

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Substance / mixture	Zinc oxide
Chemical name	substance
CAS number	zinc oxide
Index number	1314-13-2
EC (EINECS) number	030-013-00-7
Other substance name	215-222-5
	Zinc(II) oxide

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against Substance's intended use

Chemical production, analytical chemistry, laboratory synthesis, industrial applications.

##### Substance uses advised against

The product should not be used in ways other than those referred in Section 1.

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

###### Supplier

Name or trade name	Ing. Petr Švec - PENTA s.r.o.
Address	Radiová 1122/1, Praha 10, 102 00
	Czech Republic
Identification number (CRN)	02096013
VAT Reg No	CZ02096013
Phone	+420 226 060 681
E-mail	info@pentachemicals.eu
Web address	www.pentachemicals.eu

###### Competent person responsible for the safety data sheet

Name	Ing. Petr Švec - PENTA s.r.o.
E-mail	info@pentachemicals.eu

##### 1.4. Emergency telephone number

European emergency number: 112 112

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification of the substance in accordance with Regulation (EC) No 1272/2008

The substance is classified as dangerous.

Aquatic Acute 1, H400  
Aquatic Chronic 1, H410

###### Most serious adverse effects on human health and the environment

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

##### 2.2. Label elements

###### Hazard pictogram



###### Signal word

Warning

###### Dangerous substance

zinc oxide  
(Index: 030-013-00-7; CAS: 1314-13-2)

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.

#### 2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Does not contain any PMT or vPvM components. Dust may form explosive mixture with air.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

##### Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 030-013-00-7 CAS: 1314-13-2 EC: 215-222-5	<b>substance main component</b> zinc oxide	>99	Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	

Full text of all classifications and hazard statements is given in the section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

##### If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

##### If on skin

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

##### If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes.

##### If swallowed

Rinse out the mouth with clean water. In the event of issues, find medical help.

#### 4.2. Most important symptoms and effects, both acute and delayed

##### If inhaled

Not expected.

##### If on skin

Not expected.

##### If in eyes

Not expected.

##### If swallowed

Not expected.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

###### Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

###### Unsuitable extinguishing media

Water - full jet.

##### 5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

##### 5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

#### SECTION 6: Accidental release measures

##### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8.

##### 6.2. Environmental precautions

Do not allow to enter drains. Prevent contamination of the soil and entering surface or ground water.

##### 6.3. Methods and material for containment and cleaning up

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

##### 6.4. Reference to other sections

See the Section 7, 8 and 13.

#### SECTION 7: Handling and storage

##### 7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Avoid release to the environment.

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

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

##### 7.3. Specific end use(s)

not available

#### SECTION 8: Exposure controls/personal protection

##### 8.1. Control parameters

###### PNEC

zinc oxide		
Route of exposure	Value	Source
Freshwater sediment	117.8 mg/kg	ECHA
Freshwater environment	20.6 µg/l	ECHA
Microorganisms in sewage treatment	100 µg/l	ECHA

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### 8.2. Exposure controls

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

##### Eye/face protection

It is not needed.

##### Skin protection

Hand protection: Protective gloves resistant to the product. Contaminated skin should be washed thoroughly.

##### Respiratory protection

It is not needed.

##### Thermal hazard

Not available.

##### Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2. Collect spillage.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	solid
Colour	white
Odour	without fragrance
Melting point/freezing point	1975 °C
Boiling point or initial boiling point and boiling range	data not available
Flammability	The product is non-flammable.
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	7 (undiluted)
Kinematic viscosity	data not available
Solubility in water	1.1-47 mg/l
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	data not available
Relative vapour density	data not available
Particle characteristics	data not available

#### 9.2. Other information

not available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The substance is non-flammable.

#### 10.2. Chemical stability

The product is stable under normal conditions.

#### 10.3. Possibility of hazardous reactions

Unknown.

