



StarShield Technologies Pvt. Ltd
Protection from Heat, Water & Dust

Material Safety Data Sheet

Anti-Graffiti Super-Hydrophobic Transparent Coating

Date-23/09/2016

Section 1: Product and Company Information

Product Name	Star Metal Shield
Contact Person	Supreet Singh
Company	StarShield Technologies Pvt. Ltd. Corp. off: R-1/88, 2 nd Floor, RDC, Above ICIC Bank, Raj Nagar, Ghaziabad. Branch off: 2989/1 CA, St-16, Old Ranjeet Nagar, New Delhi-110008
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Section 2: Composition/ Information on Ingredients

Product Name	Star Metal Shield
Synonyms	Scratch Resistant Anti-Graffiti Super-Hydrophobic Transparent Coating
Source	This is a man-made product.
Relevant identified uses Of product/ mixture	Coating

Component Name	CAS No.	Wt %
Chemical Nature Two pack Sol-gel coating	-----	25-50%
Component A	67-63-0	50-75%
Prpprietary nano Sol. Isopropyl Alcohol	-----	25-40%
Coponent B	67-63-0	75-85%
Prpprietary nano Sol. Isopropyl Alcohol		

Section 3: Hazards Identification

Inhalation

Acute Health Effect	Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath
Chronic Health Effects	No information available
Aggravation of Pre-existing Condition	Person with respiratory function may be more susceptible to the effects of this substance.

Ingestion

Acute Health Effect	Slightly hazardous in case of ingestion
Chronic Health Effect	No information available
Aggravation of Pre-existing Conditions	Medical Conditions that may be aggravated by exposure: None anticipated.

Eye Contact

Actual Health Effect	Contact with eye can produce irritation.
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Chronic Health Effect	Prolonged or repeated contact may produce severe irritation.
Aggravation of Pre-existing Conditions	Medical conditions that may be aggravated by exposure: None anticipated

Skin Contact

Actual Health Effect	May cause irritation, depending on duration of contact.
Chronic Health Effect	No information available
Aggravation of Pre-existing Conditions	Persons with pre-existing skin problems may be more susceptible to the effects Of this substance. Health effect described above are Based on published scientific information available for review and evaluated on behalf of this product. Actual signs and symptoms experienced may vary due to conditions at the time of exposure

Section 4: First Aid Measures

After Inhalation	Causes irritation to respiratory Tract. Symptoms may include coughing, shortness of breath. Remove to fresh air.
After Skin Contact	May causes irritation, depending on duration of contact
After Eye Contact	Holding eyelids open, do not allow victim to rub their eyes. Gently flush eyes for 15 minutes with large quantities of water. Seek medical attention if irritation develops or persists
After Ingestion	Never give anytime by mouth to an unconscious person. DO NOT induce vomiting. Get medical attention if symptoms appear.

Section 5: Fire Fighting Measures

Fire	Not considered to be a fire hazard. Not Flammable
Explosion	Not considered to be an explosion hazard.
Flash Points	Not applicable
Auto-Ignition	Not applicable
Flammable Limits	Not applicable
Extinguishing Media	This material is not combustible and is not anticipated to react with commercially employed extinguishing media. Use appropriate extinguishing media for surrounding fire.

Section 6: Accidental Release Measures

Containment Techniques	This is a solid material and will not travel far from the spill location unless mechanically agitated. Therefore, no specific containment techniques are recommended outside of restricting access to the spill location. During spill cleanup, residual wash waters should be contained and collected for proper disposal.
Spill Response Equipment	<p>The following equipment is recommended for spill response:</p> <ul style="list-style-type: none"> • Vacuum, equipped with a HEPA filter • Broom, wet mop • Dustpan, shovel, or scoop • Bags, drums, or sacks for collection <p>Note: Non-sparking equipment may be selected, based on location specific requirement and individual work site evaluation.</p>

Personal Protective Equipment	<p>Employees should utilize the following protective equipment when performing spill response activities</p> <ul style="list-style-type: none"> • Gloves(rubber or leather) • Chemical /Safety impact goggles • Respiratory equipment recommended In section 8
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Section 7: Handling and Storage

Handling	<p>When handling this product, all personnel are directed to:</p> <ul style="list-style-type: none"> • Were all specified elements of PPE, as directed by this document, or under location specific requirement, whichever is more conservative. • avoid creating dust, where possible.
Storage	<p>The following information provides the appropriate and recommended methods for safe storage and maintenance of product integrity:</p> <ul style="list-style-type: none"> • Store in a cool, and dry area. • Product containers (polymer bags, Nylon bags, drums, etc.) are prone to physical damage. Care should be taken in storage and handling in order to prevent damage. • Avoid Contact with oxidizers and chemically active metals, since violent reactions may occur.

Section 8: Exposure Controls/personal protection

Engineering Controls	<p>If user operations generate dusts or fumes, use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Keep containers closed when not in use. Do not use near ignition sources.</p>
Skin Protection	<p>Wear impervious protective clothing, including boots, PVC or Neoprene gloves, lab coat, apron or coveralls, as appropriate, to</p>

	prevent skin contact.
Eye/Face Protection	Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.
Work Hygiene Practices	<p>To Control potential exposures, avoid creating dust. Always wear appropriate protective equipment when handling. To avoid skin contact, gloves (leather or rubber) should be worn when handling containers of this substance. Do not eat, drink, smoke, or apply cosmetics while using/handling. Always wash hand and face after handling.</p> <ul style="list-style-type: none"> • Avoid direct skin contact when possible • Do not eat, drink, smoke, or perform other hand-to-mouth activities in product use or handling area. • Wash thoroughly after handling this product.

