

MATERIAL SAFETY DATA SHEET

(GB/T 16483, GB/T 17519)

Product name: SH-WB8099 Ultra Fine Bright Silver
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SECTION 1 Product and company identification

Product Name: SH-WB8099 Ultra Fine Bright Silver

Company Name: Yatu Advanced New Materials Co., Ltd.

Company Address: Sanlian Industrial Zone Phase II, Gulao Town, Heshan City, Guangdong Province, China

Postal Code: 529738

Telephone: 0750-8778888

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Company Emergency Phone: 0750-8773397

National Emergency Phone: 0532-83889090

Recommended Use and Restrictions: Professional-use coating; not suitable for household or do-it-yourself applications.

SECTION 2 Hazards identification

Emergency Outline:

Mixture of synthetic resins, pigments, solvents, and water. Viscous liquid. This product is not flammable. Do not allow firefighting water to enter sewers or waterways. The packaging container is not a pressure vessel; do not use pressure to empty the container. Store in containers made of the same material as the original container.

This mixture is classified as hazardous according to the following GHS classification.

GHS hazards categories:

Skin irritation

Category 3

H316-causes mild skin irritation

Eye irritation

Category 2A

H319-causes serious eye irritation

Label elements:

Signal word: Warning

Hazard pictograms:



Precautionary statements:

Prevention:

- | | |
|------|--|
| P264 | Clean thoroughly after application. |
| P270 | No eating, drinking or smoking when using the product. |
| P280 | Wear protective glove/protective clothing/eye protection/face protection |
| P261 | Avoid breathing dust/fume/gas/mist/vapor/spray. |
| P271 | Use only outdoors or in a well-ventilated area. |

Response to accidents:

P301+P316	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P362+P364	Take off contaminated clothing. And wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P370+P378	In case of fire: Use...to extinguish.
P391	Collect spillage.

Safe storage:

P403+P235	Store in a well-ventilated place.
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Disposal:

P501	Dispose of contents/container to...
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Physical and chemical hazards:

The product is non-flammable. Do not discharge fire water to sewers or into drain. The packaging container is not a pressure container and do not clear the container with pressure. Store in the same material container as the original. Keep away from strong acids, strong bases and strong oxidizing agents to avoid exothermic reactions. The product is stable.

Health hazards:

It is hazardous if swallowed or on skin. It causes skin irritation and severe eye irritation, and it may cause respiration tract irritation if inhaled.

Environmental hazards:

No known significant effects or critical hazards.

SECTION 3 Composition/information on ingredients

Substance /mixture: mixture

product ingredient:

Chemical Name	%	CAS Number	GHS Risk
2-Butoxyethanol	1-5	111-76-2	√
Isopropanol	0-4	67-63-0	√
n-Pentanol	0-2	71-41-0	√
Deionized Water	10-80	7732-18-5	
Resin	5-20	N/A	
Pigment	5-20	N/A	

SECTION 4 First aid measures

First Aid Measures:

Inhalation: If inhaled, move the victim to fresh air and keep them in a position comfortable for breathing.

Skin Contact: Immediately remove all contaminated clothing. Wash the affected areas of the body thoroughly with plenty of soapy water. If irritation (redness, rash, blisters) intensifies, seek medical attention immediately.

Eye Contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.

Advice to First-Aid Responders: Self-contained positive-pressure breathing apparatus should be worn when entering the accident site.

Notes to Physicians: Please refer to Section 3 and Section 11 for information on the hazardous components contained in this product.

SECTION 5 Firefighting measures

Extinguishing media:

Use dry chemical, sand, foam or CO₂ extinguishers. Do not use water jet directly.

Special hazards:

The product is non-flammable. Do not discharge fire water to sewers or into drain. The packaging container is not a pressure container and do not clear the container with pressure. Store in the same material container as the original.

Special firefighting procedure and advice for protection:

Fire-fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) and stand on upwind area for firefighting. Remove and process liquids from fire area in case of environment pollution.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Recommended emergency personnel wearing positive pressure self-contained breathing apparatus and wear anti-static clothing and rubber oil-resistant gloves.

Do not touch or walk through the leakage.

Ensure all devices are grounded while they are working.

Cut off the source of leakage as much as possible.

Delimit warning zone according to the liquid flow and vapor diffusion influence, personnel evacuate to safe areas.

Environmental precaution:

Avoid discharge into drains and water pipes. Inform the relevant authorities if there are pollutions entering into the rivers, lakes or waterways.

Methods and material for containment and cleaning up:

Small spills: Collect leakage in an airtight container as far as possible, absorb residual liquid with sandy soil, activated carbon or other inert materials and transfer to a safe area. Do not flush into the sewer.

