Zano®

Safety Data Sheet

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200
Issue date: 5/16/2017 Revision date: 12/6/2021 Supersedes: 11/25/2021 Version: 5.0

SECTION 1: Identification

1.1. Identification

Product form	:	Substance
Trade name	:	Zano®
Chemical name	:	zinc oxide
IUPAC name	:	zinc oxide
CAS-No.	:	1314-13-2
Product code	:	300000003607
Synonyms	:	Zano® 10 ; Zano® 20 ; Zano® M ; Zano®D ; Zano® XPB

1.2. Recommended use and restrictions on use

Use of the substance/mixture	:	Additives Cosmetics plastics
Restrictions on use	:	None known

1.3. Supplier

EverCare
526 Pylon drive
Raleigh NC, 27606 - United States of America
T +1 (919) 357 69 80
Info.MSDS@everzinc.com

1.4. Emergency telephone number

Emergency number	:	Africa and Middle East: +44 1865 407333/ Asia Pacific: Australia: +61 2 8014 4558, China: 400 120 6011 (toll-free number), Malaysia: +60 3 6207 4347, Philippines: +63 2 8231 2149, South Korea: +82 2 3479 8401, Rest of Asia Pacific: +44 1865 407333/ Europe: +44 1235 239670/ North America: Mexico: +52 55 5004 8763, Rest of North America: +1 215 207 0061/ South America: Chile. +56 2 2582 9336, Rest of South America: +44 1865 407333 24 Hours 7 days/week

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS US classification
zinc oxide (Main constituent)	CAS-No.: 1314-13-2	≤ 100	Not classified

Full text of hazard classes and H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : First aider: Pay attention to self-protection!.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with soap and water.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Not irritant to eyes.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.
Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Mechanically recover the product.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the workstation. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Store in a closed container. Store in a well-ventilated place. Keep cool. Protect from heat and direct sunlight.
Incompatible materials : Keep away from oxidizers, strong acids and strong bases.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

zinc oxide (1314-13-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Zinc oxide
ACGIH OEL TWA	2 mg/m³ (R - Respirable particulate matter)
ACGIH OEL STEL	10 mg/m³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Metal fume fever

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the workstation.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:
Wear protective clothing

Hand protection:				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
Disposable gloves	Nitrile rubber (NBR)		0.11	

Eye protection:		
Type	**Field of application**	**Characteristics**
Safety glasses		With side shields

Skin and body protection:
Type
heavy duty work shoes EN ISO 20345-S1
Personal protective equipment Category II

Respiratory protection:		
In case of insufficient ventilation, wear suitable respiratory equipment		
Device	**Filter type**	**Condition**
Effective dust mask: Personal protective equipment Category III, (FFP3) EN 149 2001 + A1: 2009		
Wear appropriate breathing apparatus if air renewal not sufficient to maintain dust/vapor under TLV		

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	Powder.
Color	:	white
Odor	:	odorless
Odor threshold	:	Not applicable
pH	:	Not applicable
Melting point	:	1975 °C
Freezing point	:	No data available
Boiling point	:	No data available (test not performed)
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	Not applicable
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	Not applicable
Relative vapor density at 20 °C	:	Not applicable
Relative density	:	No data available
Density	:	5.61 g/cm³
Molecular mass	:	81.39 g/mol
Solubility	:	Water: Insoluble
Partition coefficient n-octanol/water (Log Pow)	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	Not applicable
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	Not applicable (solid)
Explosion limits	:	Lower explosive limit (LEL): Not applicable Upper explosive limit (UEL): Not applicable

Explosive properties : Not applicable.
Oxidizing properties : No data available

9.2. Other information

VOC content : Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Keep away from oxidizers, strong acids and strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

zinc oxide (1314-13-2)	
LD50 oral rat	> 5000 mg/kg (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 5.7 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

Skin corrosion/irritation : Not classified
pH: Not applicable
Serious eye damage/irritation : Not classified
pH: Not applicable
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified (Annex VI reference classification).

zinc oxide (1314-13-2)	
LOAEL (dermal,rat/rabbit,90 days)	75 mg/kg body weight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEL (oral,rat,90 days)	31.52 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Likely routes of exposure : Inhalation. Skin and eye contact.
Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Not irritant to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Dangerous for the environment. Very toxic to aquatic life with long lasting effects.

zinc oxide (1314-13-2)	
LC50 - Fish [1]	0.169 mg/l Oncorhynchus mykiss (Rainbow trout)
EC50 - Crustacea [1]	1 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Zinc ion)
NOEC chronic algae	0.0299 mg/l

12.2. Persistence and degradability

zinc oxide (1314-13-2)	
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

zinc oxide (1314-13-2)	
BCF - Fish [1]	78 – 2060 (14 day(s), Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value)
Partition coefficient n-octanol/water (Log Pow)	Not applicable

12.4. Mobility in soil

zinc oxide (1314-13-2)	
Surface tension	Not applicable (solid)
Partition coefficient n-octanol/water (Log Koc)	2.2 (log Koc, Literature study)
Ecology - soil	Low potential for adsorption in soil.

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with Department of Transport / Transportation of Dangerous Goods / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not applicable	UN3077	3077	3077
14.2. Proper Shipping Name			
Not applicable	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)	Environmentally hazardous substance, solid, n.o.s. (Zinc oxide)
14.3. Transport hazard class(es)			
Not applicable	9	9	9
			
14.4. Packing group			
Not applicable	III	III	III
14.5. Environmental hazards			
Not applicable	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

DOT
No data available

TDG
UN-No. (TDG) : UN3077

TDG Special Provisions	:	16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the hazard or hazards posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A) of Part 3 (Documentation). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3) of Part 4 (Dangerous Goods Safety Marks). (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name: (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S; (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S; (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S; (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S. (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment: (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS,99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be handled, offered for transport or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means containment and during transport. (2) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.
Explosive Limit and Limited Quantity Index	:	5 kg
Excepted quantities (TDG)	:	E1

IMDG

Special provision (IMDG)	:	274, 335, 966, 967, 969
Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002, LP02
Packing provisions (IMDG)	:	PP12
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	T1, BK1, BK2, BK3
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	:	S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	:	A
MFAG-No	:	171

IATA

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y956
PCA limited quantity max net quantity (IATA)	:	30kgG
PCA packing instructions (IATA)	:	956
PCA max net quantity (IATA)	:	400kg
CAO packing instructions (IATA)	:	956

CAO max net quantity (IATA)	:	400kg
Special provision (IATA)	:	A97, A158, A179, A197
ERG code (IATA)	:	9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

zinc oxide (1314-13-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory
Subject to reporting requirements of United States SARA Section 313

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

zinc oxide	CAS-No. 1314-13-2	100%

15.2. International regulations

CANADA

zinc oxide (1314-13-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

zinc oxide (1314-13-2)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Japanese ISHL (Industrial Safety and Health Law)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910 .1200

Revision date	:	12/06/2021

Abbreviations and acronyms	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
IARC	International Agency for Research on Cancer
EC50	Median effective concentration
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limits
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TLM	Median Tolerance Limit
TWA	Time Weighted Average
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
EC-No.	European Community number
EN	European Standard
vPvB	Very Persistent and Very Bioaccumulative

Abbreviations and acronyms	
WGK	Water Hazard Class

Indication of changes:			
Section	**Changed item**	**Change**	**Comments**
	Supersedes	Modified	
	Revision date	Modified	
1	Synonyms	Added	

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.