



## Zing C and ZnSpers

### **Dispersible, Transparent Zinc Oxide, for Cosmetic and Personal Care Applications**

- A premier ingredient for cosmetics and personal care products
- Patented production process
- Acts as a SPF booster
- Blocks harmful UVA, UVB sun rays and also acts as an Anti-microbial agent
- Available in microfine powder as well as in dispersion form (Organics & Aqueous)



# Salient Features

- Broadband UV blocker (Blocks UVA-I from 400 – 340 nm, UVA-II 340 – 320 nm and UVB (320 - 290 nm).
- Small particle size ensures transparency (> 95 %) in visible spectrum of light (400 – 800 nm).
- Can be used by itself or combined with organic UV blocker to boost SPF & PA rating.
- Unique process of manufacturing makes product free from heavy metal impurities and makes it easy to disperse.
- Ultrafine particle size and ability to generate reactive oxygen species (ROS) thus acting as Anti-bacterial and Anti-fungal additive.

## FUNCTIONALIZED ZnO

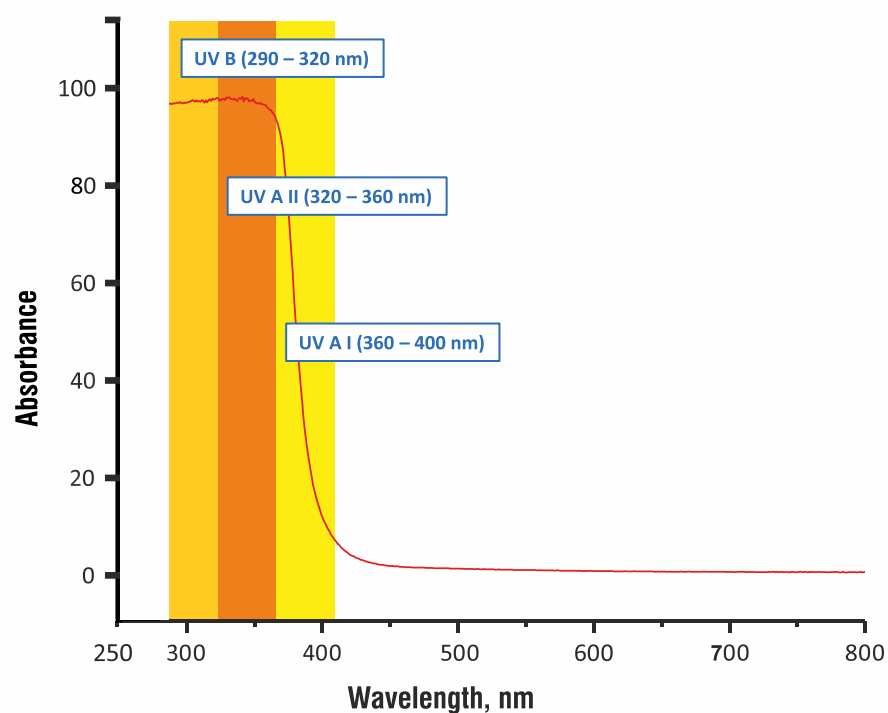
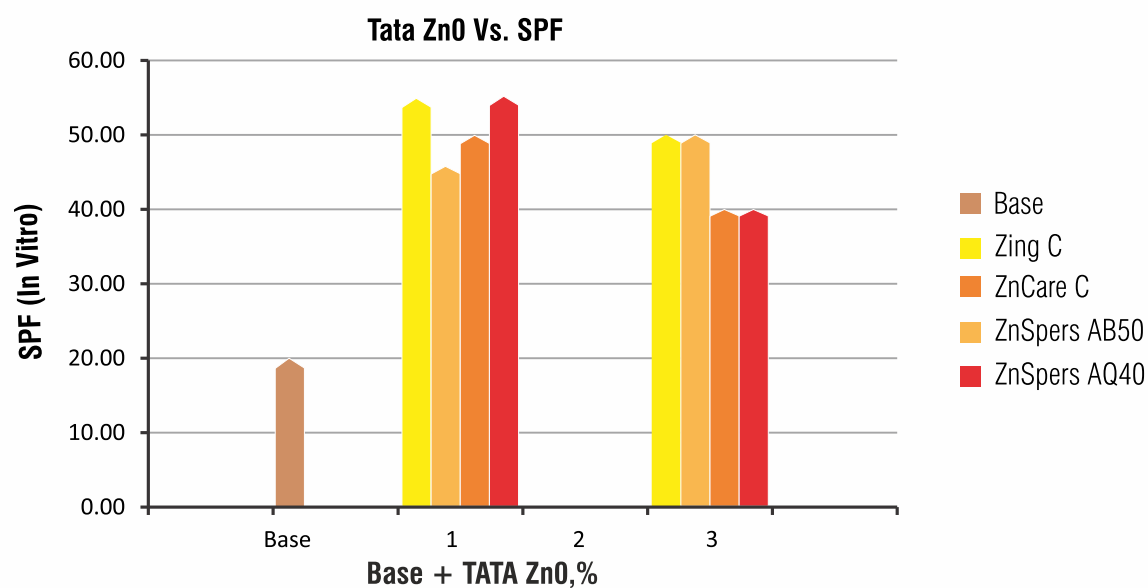
Sr. No.	Grade	Appearance	% Assay	% Non Volatiles	Bulk Density	Dispersion Media	Recommended dosage in %	Remark
1	ZnCare C	White to off - white powder	30	100	1.1	---	1 - 5	For water based cosmetics as SPF booster, UVA Absorber.Uses : Sunscreens, Lip balms etc..
2	Zing C SPL	White to off - white powder	>90	100	1.5	---	0.5 - 10	Pure Grade functionalized ZnO suitable for all applications such as Cosmetics, Personal Care products. REACH pre registered, Indian Pharmacopeia Compliant, ECOCERT certified. Uses: Diaper RashCreams, BB Creams, Sunscreens, Talcum Powder, Oral Care products.
3	ZnSpers AB 50 SPL	Milky white, medium viscosity liquid	50	100	---	C12-C15 Alkyl Benzoate	2 - 10	Dispersion of functionalized ZnO in Alkyl Benzote. for use in Oil based Cosmetics & Personal Care Products.
4	ZnSpers AQ 40 SPL	Milky white, medium viscosity liquid	40	50	---	Water	1 - 10	Dispersion of TATA ZnO in water makes it easy to handle the product into the formulations. Avoids powder handling.
5	ZnSpers CT 50 SPL	Milky white, medium viscosity liquid	50	100	---	Caprylic Capric Triglyceride	2-10 in Skin/Sun Care. 15-25 in Anti Rash Creams	Dispersion of functionalized ZnO in Caprylic Capric Triglyceride for use in oil based cosmetics Baby Care & Personal Care products
6	ZnSpers Ti 50-2	Milky white, medium viscosity liquid	50	100	---	C 12-C 15 Alkyl Benzoate	2-10 for Organic Sunscreen products. 10-50 for Inorganic Sunscreen products	A dispersion of functionalized ZnO & Titanium Dioxide combination in Alky Benzoate Uses : Inorganic & Organic Sunscreen , Skin Care products