Large spills: Dike or dig to contain the spilled material and confine the sewers, where this is possible. Cover with foam to prevent evaporation. Collect and transfer spillage with explosive-proof pump, and place in tank trucks or containers for later recycle or disposal.

SECTION 7 Handling and storage

Precautions for safe handling:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Workplace should be partial or comprehensive ventilated.

Avoid contact with eyes, skin. Do not breathe mist or vapor.

For personal protection, see section 8.

Away from the fire, heat source. Smoking is prohibited in work areas.

Use explosion-proof ventilation and equipment.

Filling should control the flow rate, and a grounding device to prevent the accumulation of static electricity.

Avoid contact with oxidizing agents (prohibited agents see section 10).

Loading and unloading should be careful in order to prevent the damage of package and container.

Empty containers may be harmful residues.

Washing hands after using. Eating is prohibited in work areas.

Corresponding with the variety and quantity of fire equipment and emergency equipment leakage.

Conditions for safe storage, including any compatibility:

Store in a cool and well-ventilated warehouse.

Storage temperature: 0-35°C.

Separate from oxidizing materials and edible chemicals. No mixing. (prohibited agents see section 10)

Stored in a tightly closed container.

Keep away from the fire, heat source.

Use lightning protection devices.

Equip grounding device on the exhaust system for conducting and removing static electricity

Explosion proof lighting and ventilation facilities shall be adopted.

Barrel stacking should not be too large because it must keep a certain distance with wall, ceiling, column and fire inspection walkway.

Use only non-sparking tools and devices.

SECTION 8 Exposure controls/personal protection

Occupational exposure limits:

Ingredient Name	Maximum allowable concentration	Standard
2-Butoxyethanol	STEL: 37.5ppm; TWA: 25ppm	ACGIH TLV (USA)
	PC-TWA: 97mg/m ³	GBZ 2.1 OEL (China)
Isopropanol	PC-TWA: 350mg/m ³ ; PC-STEL: 700mg/m ³	GBZ 2.1 OEL (China)
n-Pentanol	PC-TWA: 100mg/m ³	GBZ 2.1 OEL (China)

Methods of monitoring:

Method for determination of toxic substances in the air of workplace: series standards in GBZ/T 160.1~GBZ/T 160.81-2004, EN 14042 guidance on procedures for assessing exposure to chemical or biological agents in workplace air.

Engineering controls:

Separated workplace is needed.

The operation should be done in a closed place, in order to prevent vapor leaking in the air.

Promote ventilation and maintain the airborne concentrations below the occupation exposure limits.

Set up automatic alarm and accidental ventilation equipment.

Emergency exits and risk-elimination areas are necessary.

Set up communication alarm system. Red zone warning line, warning signs and Chinese warning instructions are needed.

Provide safety shower and eyewash equipment.

Personal protective equipment:

Respiration protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable), a self-absorption filter mask (half mask) must be worn. When emergency rescue or evacuation occurs, workers should wear air respirator or oxygen breathing apparatus.

Eye protection: Wear safety goggles with side shields.

Skin/body protection: Wear appropriate chemical resistant clothing.

Hand protection: Wear rubber oil-resistant gloves.

SECTION 9 Physical and chemical properties

Appearance and character: Mucus with various color

pH value: No data.

Boiling point (°C): No data.

Flash point (°C): ≥ 70 (closed cup)

Upper/lower flammability or explosive limits:

Flammability limit – lower (%): N/A

Flammability limit – upper (%): N/A

Viscosity (-4 cups, s, 23°C): No data.

Relative density (assume water as 1): No data.

VOC ACT: 1.16lb/gal

VOC REG: 3.48 lb/gal

Solubility: Soluble in water

SECTION 10 Stability and reactivity

Stability: The product is stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Avoid static electricity, high heat, open flames.

Incompatible materials: Strong acids, strong oxidizing agents, and strong alkali.

Hazardous decomposition products: No hazardous decomposition products are known under the condition of normal use.

SECTION 11 Toxicological information

Acute toxicity

Ingredient Name	Type	Species	Dose	Exposure
2-Butoxyethanol	LD50 Oral	Rat	470mg/kg	-
	LC50 Vapor Inhalation	Rat	450ppm	4hours
Isopropanol	LD50 Oral	Rat	5045mg/kg	-
	LC50 Vapor Inhalation	Rat	16000ppm	8hours
n-Pentanol	LD50 Skin	Rabbit	12800mg/kg	-
	LD50 Oral	Rat	2200mg/kg	-

LD50 Skin Rabbit 3600mg/kg -

Irritation

Ingredient Name	Exposure Pathway	Result	Species	Dose/Time
2-Butoxyethanol	Skin	Mild Irritation	Rabbit	500mg
	Eye	Moderate Irritation	Rabbit	100mg/24h
Isopropanol	Skin	Mild Irritation	Rabbit	500mg
	Eye	Moderate Irritation	Rabbit	100mg/24h
n-Pentanol	Skin	Moderate Irritation	Rabbit	20mg/24h
	Eye	Severe irritation	Rabbit	81mg

Reproductive toxicity: No data available.

