dust)
Zinc Oxide (France INRS)	Dust: VME = 10 mg/m ³ Fume: VME = 5 mg/m ³

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Personal protective equipment

- **Respiratory protection**
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. Respiratory filter (part): P2
- **Hand protection**
Protective gloves (EN 374)
Appropriate Material: rubber or leather or cotton
- **Eye protection**
Safety glasses (EN 166)
- **Skin protection**
Use clothing as usual in the chemical industry.
- **General protective and hygiene measures**
Do not eat, drink or smoke during work time. After work time and during work intervals the affected skin areas must be thoroughly cleaned. Store work clothing separately. Do not inhale dust.

9. PHYSICAL AND CHEMICAL PROPERTIES:

General information:

Form: powder/granulates
Colour: white
Odour: odourless

Important health, safety and environmental information:

Changes in physical state

Melting point: 1970 - 1975 °C

Flammability: not flammable

Flash point: not applicable

Ignition temperature: not applicable

Density: 500 - 1500 kg/m³

Soluble in: acids; alkalises

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Solubility in water:

Value < 2 mg/l

pH value: Value: 7 – 8; Reference temperature: 20 °C; Concentration: 100 g/l;

Remarks: Suspension in water

10. STABILITY AND REACTIVITY

Stability: stabile in usual conditions

Conditions to avoid: None known

Materials to avoid: oxidizing agents, acids

Remarks: reacts with chloric acids by creation of zinc chloride; reacts with sulphuric acids by creation of zinc sulphite; reacts with magnesium by creation of heat; zinc oxide in form of dust reacts shortly with chlorined rubber at 215°C

Hazardous decomposition products:

ZnO-fume can be generated during thermal processing.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Acute oral toxicity:

LD50: >15000 mg/kg; Species: rat; Reference substance: Zinc oxide

Method: OECD 401

Acute inhalational toxicity:

LC50 > 5,7 mg/l; Species: rat; Reference substance: Zinc oxide; Duration of exposure: 4 h

Irritant/corrosive effects:

Irritant effect on skin: Evaluation: non-irritant

Species: rabbit; Method: OECD 404

Irritant effect on eyes: Evaluation: non-irritant

Species: rabbit; Method: OECD 405

Experience in practice:

Inhalation of dusts may irritate the respiratory tract.

Zinc is present in drugs (medication) in small amounts up to 25 mg.



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12. ECOLOGICAL INFORMATION

Ecotoxic effects:

Algae toxicity:

EC50: 170 µg/l; Species: Selenastrum capricornutum
Duration of exposure: 72 h

General information / ecology

Very toxic to aquatic organisms may cause long-term adverse effect in the aquatic environment.
Do not discharge into the drains or waters and do not store on public depositories.

13. DISPOSAL CONSIDERATIONS

Product:

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging:

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of in agreement with the regional waste disposal company.

14. TRANSPORT INFORMATION

Road and rail transport - ADR/RID:

Class: 9;
Classification code: M7
Packaging group: III;
Hazard identification No.: 90;
Label: 9;
UN number: 3077
Technical name: Environmentally hazardous substance, solid, n.o.s.
Danger releasing substance: ZINC OXIDE

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Marine transportation IMO-IMDG:

Class: 9;

Packaging group: III;

UN number: 3077

Proper shipping name: Environmentally hazardous substance, solid, n.o.s.

Danger releasing substance: ZINC OXIDE

EmS: F-A, S-F

MARPOL: P

Label: 9

Air transport ICAO/ IATA-DGR:

Class: 9;

Packaging group: III;

UN number: 3077

Proper shipping name: Environmentally hazardous substance, solid, n.o.s.

Danger releasing substance: ZINC OXIDE

Label: 9

15. REGULATORY INFORMATION

Labelling in accordance with EC directive: 67/548EEC

EINEC No.: 215-222-5 (ZINC OXIDE)

Hazard symbols: N;

Dangerous for the environment



R phrases: 50/53;

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S phrases: 24/25-22-46-60-61

S24/25: Avoid contact with skin and eyes;

S22: Do not breathe dust;

S46: If swallowed seek medical advice immediately and show this container or label

S60: This material and its container must be disposed of as hazardous waste.

S61: Avoid release to the environment. Refer to special instructions / Safety data sheets.



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16. OTHER INFORMATION

Sources of key data used to compile the data sheet:

EC Directives: 67/548/EC resp. 99/45/EC; 2001/58/EC; 2000/39/EC as amended in each case.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxicity data are indicated directly in the corresponding chapter.

Department issuing safety data sheet:

FSUO "STANDARTINFORM"

Tel.: +7 (495) 290-43-09; Fax: +7 (495) 290-43-09

STATEMENT

The information includes the state of our knowledge at the date of publication of this Material Safety Data Sheet. Note to users that do not assume responsibility for the inappropriate use of our product in a way different from what we recommend, as described in Section 1. Precautions regarding the health and safety and advice on environmental matters recorded in this MSDS sheet need not be suitable for all individuals or situations. It is your responsibility to evaluate the application and usage of the product in a safe manner and in accordance with applicable laws and regulations. Any of sentences written in the MSDS sheet shall not be construed as permission, recommendation or request the authorization. Please, therefore, that the provisions set out in the MSDS sheet does not exempt you from the provisions relating to its business

Head of applicant organization:



place for seal

signature

(A.V.Kiryanov)