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# SAFETY DATA SHEET

## CRAFTER'S CHOICE™ ZINC OXIDE

### 1. PRODUCT INFORMATION AND COMPANY IDENTIFICATION

Product Name: Crafter's Choice™ Zinc Oxide

Company: IndiMade Brands, LLC DBA Wholesale Supplies Plus  
7820 E Pleasant Valley Road  
Independence, OH 44131  
(800) 359-0944  
www.WholesaleSuppliesPlus.com

Emergency Number: (800) 255-3924 | Domestic USA, Canada, Puerto Rico, and US Virgin Islands  
+1 813 248-0585 | International

### 2. HAZARD IDENTIFICATION

Classification of the substance or mixture:

Aquatic Acute 1: H400 Very toxic to aquatic life.

Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects.



Precautionary: P273: Avoid release to the environment. P391: Collect spillage.

Other hazards: None.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

INCI NAME	CAS NO.	CONCENTRATION (%)
Zinc Oxide	1314-13-2	99-100%

Additional information of impurities:

Contains naturally occurring inorganic impurities less than SDS reporting de minimis. Product may contain processing aid at customer request.

After manufacturing, during material handling and storage, the hygroscopic ZnO product absorbs some moisture from humidity in air, and product also slowly degrades with CO<sub>2</sub> in air forming zinc carbonate.



#### 4. FIRST AID MEASURES

Description of first aid measures:

In case of skin contact: Wash with soap and water.  
In case of eye contact: Rinse with plenty of water and seek medical advice.  
In case of Ingestion: Drink plenty of water; do not induce vomiting; call a physician. In case of Inhalation: Move to fresh air. Keep warm and at rest.

Most important symptoms and effects, both acute and delayed:

Acute: Dry cough, headache. Chronic: None (overexposure has no lasting effects).

Indication of any immediate medical attention and special treatment needed: Bad cough or headache. Move person to fresh air. No special treatment known. Excess dust must naturally purge or absorb.

#### 5. FIRE FIGHTING MEASURES

Zinc oxide will not burn.

Hazardous decomposition product(s): None.

Use extinguishing media appropriate for the surrounding fire.

Avoid release of fire control water containing zinc oxide to the environment.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective clothing, dust respirator, and goggles in bulk excess dust conditions. Shovel up spills into appropriate labeled container.

Dry spills, not mixed with other chemicals, may be recyclable.

Environmental precautions:

Avoid release to the environment.

#### 7. HANDLING AND STORAGE

Precautions for safe handling:

Wear protective clothing, dust respirator, and goggles in bulk excess dust conditions.

Conditions for safe storage, including any incompatibilities: Keep dry.

Germany TRGS 510 Annex 4, Class 13 Non-combustible solids that cannot be assigned to other storage class.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Country/organization	8 hour-TWA	15 min-STEL mg/m <sup>3</sup>
USA (Zinc Oxide)	5 mg/m <sup>3</sup> (fumes) 15 mg/m <sup>3</sup> (dust; total)	



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	5 mg/m <sup>3</sup> (dust; respirable)	
USA (Lead)	5 ug/m <sup>3</sup>	
USA (Cadmium)	5 ug/m <sup>3</sup>	

Exposure controls/Personal protection:

Route(s) Of Entry: 1. Inhalation. 2. Dermal. 3. Eyes. 4. Digestion.  
 Eye protection: Recommend safety glasses in bulk dust conditions.  
 Protection for skin: Recommend long sleeves in bulk dust conditions. Protection for hands: Recommend gloves to reduce drying of skin  
 Respiratory protection: Recommend dust filter mask in bulk dust conditions. (Must wear respirator of proper type if exposure above 8 hour TWA)

Appropriate engineering controls:

Technical conditions and measures at process level (source) to prevent release: Process enclosures closed circuits or semi-enclosures where appropriate.  
 Local exhaust ventilation with potential dust and fumes generation. Containment of liquid volumes in sumps to collect/prevent accidental spillage.

Technical conditions and measures to control dispersion from source towards the worker: Cyclones/filters to minimize dust emissions.  
 Good general housekeeping and maintenance practices.

Organizational measures to prevent /limit releases, dispersion and exposure:

Management system (i.e. ISO9001 or OSHAS18000) for good work, training, cleaning, PPE and hygiene practices.

Environmental exposure control

Technical conditions and measures at process level (source) to prevent release: Process enclosures and closed circuits where relevant and possible.

Local exhaust ventilation with potential dust generation, dust capturing and removal techniques Containment of liquid volumes in sumps to collect/prevent accidental spillage.