Section 9: Physical and Chemical Properties

Appearance	Liquid
Colour	Transparent
Odor	Chemical odor
Purity	Not applicable
Ph value	NA
Flash point	As contain water (not applicable)
Melting Point	0.0 °C
Freezing point	-4 °C
Flammability	Not applicable.
Boiling point	NA
Gravity	0.89±0.03
Explosion Limits	Not Applicable

Solubility in water	Miscible
Vapor density (Air=1)	Not applicable
Solubility in organic solvent	Not applicable
Evaporation Rate	Equal to water

Section 10: Stability and Reactivity

Stability	Stable under ordinary conditions of use and storage
Hazardous Decomposition products	No information available
Hazardous Polymerization	Will not occur
Incompatibilities	No Information available
Condition to avoid	No Information available

Section 11: Toxicological Information

Toxic metals content

Lead (Pb), ppm	=Not detected
Cadmium (Cd),ppm	=Not detected
Mercury(Hg),ppm	=Not detected
Arsenic (As), ppm	=Not detected
Hexavalent Chromium (Cr ⁺⁶),ppm	=Not detected

Occupationally Relevant Routes of Exposure

Inhalation	Vapour may be an irritant to mucous membranes and respiratory tract.
Ingestion	May cause irritation to mouth, throat and digestive tract. Large dose may cause drowsiness and may lead to unconsciousness
Skin	Irritating to the skin. Has a degreasing action on the skin. Repeated or prolonged skin contact may lead to contact dermatitis and toxic effects.

Eye	Irritating to the eyes
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Section 12: Ecological Information

Environmental fate	Possibly hazardous short term degradation product are not likely however, long term degradation Product may arise. The product of degradation may be more toxic. Do not discharge into sewer or waterways.
Distribution and persistence in the Environment	Prevent release into the environment.
Bioaccumulation in Aquatic Organisms	May cause adverse effects to marine organisms.
Permissible Concentration in Water	May cause adverse effects to marine environment

Section 13: Disposal Considerations

Physical/Chemical properties	This material is a stable solid. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirement. Processing, use or contamination of this product may change the waste management options.
Recommended Disposal Method	Where possible, re-blend spilled, unused, or off- specification materials with other suitable materials in support of waste minimization. Where this is not possible, dispose of material according to federal (Country-specific), state, and local requirement
	This product may be shipped in paper or nylon bags, steel drums, plastic or steel pails, or intermediate bulk Container all

Empty Containers	residual material must be emptied and the container recycled where possible, containers must be disposed of in accordance with Federal (country-specific), state, and local regulations. If question exist about disposal, please contact the manufacturer for additional information.
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Section 14: Transportation Information

RID/ADR - Non-hazardous for road transport.

IMDG - Non-hazardous for sea transport.

IATA - Non-hazardous for air transport.

Section 15: Regulatory Information

WHMIS	Not control under WHMIS (Canada). This MSDS has been prepared according to the hazardous criteria of the Controlled Products Regulations (CPR) And MSDS contains all of the information required by CPR.
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Section 16: Labeling Information

Product Name	Star metal Shield
Ingredients	Water Base
Signal Words	WARNING!
Hazard Description	May be harmful if inhaled or ingested. May cause irritation to eyes and respiratory tract.
Precautions	Do not get in eyes, or skin, or on clothing. Wash thoroughly after handling. Do not breathe dust. Keep container closed. Use only with adequate ventilation
First Aid Procedures	In case of contact, wipe of excess material from skin then immediately flush eyes or skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If

	breathing is difficult, give Oxygen. If swallowed, DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. In all cases call a physician if symptoms develop.
Fire Instructions	This material is not flammable. Select fire extinguishment media for surrounding materials.
Spill or leak Procedures	Wear appropriate equipment. Limit foot and vehicular traffic to minimize agitation and dispersion. Employ a vacuum (equipped with a HEPA filter), broom and shovel, and wet sweeping for spill clean-up. Avoid creating dust. Do not allow this product or run-off to reach waterways.
Handling and Storage Instructions	Wear specified elements of personal protective equipment, as defined in the Material Safety Data Sheet (MSDS), or follow location specific instructions for handling this product. Store in cool, dry, well-ventilated area. Specific instructions concerning directions for use and handling may be supplied by the manufacturer.

Section 17: Other Information

HMIS Ratings	Flammability: 0 (None) Reactivity: 0 (None) Personal protection: E
NEPA Ratings	Flammability: 0 (None) Reactivity: 0 (None)
Date	23/09/2016
Disclaimer	The above information is believed to be correct but does not purport to be or inclusive and shall be used only as a guide. The information in this document is based on present state of our knowledge and is applicable to the product with regard to appropriate safety precaution. It does not represent any guarantee of the properties of

	product.
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