Specific target organ toxicity (single exposure): No data available.

Specific target organ toxicity (repeated exposure): No data available.

Aspiration hazard: No data available.

SECTION 12 Ecological information

Ecotoxicity

Ingredient Name	Result	Species	Exposure
2-Butoxyethanol	LC50 1474mg/L	Fish	96 hours
	EC50 1800mg/L	Daphnia	48hours
	EC50 911mg/L	Algae	72hours
Isopropanol	LC50 9640mg/L	Fish	96hours
	EC50 13299mg/L	Daphnia	48hours
	IC50 >1000mg/L	Algae	72hours
n-Pentanol	LC50 370~490mg/L	Fish	96hours
	EC50 440mg/L	Daphnia	48hours
	IC50 280mg/L	Algae	72hours

Persistence and degradability: N/A.

Bioaccumulative potential: N/A.

Mobility in soil: N/A.

Other Environmental Fate: N/A.

SECTION 13 Disposal considerations

Chemical waste treatment methods:

Recycle if possible. Dispose of waste in accordance with local regulations.

Contaminated package treatment methods:

Empty containers should be taken to an approved waste handling site for recycling or disposal. If not, disposal should

be in accordance with applicable regional laws and regulations.

Notes for disposal:

The applicable regional, national regulations should be read before disposal.

SECTION 14 Transport information

According to the transportation regulations, this product is not dangerous goods, nor combustion aids, too.

Notes for transport:

No damage, leakage or corrosion found before transporting. Ensure that the goods are not damaged, dropped or collapsed during loading. According to relevant regulations, use appropriate containers in transportation and mark appropriate identification contents.

SECTION 15 Regulatory information

Applicable laws and regulations:

Safe Production Law of the People's Republic of China

Code of Occupational Disease Prevention of PRC

Environmental Protection Law of the People's Republic of China

Laws of the People's Republic of China on the Prevention and Control of Atmospheric Pollution

Marine Environment Protection Law of the People's Republic of China

Law of the People's Republic of China on the prevention and control of environmental pollution by solid wastes

Fire Control Law of the People's Republic of China

Regulations on the Control over Safety of Dangerous chemicals

Occupational Exposure Limits for Hazardous Agents in the Workplace (part 1: chemical hazardous agents) (GBZ 2.1)

Occupational Exposure Limits for Hazardous Agents in the Workplace (part 2: Physical Agents) (GBZ 2.2)

General Rules for Chemical Classification and Risk Disclosure (GB 13690)

National Hazardous Waste List

General Rules for Storage of Dangerous Chemicals (GB 15603)

List of Dangerous Goods (GB 12268)

Classification and Code of Dangerous Goods (GB 6944)

Labels for Packages of Dangerous Goods (GB 190)

SECTION 16 Other information

Key to abbreviations:

MAC --Maximum Allowable Concentration: refers to the concentration of toxic chemicals that should not exceed at any time during a working day in the workplace.

PC-TWA -- Permissible Concentration-Time Weighted Average: refers to the average level of allowable contact in the stated working day of 8 hours.

PC-STEL ---Permissible Concentration- Short Term Exposure Limit: refer to the time weighted average for any allowable contact less than 15 minutes within 8 hours.

ACGIH TWA--- American Conference of Governmental Industrial Hygienists- Time weighted average

ACGIH STEL--- American Conference of Governmental Industrial Hygienists- Short Term Exposure Limit

LD₅₀: It refers to lethal dose with oral and dermal exposure. In statistics, it is expected to cause 50% individual deaths in a group of subjects.

LC₅₀: It refers to lethal concentration with respiration inhalation. In statistics, it is expected to cause 50% individual

deaths in a group of subjects.

EC₅₀: It refers to the concentration that can cause the 50% of maximal effect.

IC₅₀: It refers to the concentration of an inhibitor that is required for 50% inhibition effect.

NOEC: It refers to no observable effect concentration.

References:

1. Zhou Guotai, *Hazardous chemicals safety technology*, Chemical Industry Press, 1997.
2. State Environmental Protection Administration of toxic chemicals management & the Beijing Institute of chemical research, *Handbook of Environmental Data for Environmental Regulations*, China Environmental Science Press, 1992.
3. Cheng nenglin, *Solvent Handbook*, Chemical Industry Press, 1994.
4. Canadian Centre for Occupational Health and Safety. CHEMINFO Database, 1989.

Disclaimer:

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products, and to recommend precautionary measures for the storage and handling of the products. The users should have their own ideas about the practical appliance of this MSDS. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the product.