Technical onsite conditions and measures to reduce discharges, air emissions and releases to soil: On-site waste water treatment techniques.

Containment of liquid volumes in sumps to collect/prevent accidental spillage  
 Air emissions are controlled by use of bag-house filters or other air emission abatement devices.

Organizational measures to prevent/limit release from site:

Management system (i.e. ISO9001 or OSHAS18000) for good work, training, cleaning, PPE and hygiene practices.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance at 20°C and 1013 hPa:	Solid, powder or pellet/granular
Odor / smell:	Odorless.
Odor threshold:	Not applicable.



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Color:	White, off white, cream, grayish, or yellowish.
pH:	Neutral, 6.8 to 8 (7.37 nominal)
Melting / Freezing point:	Will not freeze. Will not melt.* Malleable above 300C/572F No exothermic or endothermic peaks are observed. No oxidation or decomposition was observed. Sublimation temperature 1975C.
Boiling point:	Not applicable; the substance decomposes before boiling.
Flash point:	Not applicable to inorganic substances.
Evaporation rate:	Not applicable to solids
Flammability:	Not flammable. Will not burn.
Auto-ignition temperature:	The substance is not auto-flammable.
Upper / lower flammability limits:	Not applicable.
Upper / lower explosive limits:	Not applicable.
Vapour pressure:	Not applicable (melting point above 300°C).
Vapour density:	Not applicable. Relative density/Specific
Gravity:	5.68 g/cm <sup>3</sup> .
Water solubility:	Negligible (solubility of Zn in ZnO is 2.9 mg/l)
Soluble:	In bases and acids
Partition coefficient n-octanol-water:	Not applicable to inorganic substance.
Decomposition temperature:	Not applicable.
Viscosity:	Not applicable.
Granulometry:	D50 1.05 µm, D80 <20 µm
Molecular Weight:	81.38 (ZnO)

## 10. STABILITY AND REACTIVITY

Reactivity: Stable under normal dry air conditions.

Chemical stability: Product is stable.

Possibility of hazardous reactions:  
None.

Conditions to avoid: Keep from getting wet (will damage substance usefulness).

Incompatible materials: Heated magnesium. Chlorinated rubber above 215C.

Hazardous decomposition: None.

Decomposition: Product decomposes in acids and bases.

Degradation: Slow degrade to zinc carbonate (not hazardous).\*

\*ZnO degrades with CO<sub>2</sub> (in ambient air) to ZnCO<sub>3</sub> zinc carbonate. Rate is accelerated with higher m<sup>2</sup>/g surface area or damp storage conditions. Shelf life one year from date of manufacturing (dom) for grades



>= 8.0 m<sup>2</sup>/g surface area, and all rubber applications. Shelf life is eighteen months from dom for all other grades and applications. Rubber is particularly sensitive to ZnCO<sub>3</sub> hard white particulates not dispersing.

## 11. TOXICOLOGICAL INFORMATION

Information on acute toxicity toxicological effects for zinc oxide:

Results	Species	Dose	Exposure	Refs
LC50 Inhalation Dusts and mists	Rat	>5.7 mg/L	4 hours	Klimisch and Freisberg (1982)
LD50 Oral	Rat	15000 mg/kg	NA	Löser (1972)
LD50 Oral	Rat	>5000 mg/kg	NA	Löser (1977)

\*With LD50 values consistently exceeding 2,000 mg/kg bw, slightly soluble compounds such as, zinc oxide (LD50 ranges between 5,000 and 15,000mg/kg bw) show low level of acute oral toxicity, not leading to classification for acute oral toxicity. Zinc oxide is shown to be of low acute inhalation toxicity (i.e., LC50 values of > 5.7 mg/L/4hrs), not leading to classification for acute inhalation toxicity.

Route(s) Of Entry: 1. Inhalation. 2. Dermal. 3. Eyes. 4. Digestion.  
Irritation/Corrosion:  
Skin: Not irritant. Eye: Not irritant. Respiratory tract: Not irritant  
Ingestion: None (zinc oxide is used as a human vitamin supplement).

Sensitization: No sensitizing effects known (Van Huygevoort, 1999 g, h) Germ cell mutagenicity: No biologically relevant genotoxic activity.

Carcinogenicity: Not a NTP/IARC carcinogen.  
Reproductive toxicity: No evidence of reproduction toxicity.

Specific target organ toxicity (single exposure):  
No experimental or epidemiological sufficient evidence for specific target organ toxicity

Specific target organ toxicity:  
Specific target organ toxicity (repeated exposure):  
None. (Lam et al, 1985, 1988; Conner et al. 1988).

