

Material Safety Data Sheet

OxiTitan Glass & Gloss

Revised October 1, 2011

1. Product and Company Information

Product Specification: OxiTitan™ ZnTiO₂ based Photocatalyst Sol
Product Series: Glass & Gloss
Product Model: OxiTitan™ Glass & Gloss
Corporation: EcoActive Surfaces, Inc. 551-D NE 27th Street,
Pompano Beach, FL USA
Emergency response: 877-876-8080

2. Component Information

This product is a chemical compound.

Registration	CAS NO.	EINECS	TSCA (USA)		MITI	Content
			AICS (Aus.)	CEPA (Canada)		
Zinc Metal	7440-66-6	231-175-3	Registered 8(b)	N/A	50-100 ppm	
Titanium Dioxide	13463-67-7	236-675-5	Registered	1-558	5000-8000 ppm	
Isopropyl Alcohol	67-63-0	200-661-7	Registered	N/A	< 20% by weight	
Water	7732-18-5	231-791-2	Registered	N/A	< 80% by weight	

3. Product Feature

Superfine nanoparticle in sol from hydro-synthetic process with aqueous alcohol as drying agent
Effective under visible light (wave length 550nm through UV)
Excellent self-cleaning, hydrophilic feature, fast drying
High transparency, minimized iridescence
Special homogeneous coating optimization for non-porous & smooth surfaces
Drying from room temperature to 600° C/1112° F
Low VOC formula (80% water-based system)

4. Hazardous or Poisonous Nature

Classification: Minimum Risk Pesticide – Exempt from Registration (40 CFR 152.25(b))
Hazardousness: Slightly hazardous in case of skin contact (normal precautions for aqueous alcohol). None post-application.
Poisonous contents: Do not ingest (normal procedures for aqueous alcohol)
Adverse Environmental Effect: None

5. Recommended Application

Antimicrobial, anti-mold, antifungal application
VOC and Odor removal application
Super hydrophilic application, inorganic surfaces

6. First-Aid Measure

Contact with eyes: Wash eyes with water

Contact with skin: Clean affected area with water

Inhalation: Clean nose with water and then gargle

Ingestion: Gargle with water, then drink water. If needed, seek medical care.

7. In Case of Fire

Heated stability: Flammable aqueous alcohol, non-explosive in presence of open flames and sparks. Class 3. Avoid heat, ignition sources, and incompatible materials.

Fire extinguishing procedure: Use dry powder

Flash points: Closed cup: 42.22°C

Fire extinguishing media: Use fire-fighting measures that suit the surrounding fire, water spray.

Firefighter special protection: No special requirement

8. In Case of Leak

Personal protection measure: Splash goggles, vapor respirator, lab coat.

Environment protection measure: No special requirement. The product itself and its products of degradation are not toxic.

Chemical disposal: Wipe off or wash affected area with water.

Dispose of waste in accordance with federal, state, and local environmental control regulations

9. Handling and Storage

Handling: Avoid direct contact with eyes, skin, or clothing

Wash equipment with non-ion water after handling the product

Keep container sealed after handling

Do not breathe the steam, or vapor from product

Keep away from heat. The material will steam if heated over 100° C/212° F.

Storage: Store in a cool (5-40° C/41-104° F recommended), dark, well ventilated place.

Long-term Storage Period: 12 months, tightly seal containers.

(Acc. To 10° C, sealed, humidity 55RH%, dark room conditions)

Further Information about storage:

The product should not be refrigerated. The performance and stability of the product will be affected if the product is frozen before application.

10. Touch Control and Personal Protection

Exposure guidance - Zinc / Titanium Dioxide

This material is available only as a non-toxic water-based sol. Aqueous alcohol as drying agent. Inhalation of excessive powder, if created as dust, may cause breathing discomfort.

Powder concentration weight limit (Calculated as powder)

PEL(OSHA): 15 mg/m³, 8 hours TWA

TLV (ACGIH): 10 mg/m³, 8 hours TWA

Isopropyl alcohol: Slightly hazardous in case of skin contact (sensitizer). Oral (LD50) Acute :3600 mg/kg(mouse). Dermal(LD50): Acute 12800 mg/kg(rabbit)

Personal Protective Equipment

Eye protection: Recommended safety eyeglasses with side cover for industrial handling. Eye protective equipment should match with the relevant respiratory protective equipment.

Body protection: No special requirement for normal handling.

Recommend gloves for industrial handling.