Dispersions in other mediums are available on request.

## Effect of TATA ZnO on SPF

Active Ingredients	Wt.	Active Ingredients	Wt.
Octyl Methoxy Cinnamate	7.5	Octyl Methoxy Cinnamate	7.5
Avobenzene	3	Avobenzene	3
Oxybenzone	6	Oxybenzone	6
		<b>ZnCare C</b>	<b>1</b>
<b>SPF</b>	<b>19</b>	<b>SPF</b>	<b>35</b>
PA rating	++	PA rating	+++





**MIC Data with Input Bacteria Count  
10<sup>6</sup>cfu/ml for ZnO dosage of 0.3% to 0.5%**

Bacteria	Log Reduction after 24 hrs	Bacteria	Log Reduction after 24 hrs
Actinomyces Odontolyticus	5.23	Klebsiella pneumoniae ATCC 4352	5.27
Haemolytic streptococci	5.50	Pseudomonas aeruginosa ATCC 9027	4.25
Enterobacter aerogenes	5.19	Pseudomonas ovate (M.ovate ATCC 46744)	5.19
Enterococcus hirae	5.09	Streptococcus faecalis (ATCC 9790)	5.08
Bacteroides vulgatus	5.27	Propionibacterium acne (Hospital Strain)	3.97
Actinomyces viscosus	3.35	Salmonella enteritidis ATCC 13076	2.31
Streptococcus mutans	5.79	Streptococcus pyogenes (Hospital Strain)	1.67
Escherichia coli ATCC 10536	5.25	Proteus vulgaris ATCC 13315	1.89
Streptococcus aureus ATCC 6538	5.20	Serratia marcescens MTCC 97	1.82

**Zone of inhibition data with Input  
Fungus Count 10<sup>6</sup>cfu/ml for ZnO  
dosage of 0.3% to 0.5%**

Fungus	Zone of Inhibition (in mm)
Cladosporium spp (From Paint Industry)	18
Aspergillus Niger ATCC 6275	19
Trichoderma Viridae ATCC 12582	22
Candida Albicans ATCC 10231	16
Saccharomyces Cerevisiae ATCC 9763	13
Green Mould (From Leather Industry)	12
Red Mould (From leather Industry)	22
Rhizopus spp (From paint Industry)	17

For detailed Anti - Bacterial / Anti - Fungal Activity please write to  
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