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### 10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

#### 10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

#### 10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

#### Acute toxicity

Based on available data the classification criteria are not met.

zinc oxide						
Route of exposure	Parameter	Value	Exposure time	Species	Sex	Source
Oral	LD <sub>50</sub>	2000-5000 mg/kg		Rat		ECHA
Inhalation	LC <sub>50</sub>	1.9-5.7 mg/l	4 hours	Rat		ECHA

#### Skin corrosion/irritation

Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

Based on available data the classification criteria are not met.

#### Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

#### Germ cell mutagenicity

Based on available data the classification criteria are not met.

#### Carcinogenicity

Based on available data the classification criteria are not met.

#### Reproductive toxicity

Based on available data the classification criteria are not met.

#### Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

#### Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

#### Aspiration hazard

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. Based on available data the classification criteria are not met.

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

Based on available data the classification criteria are not met. Does not contain any components that may cause endocrine disruption for humans.

##### Other information

not available

### SECTION 12: Ecological information

#### 12.1. Toxicity

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

##### Acute toxicity

zinc oxide					
Parameter	Value	Exposure time	Species	Environment	Source
LC <sub>50</sub>	112-8062 µg/l	4 days	Fish		ECHA

##### Chronic toxicity

zinc oxide					
Parameter	Value	Exposure time	Species	Environment	Source
NOEC	78-575 µg/l	8 months	Fish		ECHA

#### 12.2. Persistence and degradability

No data available for the substance.

#### 12.3. Bioaccumulative potential

No data available for the substance.

#### 12.4. Mobility in soil

Based on available data the classification criteria are not met. Does not contain any PMT or vPvM components.

#### 12.5. Results of PBT and vPvB assessment

Based on available data the classification criteria are not met. Does not contain any PBT or vPvB components. Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

#### 12.6. Endocrine disrupting properties

Based on available data the classification criteria are not met. Does not contain any components that may cause endocrine disruption in the environment.

#### 12.7. Other adverse effects

Not available.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

##### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

#### SECTION 14: Transport information

##### 14.1. UN number or ID number

UN 3077

##### 14.2. UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC OXIDE)

##### 14.3. Transport hazard class(es)

9 Miscellaneous dangerous substances and articles

##### 14.4. Packing group

III

##### 14.5. Environmental hazards

not relevant

##### 14.6. Special precautions for user

not available

##### 14.7. Maritime transport in bulk according to IMO instruments

not relevant

##### Additional information

Hazard identification No.

90

UN number

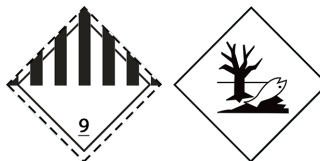
3077

Classification code

M7

Safety signs

9+hazardous for the environment



Tunnel restriction code

(-)

##### Air transport - ICAO/IATA

Packaging instructions passenger

956

Cargo packaging instructions

956

##### Marine transport - IMDG

EmS (emergency plan)

F-A, S-F

#### SECTION 15: Regulatory information

##### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

##### 15.2. Chemical safety assessment

No chemical safety assessment has been performed for this substance.

## **SAFETY DATA SHEET**

according to Regulation (EC) No 1907/2006 (REACH) as amended

### **Zinc oxide**

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

No chemical safety assessment has been performed for this substance.



## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

No chemical safety assessment has been performed for this substance.

#### SECTION 16: Other information

##### A list of standard risk phrases used in the safety data sheet

- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

##### Guidelines for safe handling used in the safety data sheet

- P273 Avoid release to the environment.

##### Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

##### Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
Aquatic Acute	Hazardous to the aquatic environment
Aquatic Chronic	Hazardous to the aquatic environment (chronic)
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC <sub>50</sub>	Lethal concentration of a substance in which it can be expected death of 50% of the population

## SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

### Zinc oxide

Creation date	19th September 2019	Version	3.0
Revision date	26th November 2024		

LD <sub>50</sub>	Lethal dose of a substance in which it can be expected death of 50% of the population
log K <sub>ow</sub>	Octanol-water partition coefficient
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.  
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

#### The changes (which information has been added, deleted or modified)

The version 3.0 replaces the SDS version from Monday, 26 September 2022. Changes were made in sections 1, 2, 11, 12, 13, 15 and 16.

#### More information

Classification procedure - calculation method.

#### Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.