Specific target organ toxicity (single exposure):  
None. (Heydon and Kagan, 1990; Gordon et al., 1992; Mueller and Seger, 1985).

## 12. ECOLOGICAL INFORMATION

Toxicity

Substance	Result	Species	Dose	Exposure	Reference(s)
Zinc oxide	LC50 Inhalation	Rat	>5.7 mg/L 4 hours Klimisch and	4 hours	Klimisch and Freisberg (1982)



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	Dusts & mists		Freisberg (1982)		
Zinc Oxide	LD50 Oral	Rat	15000 mg/kg	NA	Löser (1972)
Zinc Oxide	LD50 Oral	Rat	>5000 mg/kg	NA	Löser (1972)

Zinc oxide is not an acute oral or acute inhalation toxic.

Acute aquatic toxicity

Acute EC50 0.413 mg/l Zn, 48 hour – Ceriodaphnia dubia

Acute LC50 0.136 mg/l Zn, 72 hour – Selenastrum capricornutum

Persistence and biodegradability – Not Applicable (zinc is an element).

Bioaccumulative potential – Not Applicable (ZnO does not bioaccumulate or biomagnify). Zinc is a natural essential element necessary for 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.

Mobility in soils – Not Applicable. For zinc (like for other metals) the transport and distribution over the different environmental compartments e.g. the water (dissolved fraction, fraction bound to suspended matter), soil (fraction bound or complexed to the soil particles, fraction in the soil pore water,...) is described and quantified by the metal partition coefficients between these different fractions.

Results of PBT and vPvB assessment – Not Applicable (zinc oxide is not PBT or vPvB)

Other adverse effects – None.

### 13. DISPOSAL CONSIDERATIONS

Waste treatment methods: May be subject to local regulations.

### 14. TRANSPORT INFORMATION

This material is not transportation regulated in the U.S.A.

Table for transportation information within P.R.C., Japan and authorities transportation regulating zinc oxide as transportation (if net wt. per container above threshold):

Number UN3077

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

Transport hazard Classes(es)



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Hazard identification number: 90

Packing group III

Environmental hazards  
Yes, Dangerous to the Environment

Hazard identification number 9  
Packing group III  
Environmental hazards Yes, Dangerous to the Environment

Additional information Tunnel code (E)

Special precautions for users (general)  
None

IATA:  
IATA - Passenger & Cargo Aircraft: 1000 kg (Packing Instruction 956 for IBC's) IATA -  
Passenger & Cargo Aircraft: 400 kg (Packing Instruction 956 for Bags)  
IATA - Passenger & Cargo Aircraft: 30 kg (Packing Instruction Y956 for Limited  
Quantity)  
IATA - S.P.: A97, A158, A179

## 15. REGULATORY INFORMATION

SVHC: Zinc oxide is not an SVHC. Impurities are below SVHC or candidate SVHC thresholds.

Nano: This product is not nano (per EU regulation proposal of nano as 50% particles <0.1um).

P.R.C. Inventory/List. Zinc oxide is listed on P.R.C. IECSC and meets P.R.C. REACH as an existing substance.

Other Inventories/Lists. This material is listed as follows: Australia AICS: listed; Canada DSL: listed; Canada NDSL: not listed; USA TSCA: listed; Europe EINECS: listed; Europe ELINCS: not listed; ASIA-PAC: listed; Japan ENCS/METI/CSCL: listed, (Japan export List i.1~15 & List ii N/A, List 1.16 applicable); Philippines PICCS: listed; New Zealand HSNO: listed; Korea KECL/TCCL: listed; Korea K-REACH: listed KE- 65565; Taiwan TCSI: listed (up to 100kg/yr without Taiwan REACH registration);

Food Contact.

- P.R.C.: complies with GB 9685-2008 and is listed on food colorant MoH Positive List for Additives.



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- EU: Listed EC 10/2011, compliant with EC 1935/2004, is GMP EC 2023/2006 (SML is 25 mg/kg as Zn).
- US: Listed as a GRAS (Generally Recognized As Safe) at 21CFR182.8991.
- Canada: Health Canada has issued a Letter of No Objection

K-REACH (Republic of Korea (ROK)). It is the responsibility of the importer to comply with K-REACH registration requirements for this substance.

## 16. OTHER INFORMATION

### Remarks

This safety data sheet is based on the properties of the material known to IndiMade Brands, LLC at the time the data sheet was issued. The safety data sheet is intended to provide information for a health and safety assessment of the material and the circumstances, under which it is packaged, stored or applied in the workplace. For such a safety assessment IndiMade Brands, LLC holds no responsibility. This document is not intended for quality assurance purposes.