

Safety Data Sheet

According to regulation (EC) No. 1907/2006 (REACH)



54700 Zinc Dust

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Revised edition: 12.11.2019

Version: 4.1

Printed: 18.09.2020

1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product Identifier

Product Name: Zinc Dust

Article No.: 54700

1.2. Relevant identified Uses of the Substance or Mixture and Uses advised against

Identified uses:

*Manufacture of paints
Production of substances*

Uses advised against:

1.3. Details of the Supplier of the Safety Data Sheet (Producer/Importer)

Company: Kremer Pigmente GmbH & Co. KG

Address: Hauptstr. 41-47, 88317 Aichstetten, Germany

Tel./Fax.: Tel +49 7565 914480, Fax +49 7565 1606

Internet: www.kremer-pigmente.com

E-Mail: info@kremer-pigmente.com

Importer: --

1.4. Emergency No.

Emergency No.: +49 7565 914480 (Mon-Fri 8:00 - 17:00)

1.4.2 Poison Center:

2. Hazards Identification

2.1. Classification of the Substance or Mixture

*Classification according to Regulation
(EC) No. 1272/2008 (CLP/GHS)*

H410

Cat.: 1

*Hazardous to the aquatic environment, chronic category 1
Hazardous to the aquatic environment, acute category 1
Very toxic to aquatic life with long lasting effects.*

Possible Environmental Effects:

2.2. Label Elements

*Classification according to Regulation
(EC) No. 1272/2008 (CLP/GHS)*

Hazard designation:



GHS09-1

Signal word:

Warning

Hazard designation:

H410

Very toxic to aquatic life with long lasting effects.

Safety designation:

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P273	Avoid release to the environment.
P391	Collect spillage
P501	Dispose of contents/ container according to regional, national and international regulations.

Hazardous components for labelling:

2.3. Other Hazards

Dust may be produced when working with this material, which can cause a mechanical irritation of eyes, nose and respiratory tract.

3. Composition/Information on Ingredients

3.1. Substance

3.2. Mixture

Chemical Characterization: Zinc metall pigment

Information on Components / Hazardous Ingredients:

Zinc powder, stabilized (H400-410); REACH Reg. No. 01-2119467174-37	> 98 %	CAS-Nr: 7440-66-6 EINECS-Nr: 231-175-3 EC-Nr: 030-001-01-9
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Zinc oxide (H400-410); REACH Reg. No. 01-2119463881-32-0000	< 6 %	CAS-Nr: 1314-13-2 EINECS-Nr: 215-222-5 EC-Nr: 030-013-00-7
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Additional information:

4. First Aid Measures

4.1. Description of the First Aid Measures

General information:

Take affected persons out into the fresh air.

After inhalation:

Supply fresh air. If required give artificial respiration. Keep patient warm.

After skin contact:

Wash with soap and rinse with plenty of water.

After eye contact:

Rinse eyes with lukewarm water.

After ingestion:

Contact poison center or physician if feeling unwell.

4.2. Most important Symptoms and Effects, both Acute and Delayed

Symptoms:

Eye contact: prolonged contact can irritate the eyes and cause redness.

Frequent inhalation of dust over a long period of time can cause irritation and coughing.

Effects:

Indication of any Immediate Medical Attention and special Treatment needed

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4.3.

Treatment:

Treat symptomatically.

5. Fire-Fighting Measures

5.1. Extinguishing Media

Suitable extinguishing media:

CO2, sand.

Unsuitable extinguishing media:

Foam

Water

5.2. Special Hazards arising from the Substance or Mixture

Special hazards:

There is a risk of explosion when the product dust is distributed in closed rooms and then exposed to sparks, heat and open flames.

5.3. Advice for Firefighters

Protective equipment:

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Further information:

Should a fire have to be extinguished near the storage place of this product, the original packaging might get moist.

Remove the moist packaging and moist product from the dry product and store in a very good ventilated area.

Collect contaminated extinguishing water and debris separately; avoid contamination of sewage system.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

6. Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Personal precautions:

Wear appropriate protective equipment. Keep spectators away.

Ensure adequate ventilation.

Do not breathe vapors/dust.

6.2. Environmental Precautions

Environmental precautions:

Prevent contamination of soils, drains and surface water.

Contact local authorities if product pollutes soil or vegetation.

6.3. Methods and Material for Containment and Cleaning Up

Methods and material:

Take up mechanically and collect in correctly labelled containers for disposal. Avoid formation of dust and static discharges. Prevent from getting into sewage system.

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6.4. Reference to other Sections

Protective clothing, see Section 8.

Dispose of contaminated material according to Section 13.

7. Handling and Storage

7.1. Precautions for Safe Handling

Instructions on safe handling:

Wear adequate protective clothing (see para. 8).

Do not swallow or inhale.

Avoid contact with eyes, skin and clothing.

Empty containers can contain product residues which can be hazardous.

Hygienic measures:

Keep away from foodstuffs and drinks. Do not eat, drink or smoke during work. Wash hands before breaks and at the end of work.

Change contaminated clothing. Wash hands after work.