The gloves should provide non-infiltrate protection.

Respiratory protection: Respiratory protective equipment is not necessary for normal handling but recommended for any aerosol application.

If the concentration is over the TLV limit, respiratory protective equipment (Acc. To 89j656/EEC - 89j686/EEC or equivalent equipment recommended)

No other extra protection needed.

11. Stability and Reactivity

Hazard reaction: N/A

Forbidden match material: N/A

Polymerization reaction: N/A

12. Toxicological Information

The shown acute oral poisoning data are based on FHSA Regulations 16 CFR 1500.3 by SGS.

Acute oral poisoning: LD-50 >10,000 mg/kg (Rats)

Acute skin poisoning: None

Skin irritation: None

Ocular irritation: None

13. Physicochemical Properties

Properties	Typical Value	
Appearance	Yellowish transparent liquid	
Dispersive type	Sol	
Odor	None	
PH	7-8.5	
Boiling point	100° C/ 212° F	
Volatility	Not available	
Freezing point	0° C / 32° F	
Flash point	Closed cup : 42.22°C	
Explode upper limit	N/A	
Explode lower limit	N/A	
Average primary particle size	≤ 7 nm	Acc. To GB/T 19591-2004
Crystal structure	Anatase	Acc. To GB/T 19591-2004
Specific Surface Area	(BET) 160 ±30 m ² /g Acc. To ISO 9277:1995	
Coagulation Index	2-4	Acc, To GBIT 19591-2004
Material academic duration	Permanent	
Coating duration	>3 years	Acc. to simulation environment
Primary drying time	30 minutes	
Final setting time	3 days	
Drying temperature	10° C/50°F - 600° C/1112° F	
Solubility	Dissolve in water, miscible in oil	
True Specific gravity	1.0075-1.01	
Viscosity, dynamic	1.0050 mPa.s	
Vaporize velocity	<1.00	Acc. to H2O
The data represents typical values and not production parameter		

14. Disposal of Discards

Environmental protection measures: None required

Disposal: Sweep and dispose in the way normal liquid discards are treated.

Dispose of waste in accordance with federal, state, and local environmental regulations.

15. Law Information

Europe: The product is innocuous pursuant to EEC Guideline 67/548 and 99/45/EC.
RoHS and REACH compliant

China: All the special components are listed in the material directory of Current Chemical Substances Directory (CHINA) or exemptible or confirmed by the supplier.

U.S.A.: Toxic Substances Control Act (TSCA). All the components of the materials follow the TSCA regulations of the U.S.A. US EPA and US FDA compliant.

16. Transportation Information

DOT Classification for highway, rail, marine and air:

Not restricted by relevant laws and regulations now available concerning hazards.

RID/ADR Nonhazardous for rail or road freight

ICoA/IATA Nonhazardous for air freight

IMDG Nonhazardous for sea freight

Transport classification depends on the volume of containers and federal, state or regional laws and regulations. It is advisable to conform to requirements for ordinary chemicals.

17. Guarantee Information

The information listed herein is true and accurate. However, such information shall not be the substitute of the clients' tests for safety, effectiveness or satisfaction with the final uses of OxiTitan products due to conditions and methods for using our products are out of our control. Our only guarantee is the product accords with the sales specifications when delivered. The only remedy for our violation of guarantee is limited to refunding of purchasing value or replacement of any product in nonconformity with guarantee above. No explicit or implicit guarantees on applicability or marketability unless otherwise guaranteed specifically in writing for applicability.

EcoActive Surfaces, Inc. declares no responsibilities for occasional or incidental losses, and suggestions for application as offered shall not be regarded as incentives to infringe any patents.

18. Application Guidance

Application methods include electrostatic sprayer, HVLP sprayer, roller, dipping, brush or other coating methods. To ensure compatibility and satisfactory results, test each surface to be treated. All surfaces should be free from water, stains, dusts, oil contamination and other pollutants. Cover materials not to be treated before applying. Avoid excessive coating. Use in well-ventilated area. Avoid open sparks and flames.

19. Emergency Response Contact Information

Global: Business hours: 877-866-8080
Non-business hours: 954-788-1880

Notes: To the best of our knowledge and information and as of the issuing date of this manual, the data herein is correct and accurate. All information only for use as the guidance for safe processing, application, production, storage, transport, disposal and emission rather than a guarantee or quality instruction manual. The data is only targeted at specified materials and possibly ineffective for mixed application with other materials or application during other productions (unless otherwise specified explicitly).