

ZINC OXIDE

PRODUCT IDENTIFICATION

CAS NO.	1314-13-2	○=Zn
EINECS NO.	215-222-5	
FORMULA	ZnO	
MOL WT.	81.37	
H.S.CODE	2817.00	
TOXICITY		
SYNONYMS	Zinc white; Zinc flowers ; C.I. pigment white 4; ZnO;	
DERIVATION		
CLASSIFICATION		

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	white amorphous powder, Odorless
MELTING POINT	1975 C
BOILING POINT	Sublimes
SPECIFIC GRAVITY	5.606
SOLUBILITY IN WATER	Insoluble (soluble in dilute acids, insoluble in alcohols)
pH	6.95
VAPOR DENSITY	2.26
AUTOIGNITION	
NFPA RATINGS	Health: 1 Flammability: 0 Reactivity: 0
REFRACTIVE INDEX	
FLASH POINT	non-combutible
STABILITY	Stable under ordinary conditions

GENERAL DESCRIPTION & APPLICATIONS

Zinc Oxide (also called Zinc White) is an amorphous white or yellowish powder, insoluble in water and alcohol but soluble in acid and alkali. Zinc oxide particles may be spherical, acicular or nodular depending on the manufacturing process. The particle shape is important for maximizing physical properties. Zinc oxide absorbs virtually all UV light radiation at wavelengths below 360 nm and provides binders outstanding protection. Zinc oxide reacts with acidic components of coatings and forms zinc soaps. Zinc soaps improve the flexibility and hardness of coatings. It is used as a pigment in compounding rubber, as a white pigment in the ceramics industry, as an opaque base in cosmetics, and it has other applications in the paper, the paints and the optical glass industries.

SALES SPECIFICATION

PROPERTY	INDUSTRIAL GRADE	PROPERTY	BP GRADE
ZnO	99.5% min	ZnO	99.8% min
Zn	Nil	Arsenic (As)	5ppm max
Pb	0.035% max	Cadmium (Cd)	10ppm max
Mn	0.0001% max	Iron (Fe)	200ppm max
CuO	0.0002% max	Lead (Pb)	50ppm max
Water Soluble	0.1wt% max	Water Soluble	0.1wt% max
HCl Insoluble	0.006% max	Loss on Ignition	0.1wt% max
Volatile Matter	0.3% max	Screen Residue	0.1% max (325mesh)
Loss on Ignition	0.2% max		
Screen Residue	0.5% max (325mesh)		

PROPERTY	UNIT	RUBBER GRADE	PAINT GRADE
ZnO	wt% min	99.5	99.5

PbO	wt% max	0.12	-
CdO	wt% max	0.02	-
CuO	wt% max	0.006	-
Mn	wt% max	0.0002	-
Zn	wt% max	Nil	Nil-
Moisture	ppm max	0.4	0.4
HCl Insoluble	ppm max	0.03	-
Water Soluble	wt% max	0.4	0.4
Hiding Power	g/m2 max	-	150
Oil Absorption	g/100g max	-	18
Color	Killing %	-	100
Loss on Ignition	wt% max	0.4	-
Sieve Residue	wt% max	0.5 (325mesh)	0.5 (325mesh)

TRANSPORTATION

PACKING

25 kgs in Bag, 1mts in Bag

HAZARD CLASS

Hazard Symbols: XI; Risk Phrases: R 36/37/38

UN NO.

Not regulated

MEMBERS OF PIGMENT WHITE

C.I. Number	Chemical name	CAS RN
Pigment white 1	Lead hydroxide carbonate	1319-46-6
Pigment white 3	Lead sulfate	7446-14-2
Pigment white 4	Zinc oxide	1314-13-2
Pigment white 5	Lithopone	1345-05-7
Pigment white 6	Titanium dioxide	13463-67-7
Pigment white 7	Zinc sulfide	1314-98-3
Pigment white 10	Barium carbonate	513-77-9
Pigment white 11	Antimony trioxide	1309-64-4
Pigment white 12	Zirconium oxide	1314-23-4
Pigment white 14	Bismuth oxychloride	7787-59-9
Pigment white 17	Bismuth subnitrate	1304-85-4
Pigment white 18	Calcium carbonate	471-34-1
Pigment white 19	Kaolin	1332-58-7
Pigment white 21	Barium sulfate	7727-43-7
Pigment white 24	Aluminum hydroxide	21645-51-2
Pigment white 25	Calcium sulfate	7778-18-9
Pigment white 27	Silicon dioxide	7631-86-9
Pigment white 28	Calcium metasilicate	10101-39-0
Pigment white 32	Zinc phosphate cement	7779-90-0