7.2. Conditions for Safe Storage, including any Incompatibilities

Storage conditions:

Store dry and in the original tightly sealed containers.

Protect product from direct sunlight.

Do not store together with food stuff and animal feed.

Do not store product in unlabelled containers.

Requirements for storage areas and containers:

Store product in correctly labelled containers.

Information on fire and explosion protection:

Keep away from sources of ignition - do not smoke.

Use only in explosion protective area. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks.

Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Storage class:

13; Non combustible solids (TRGS 510)

Further Information:

7.3. Specific End Use(s)

Further information:

No information available.

8. Exposure Controls/Personal Protection

8.1. Parameters to be Controlled

Parameters to be controlled (DE):

Zinc powder (CAS 7440-66-6), TWA: 0.1 mg/m³ (8h), 0.4 mg/m³ (15 min) airborne fraction; 2 mg/m³ (8h), 4 mg/m³ (15 min) inhalable fraction

Zinc oxide (CAS 1314-13-2), TWA: 0.1 mg/m³ (8h), 0.4 mg/m³ (15 min) airborne fraction; 2 mg/m³ (8h), 4 mg/m³ (15 min) inhalable

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fraction
Top limit: 4-fold in 15 min.

Parameters to be controlled:

Derived No-Effect Level (DNEL):

Zinc powder:
5 mg/m³ (consumer, swallowing, long-term exposure - systemic effects)
50 mg/m³ (worker, swallowing, long-term exposure - systemic effects)
5000 mg/kg bw/d (worker/consumer, skin contact, long-term exposure - systemic effects)
2.5 mg/m³ (consumer, inhalation, long-term exposure - systemic effects)
Zinc oxide:
5 mg/m³ (consumer, swallowing, long-term exposure - systemic effects)
0.83 mg/kg bw/d (consumer, swallowing, long-term exposure - systemic effects)
87 mg/kg bw/d (worker/consumer, skin contact, long-term exposure - systemic effects)

Predicted No-Effect Concentration (PNEC):

Zinc powder:
Fresh water: 20.6 µg/l
Seawater: 6.1 µg/l
Fresh water sediment: 118 mg/kg dw
Seawater sediment: 56.5 mg/kg
Soil: 35.6 mg/kg
Sewage treatment system (STP): 52 µg/l
Zinc oxide:
Fresh water: 20.6 µg/l
Seawater: 6.1 µg/l
Fresh water sediment: 117.8 mg/kg
Seawater sediment: 56.5 mg/kg
Soil: 35.6 mg/kg
Sewage treatment system (STP): 52 µg/l

Additional Information:

8.2. Exposure Controls

Technical protective measures:

Provide adequate ventilation.

Personal Protection

General protective measures:

*Do not inhale dust. Do not eat, drink or smoke while working.
Wash hands before breaks and at the end of work.*

Respiratory protection:

Required in case of insufficient ventilation (EN 143 or 149).

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Hand protection:

Chemical protective gloves (EN 374 (Europe), F739 (US)).

Protective glove material:

Eye protection:

Tightly fitting safety goggles (EN 166).

Body protection:

Environmental precautions:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties

Form: powder

Color: gray

Odor: odorless

Odor threshold:
No information available.

pH-Value:
not applicable

Melting temperature: 420°C (788°F)

Boiling temperature: 908°C (1666.4°F)

Flash point:
not available

Evaporation rate:
No information available.

Flammability (solid, gas):
not available

Upper explosion limit:
no information available

Lower explosion limit:
no information available

Vapor pressure:
not applicable

Vapor density:
No information available.

Density: 7.14 g/cm³

Solubility in water: insoluble

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Coefficient of variation (n-Octanol/Water):

no information available

Auto-ignition temperature:

No information available.

Decomposition temperature:

not applicable

Viscosity, dynamic:

not available

Explosive properties:

Product is not explosive; however, an explosive dust/air mixture can be formed.

Oxidizing properties:

No information available.

Bulk density:

9.2. Further Information

Solubility in solvents:

Viscosity, kinematic:

Burning class:

Solvent content:

Solid content:

Particle size:

Other information:

10. Stability and Reactivity

10.1. Reactivity

The product is stable.

10.2. Chemical Stability

Stable if used according to specifications.

10.3. Possibility of Hazardous Reactions

None if handled and stored according to specifications.

10.4. Conditions to Avoid

Conditions to avoid:

Avoid humidity.

Thermal decomposition:

10.5. Incompatible Materials

Oxidizing agents and acids.

10.6. Hazardous Decomposition Products

None if stored and handled according to specifications.

10.7. Further Information

11. Toxicological Information

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11. 1. Information on Toxicological Effects

Acute Toxicity

LD50, oral:

Zinc powder: 2000 mg/m³ (rat)

Zinc oxide: > 5000 mg/m³ (rat)

LD50, dermal:

Zinc oxide: > 2000 mg/kg (rat)

LC50, inhalation:

Zinc powder: > 5.4 mg/l (4h, rat)

Zinc oxide: > 5.7 mg/l (4h, rat)

Primary effects

Irritant effect on skin:

Non irritating

Irritant effect on eyes:

Non-irritating to eyes

Inhalation:

No irritant effect known.

