



## SAFETY DATA SHEET

### Silver Plate

#### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>SDS Name :</b> Silver Plate
<b>Suggest the use and the restricted use :</b>
<b>Manufacturer/Importers /Supplier :</b> SOLAR APPLIED MATERIALS TECHNOLOGY CORP.
<b>Add :</b> No.1, Sec. 2, Huanyuan E. Rd., Liuying Dist., Tainan City 736, Taiwan
<b>Emergency telephone number/ Fax :</b> (Tel) +886-6231010 (Fax) +886-6234058

#### SECTION 2 - HAZARDS IDENTIFICATION

<b>Classification of the substance :</b> Aquatic Toxicity (Acute) Category 3 (Powdery)
<b>Symbol :</b> —
<b>Signal word :</b> —
<b>Hazard precautionary statement :</b> Harmful to aquatic organisms
<b>Hazard precautionary measure :</b> Do not breathe dust
<b>Other Hazard :</b> —

#### SECTION 3 - COMPOSITION, INFORMATION ON INGREDIENTS

##### Pure material

CAS-No:	Silver : 7440-22-4	EC-Index-No:	—
Percent :	≐ 100wt%	EC-No:	—
Formula Hill:	Silver		

##### Mixtures:

Chemical properties: —	
Chinese and English names of the hazardous ingredients	Concentration or concentration ranges (ingredient percentage)
—	—

#### SECTION 4 -First-aid measures

<b>First Aid Measures in different exposed way :</b> <ul style="list-style-type: none"><li>● Inhalation : 1. remove to places for fresh air. 2. If breathing is stopped, execute artificial respiration. 3. Keep the injured person warm and rest. 4. Seek for medical treatment immediately</li><li>● Skin contact : 1.Remove contaminated clothing immediately 2. Flush with water as least 15 minutes.</li><li>● Eye contact : 1. Flush eyes with Plenty of water. 2. Seek for medical treatment immediately.</li><li>● Swallow : Seek for medical treatment immediately.</li></ul>
<b>The most important symptom and harmful effect :</b> Kim excessive inhalation of superheated vapor cause pulmonary edema.
<b>The protection for first-aid personnel :</b> —
<b>Prompt to the doctor :</b> —

### SECTION 5 – FIRE-FIGHTING MEASURES

<b>The suitable fire-extinguishing chemical :</b> In the light of the around fire, choose Suitable fire extinguishing media.
<b>Possible special hazard when fire fighting :</b> 1, note that if the silver pieces were fine powder is flammable. 2. Do not allow chemicals flow into the ditch or sewer
<b>Special fire fighting procedure :</b> 1. In the condition of safety, remove containers from scene on fire. 2. Cool the storage tank or the vessel in scene on fire by mist or water.
<b>Fire fighters special protective apparatus :</b> Wearing breathing apparatus and protective gloves, fire protection clothing.

### SECTION 6 - ACCIDENTAL RELEASE MEASURES

<b>People need attention :</b> Avoid skin contact. Need to wear breathing apparatus if there is dust.
<b>Need attention for environment :</b> —
<b>Clean method :</b> Containment of the leakage of material. Deal with the leakage of material by Appropriate containers.

### SECTION 7 - HANDLING AND USE

<b>Handling :</b> Avoid breathing dust or contact with skin / eyes.
<b>Storage:</b> Store in a cool, dry and well-ventilated place. Keep away from incompatible material.

### SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

<b>Engineering control :</b> 1, local exhaust. 2, the overall ventilation system.			
<b>Control parameters:</b>			
8 hours time weighted average exposure limits TWA	Short-term exposure limits STEL	maximum exposure limits biological standards CEILING	BEIs
Silver powder : 0.01mg/m <sup>3</sup>	Silver powder : : 0.03mg/m <sup>3</sup>	—	—
<b>Personal protective equipment:</b> ( Exposed in the state of pulverulence )			
<b>Respiratory protection:</b> 1.0.25 mg / m <sup>3</sup> or less constant flow type : supplied air respirator or high efficiency particulate filter containing the powered air-purifying respirator. 2.0.5 mg / m <sup>3</sup> or less : including full cover and high performance of the filter type respirator or full SCBA (self-contained respirator) type or fully supplied air respirator. 3.20 mg / m <sup>3</sup> for the following : positive pressure or compression of the comprehensive type SCBA (self-contained breathing with anti-Zhi) or supplied air respirator supplemented SCBA (self-contained breathing with anti-Zhi).			
<b>Hand protection:</b> Protective gloves			
<b>Eye protection:</b> Chemical protective glasses or safety goggles			



