

ORBIT NANOSHIELD

Description of the Product:

Nano SHIELD is a water-based high solid, 100% pure acrylic coating, that contains both reflective and nano insulation pigments for best-in-class heat protection, along with enhanced nano UV protection and waterproofing

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	*

Section 1. Chemical Product and Company Identification

Trade Name: Nano Shield	Emergency information:
Chemical Formula: Mixture compound	Tel.: +971 4 298204
Supplier: Orbit Coatings LLC	Technical Assistance: info@orbitcoatings.ae
WH No. 12, 14th Street, Al Qouz Industrial Area-3, Dubai, United Arab Emirates	

Section 2: Composition and Information on Ingredients

Composition, ingredient information: Category as a single product/mixture: Mixture		
Composition:		
Registration	CAS NO.	Content (%)
Water	7732-18-5	22-30
Pure Acrylic	25586-20-3	25-55
Ethoxy Propyl Acetate	108-65-6	10-22
Glycoal ether	225-878-4	25-48
Metal Oxide nano particle	1312-43-2	8-20
Ferlite	93763-70-3	2-5
Titanium Dioxide	13563-67-7	10-20
Aerogel	7631-86-9.	2-7

Section 3: Hazards Identification

Potential Acute Health Effects : No hazardous (Innocuous material)

Potential Chronic Health Effects : CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by

ACGIH, 3 (Not classifiable for human.)
by IARC.

SYMPTOMS OF EXPOSURE

Inhalation in big volume	:	Coughing, sneezing, irritation of the lungs.
TERATOGENIC EFFECTS	:	Not available.
DEVELOPMENTAL TOXICITY	:	Not available

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT. MAY AFFECT LUNG

Toxicological Data on Ingredients: LD50: >10,000mg/kg (Rats) 1317-70-0

Section 4: First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Contact: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation occurs.

Serious Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire Fighting Measure

Flammability: Not flammable by WHMIS criteria.

Means of Extinction:

Suitable Extinguishing Media: Powder, water spray, foam, carbon dioxide.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: May include and are not limited to: oxides of carbon.

Explosion Data:

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Not available.

Protection of Firefighters: Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental Precautions: Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow entering waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Clean-Up: Scoop up material and place in a disposal container. Provide ventilation.

Other Information: Not available.

Section 7: Handling and Storage

Handling: Avoid contact with skin and eyes. Do not swallow. Do not breathe gas/fumes/vapor/spray. Handle and open container with care. When using do not eat or drink. Wash hands before eating, drinking, or smoking.

Storage: Keep out of the reach of children. Keep container tightly closed. Store in a cool place. Keep from freezing.

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines Exposure Limits: Ingredient OSHA PEL, ACGIH-TLV

Titanium dioxide - OSHA PEL: TWA: 15 mg/m³ Total dust, ACGIH TLV: TWA:10mg/m³

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Personal Protective Equipment:

Eye/Face Protection: Wear eye/face protection.

Hand Protection: Wear suitable gloves.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment.

General Hygiene Considerations: Handle according to established industrial hygiene and safety practices.

Section 9: Physical and Chemical Properties

Physicochemical Data

Color:	: White
Odor:	: Mild odor.
Odor Threshold:	: Not available.
Physical State:	: Liquid.
PH:	: 8.0 - 9.5
Viscosity:	: 95 - 115 KU
Freezing Point:	: Not available.
Boiling Point:	: > 100 °C
Flash Point:	: None.
Evaporation Rate:	: Not available.
Lower Flammability Limit:	: Not available.
Upper Flammability Limit:	: Not available.
Vapor Pressure:	: Not available.
Vapor Density:	: Not available.
Specific Gravity:	: 1.05 – 1.28
Solubility in Water:	: Dispersible.
Coefficient of Water/Oil Distribution:	: Not available.
Auto-ignition Temperature:	: Not available.
VOC content: Coatings VOC:	: 48 grams/liter; Material VOC: 19 grams/liter Maximum 50 grams/liter

Section 10: Stability and Reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible Materials-Incompatibility with various substances: Reactive with acids, alkali. Reactive with active metals.

Corrosivity: Non-corrosive in presence.

Special Remarks on Reactivity: The reaction of titanium dioxide and lithium occurs around 200 °C with a flash of light; the temperature can reach 900 °C. A violent or incandescent reaction with metals (aluminum, calcium, magnesium, potassium, sodium, zinc, and lithium) may occur at high temperatures.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Eye: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with

marked redness and swelling of the conjunctiva.

Skin: This may cause skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

Inhalation: This may cause respiratory tract irritation. Vapors may cause drowsiness and dizziness
inhalationLC50 (rat) >6.82 mg/l (4 hr)

Ingredient

Chemical Listed as Carcinogen or Potential Carcinogen *

Titanium dioxide G-A4, I-2B

* See Section 15 for more information.

Mutagenicity: Not hazardous by WHMIS criteria.

Reproductive Effects: Not hazardous by WHMIS criteria.

Developmental Effects:

Teratogenicity: Not hazardous by WHMIS criteria.

Embryotoxicity: Not hazardous by WHMIS criteria.

Respiratory Sensitization: Not hazardous by WHMIS criteria.

Skin Sensitization: Not hazardous by WHMIS criteria.

Toxicologically Synergistic Materials: Not available

Section 12: Ecological Information

Ecotoxicity: May cause long-term adverse effects in the aquatic environment.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Section 13: Disposal Considerations

Disposal Instructions: This material must be disposed of in accordance with all local, state, provincial, and federal regulations. Do not empty into drains.

RCRA Waste Code: Not regulated.

Waste Disposal:

Dispose of in an approved industrial or hazardous waste landfill. Observe all applicable federal, state, and local regulations.

Section 14: Transport Information

Classification:

DOT: Not regulated

TDG: Not regulated

IATA: Not regulated

IMDG: Not regulated

Identification: Not applicable.

Special Provisions for Transport: Avoid frozen.

Section 15: Other Regulatory Information

Other Regulations:

SARA 311/312: Not hazardous

SARA 313: No ingredients listed

CERCLA Hazardous Substances: No Ingredients listed

State Regulations:

Right to Know: Titanium Dioxide

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects. "Titanium Dioxide is known to cause cancer; however, this listing does not cover Titanium Dioxide when it remains bound within a product matrix."

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Global Inventores

Ingredients: DSL / NDSL Titanium dioxide DSL

HMIS - Hazardous Materials Identification System

Health - 1* Flammability - 0 Physical Hazard - 0 PPE – H

NFPA - National Fire Protection Association:

Health - 1 Fire - 0 Reactivity - 0

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

WHMIS Classification(s): Class D2A - Carcinogenicity

Class D2A - Chronic Toxic Effects

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

ACGIH (G) American Conference of Governmental Industrial Hygienists.

A1 - Confirmed human carcinogen.

A2 - Suspected human carcinogen.

A3 - Animal carcinogen.

A4 - Not classifiable as a human carcinogen.

A5 - Not suspected as a human carcinogen.

IARC (I) International Agency for Research on Cancer.

1 - The agent (mixture) is carcinogenic to humans.

2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.

2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.

3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.

4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N) National Toxicology Program.

1 - Known to be carcinogens.

2 - Reasonably anticipated to be carcinogens.

Section 16: Other Information

Disclaimer: The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use

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

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