Ingestion:

Sensitization:

Zinc oxide: no sensitizing effect (guinea pig).

Mutagenicity:

Zinc oxide: In vitro: negative (OECD 471 Bacterial Reverse Mutation Test); In vivo: negative (Mammalian Bone Marrow Chromosomal Test; OECD 475)

Reproductive toxicity:

Based on the extrapolation of ZnSnO₄: no data available with regard to the carcinogenicity. No classification necessary.

Carcinogenicity:

Based on the extrapolation of ZnO: no data available with regard to the carcinogenicity. No classification necessary.

Teratogenicity:

No relevant data found.

Specific target organ toxicity (STOT):

No relevant data found.

Additional toxicological information:

Inhalation: Long-term overexposure can irritate the respiratory tract and cause coughing.

Eye contact: long-term overexposure may be irritating to eyes.

12. Ecological Information

12. 1. Aquatic Toxicity

Very toxic for aquatic organisms, with long-term adverse effects.

Fish toxicity:

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Zinc oxide: LC50 320 ppm (96h, Lepomis macrochirus); NOEC: 0.017 mg/l (72h, Pseudokirchneriella subcapitata)

Daphnia toxicity:

Zinc powder: EC50: 356 µg/l (48h, Daphnia magna)

Bacteria toxicity:

No data available.

Algae toxicity:

Zinc oxide: EC50 0.17 mg/l (72h, Selenastrum capricornutum)

12.2. Persistency and Degradability

No information available.

12.3. Bioaccumulation

No information available.

12.4. Mobility

No information available.

12.5. Results of PBT- und vPvP Assessment

Not applicable.

12.6. Other Adverse Effects

Water hazard class:

2 (German Regulation) (Assessment by list): hazardous.

Behaviour in sewage systems:

Further ecological effects:

Do not let product enter waterways or sewage system.

AOX Value:

13. Disposal Considerations

13.1. Waste Treatment Methods

Product:

Dispose of according to official national and local regulations.

European Waste Code (EWC):

Uncleaned packaging:

Dispose of according to official local regulations.

Waste Code No.:

14. Transport Information

14.1. UN Number

ADR, IMDG, IATA

3077

14.2. UN Proper Shipping Name

ADR/RID:

UMWELTGEFÄHRDENDER STOFF, FEST, N.A.G. (Zink, Zinkoxid)

IMDG/IATA:

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc, Zinc Oxide)

14.3. Transport Hazard Classes

ADR Class:

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	<i>Hazard no.:</i>	9
	<i>Classification code:</i>	M7
	<i>Tunnel restriction code:</i>	-
	<i>IMDG Class (sea):</i>	9
	<i>Hazard no.:</i>	9
	<i>EmS No.:</i>	F-A, S-F
	<i>IATA Class:</i>	9
	<i>Hazard no.:</i>	9
14. 4.	Packaging Group	
	<i>ADR/RID:</i>	III
	<i>IMDG:</i>	III
	<i>IATA:</i>	III
14. 5.	Environmental Hazards	
		<i>Labelling according 5.2.1.8 ADR/RID: fish and tree</i> <i>Labelling according 5.2.1.6.3 IMDG: fish and tree</i> <i>Classification as environmentally hazardous according 2.9.3</i> <i>IMDG: yes</i>
14. 6.	Special Precautions for User	
		<i>Always transport containers in an upright position to avoid spilling.</i> <i>Take care to inform all involved persons how to handle product in</i> <i>case of leak (see Sections 6-8).</i>
14. 7.	Transportation in Bulk according to Annex II of MARPOL 73/78 and IBC-Code	
		<i>not applicable</i>
14. 8.	Further Information	
		<i>The environmentally hazardous substance mark is not required</i> <i>when transported in sizes <= 5 l or <= 5 kg.</i>

15. Regulatory Information

15. 1. Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

Water hazard class:

2, hazardous for water (according to the German Regulation AwSV)

Local regulations on chemical accidents:

Seveso III:

Environmentally hazardous (E1); Amount 1: 100 t; Amount 2: 200 t

Employment restrictions:

The employment restrictions for young workers in accordance with the Youth Employment Protection Law (§ 22 JArbSchG) are to be observed.

Restriction and prohibition of application:

EC. REACH, Section XVII, Restrictions on the Manufacture, Placing on the Market and Use of Certain Dangerous Substances, Preparations and Articles: not applicable

Technical instructions on air quality:

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15.2. Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this product.

15.3. Further Information

EC. REACH, Annex XIV, Candidate List of Substances of very High Concern (SVHC): not regulated / not applicable

Regulation (EC) 850/2004 - Persistent organic pollutants and amending Directive 79/117/EEC: not regulated / not applicable

Listed in the following inventories:

TSCA (US), AICS (AUS), DSL (CA), KECI (KR), PICCS (PH), NZIoC (NZ), IECSC (CN)

16. Other Information

This product should be stored, handled and used in accordance with good hygiene practices and in conformity with any legal regulations. This information contained herein is based on the present state of knowledge and is intended to describe our product from the point of view of safety requirements. It should be therefore not be construed as guaranteeing specific properties.