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**Skin and body protection:** Aprons, work shoes

**Hygiene measures:** 1. Take off the contamination clothes as soon as possible after operation. 2. No smoking or the diet in the workplace. 3. After processing this thing, wash hands thoroughly with soap. 4. Maintain the workplace clean.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

<b>physical state:</b> Solid、white	<b>Odor:</b> no odor.
<b>Odor threshold:</b> —	<b>Melting point:</b> 961.9°C
<b>pH value:</b> —	<b>Boiling point/boiling point range:</b> 2212°C
<b>Flammability (solid, gas) :</b> —	<b>Flash point:</b> None <b>Test method (open cutest/ close cutest):</b> —
<b>Decomposition temperature:</b> —	<b>Explosion limits:</b> —
<b>Auto-ignition temperature:</b> —	<b>Vapor density:</b> —
<b>Vapor pressure:</b> —	<b>Solubility:</b> Insoluble in water
<b>Density:</b> 10.49	<b>Evaporation rate:</b> —
<b>Partition coefficient(n-octanol/water,log Kow):</b> —	

## SECTION 10 - STABILITY AND REACTIVITY

**Stability:** Stable Under the normal condition

**Possible hazardous reactions under specific conditions:**

1. acetylene, acetylene compounds: Formation of explosive acetylene silver.
2. ammonia, chlorine trifluoride, ethyleneimine, hydrogen peroxide, oxalic acid, tartaric acid: silver from the chemical reaction becomes flammable.
3. ozone, sulfur or hydrogen sulfide: Contact will be black (tarnish).

**Conditions to avoid:** Avoid generating dust

**Materials to avoid:**

1. acetylene and acetylene compounds.
2. bromine azide
3. propargyl bromide, copper + glycol, electrolytes and zinc, nitric acid + ethanol, ring oxyacetylene, ethyl hydroperoxide, iodoform, ethyleneimine peroxide, sulfuric acid alone, peroxy acid
4. ammonia, chlorine trifluoride, ethylene imine, hydrogen peroxide, oxalic acid, tartaric acid
5. ozone, sulfur or hydrogen sulfide.

**Hazardous decomposition products:** Silver fume



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**Stability:** Stable Under the normal condition

**Possible hazardous reactions under specific conditions:** —

**Conditions to avoid:** Avoid generating dust

**Materials to avoid:** Strong acid 、Alkali. If getting wet, powder will turn up self-heating.

**Hazardous decomposition products:** —

#### SECTION 11 – TOXICOLOGICAL INFORMATION:

**Routes of exposure:** 1.Eyes injury. 2.Lead skin into blue. 3.Excessive inhalation of the silver vapor will cause damage to lungs.

**Symptoms:**

LD50 :  $\geq$  — mg/kg

LC50 :  $\geq$  — mg/m<sup>3</sup>/4H

LDL0 : — mg/kg

**Chronic toxicity or long term toxicity:** —

#### SECTION 12 - ECOLOGICAL INFORMATION :

**Ecotoxicity:**

LC50 (Fish): -

EC50 (aquatic invertebrates): -

Bioconcentration factor (BCF): 11-150

**Persistence and degradability:** When silver is released into water, it will be precipitated together with manganese dioxide adsorption and halides.

**Bioaccumulative potential:** —

**Mobility in soil:** —

**Other adverse effects:** —

#### SECTION 13 - DISPOSAL CONSIDERATIONS

**Methods of waste disposal:** Disposal in accordance with the present laws and regulations.

#### SECTION 14 - TRANSPORT INFORMATION

**United Nations number(UN No):** None

**UN Proper shipping name:** None

**Transport hazard class(es):** None

**Packing group:** None

**Marine pollutant(Yes/No):** No

**Specific transport measures and precautionary conditions:** None

#### SECTION 15 - REGULATORY INFORMATION

**Applicable regulations:** In accordance with the present laws and regulations.

#### SECTION 16 - OTHER INFORMATION

Reference	GHS
Issued by	SOLAR APPLIED MATERIALS TECHNOLOGY CORP.
	Address : No.1, Sec. 2, Huanyuan E. Rd., Liuying Dist., Tainan City 736, Taiwan
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