

Safety Data Sheet

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1.Substance identity and company contact information

Product name: Silver clay (PMC Flex, PMC3, PMC+)
Company: MITSUBISHI MATERIALS TRADING CORPORATION
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Telephone Number: +81-3-3660-1653
Emergency Telephone Number: +81-3-3660-1653
FAX Number: +81-3-3660-1498
Recommended use and restraint: Silver clay

2.Hazards identification

GHS classification

Physical and chemical hazards

Sort of Gunpowder	Out of classification
Combustibility, Ignition gas	Out of classification
Combustibility, Ignition aerosol	Out of classification
Oxidizing gas	Out of classification
High pressure gas	Out of classification
Ignition liquid	Out of classification
Combustibility solid	Out of division
Self reaction chemical	Out of classification
Spontaneous combustion liquid	Out of classification
Spontaneous combustion solid	Out of division
Self heating chemical	Out of division
Water reaction combustibility chemical	Out of division
Oxidizing liquid	Out of classification
Oxidizing solid	Out of classification
Organic dioxide	Out of classification

Adverse human health effects

Metal corrosive substance	Out of division
Acute toxicity(Oral)	Out of division
Acute toxicity(Dermal)	Out of division
Acute toxicity(Inhalation: Gas)	Out of classification
Acute toxicity(Inhalation: Steam)	Out of classification
Acute toxicity(Inhalation: Dust)	Impossible to classify
Acute toxicity(Inhalation: Mist)	Out of classification
Skin corrosive, Irritation	Out of division
Heavy injuries to eyes, Irritation	Division2B
Sensitization of respiratory organs	Impossible to classify
Sensitization of skin	Division1
Variation of germ cell	Impossible to classify
Carcinogenicity	Impossible to classify
Genital toxicity	Impossible to classify
Specific target organs, General toxicity (Single exposure)	Division1(respiratory organs)
Specific target organs, General toxicity (Repetition exposure)	Division1(Eyes,respiratory organs: Inhalation)
Hazardous of Inhalational respiratory	Out of classification
Acute hazardous to the aquatic Environmental	Impossible to classify
Chronic hazardous to the aquatic Environmental	Impossible to classify
Hazardous to the ozone layer	No data

Environmental effects

Label element

Symbol:



Alert Words:

Danger

Hazards information:

Eye irritation.
 May cause an allergic skin reaction.
 May cause breathing difficulties if inhaled.
 Impediment of eyes, respiratory organs(Inhalation) and lungs by long-term or repetition exposure.

Caution:**【Safety Measure】**

Do not eat, drink or smoke while using.
 Do not inhale dust or fume.
 Wash hands carefully after use.
 Contaminated work clothing should not be allowed out of the workplace.
 Use personal protective gloves, glasses and mask as required.

【First aid】

If having indisposition, arrange for transport to nearest medical facility for examination and treatment by a physician.
 If on skin: wash with plenty of soap and water.
 If skin irritation or rash occurs: get medical advice/attention.
 If get into eyes: gently rinse the affected eyes with clean water, in case of wearing contact lens, better to remove them.
 If constant eye irritation: receive medical treatment.
 If chemical exposure or its risk: receive medical treatment.
 Wash contaminated clothing before reuse.

【Storage】

Set a lock the storage place.

【Disposal】

Obey the relevant law as to the disposal of waste.
 Dispose by the assistance of a waste disposer authorized by local prefectural governments.

3.Chemical composition and data on components**Chemical substance**

Chemical name or common name	Abbreviation	Content (wt%)	Official gazette control No.		CAS No.
			Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances	Industrial Safety and Health Law	
Silver	Ag	Approx.90	Except from the law (as element)	Article 18.2, Attached Table 9-137 of Cabinet order (as element)	7440-22-4
Organic binder + water	-	Approx.10	Except from the law	Except from the law	N/A

4.First-aid measures**Inhalation:**

Move sufferers to place filled with fresh air, and let repose with posture easy to breath.
 If having indisposition, arrange for transport to nearest medical facility for examination and treatment by a physician.

Skin contact:

Flush with water and soap as soon as possible.
 If skin irritation or rash occurs: Get medical advice/attention.
 If having indisposition, arrange for transport to nearest medical facility for examination and treatment by a physician.
 Wash the dirty work clothes before reuse.

Eye contact:

Gently rinse the affected eyes with clean water. In case of wearing contact lens, better to remove them.
 Arrange for transport to nearest medical facility for examination and treatment by a physician.

Ingestion:

Brush away or rinse inside a mouth with water, and see a doctor.
 If having indisposition, arrange for transport to nearest medical facility for examination and treatment by a physician.

Expected acute symptom or in behind:

Influence of long-term or repetition exposure: Likely to give arise discoloration (silver stain; silver intoxication) of eyes, nose, throat or skin.

5.Fire-fighting measures

Extinguish media:	This does not burn in itself.
Forbidden extinguish media:	Straight stream, foamy extinguish media, CO2. Media except for special powder extinguish media, dry sand.
Special hazards:	Likely to occur irritate or toxic gas by fire.
Special extinguish way:	Move containers from fire area if not in danger. In case impossible to move, sprinkle containers and its surrounding with water to cool.
Protection for fire-fighters:	Fire-fighters should wear proper protective and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

6.Accidental release measures

Caution for the human body, protective and emergency measure:	Use proper personal protective equipment as indicated in Section 8 to avoid contacting eyes and skin or inhalation of gas or fume. Isolate all directions with appropriate distance as leakage area immediately. Keep others out except for authorized personnel. Stay windward.
Caution for the environment:	Take care not to affect the environment by discharging to the river.
Retrieve, Neutralization:	Sweep leakages and retrieve empty containers.
Containment and cleaning way :	Stop leaking if not in danger.
Prevention of secondary disaster:	Dispose spillage frequently to keep the floor from slippy condition.

7.Handling and storage

Handling:	
Technical measure:	Do appropriate engineering controls and use proper personal protective equipment as indicated in Section 8.
Ventilation:	Do appropriate ventilation as indicated in Section 8.
Caution for safety handling:	Use outside or at well-ventilated area only. Do not contact, swallow or inhale dust, fumes, mist, gas, vapors or spray. Wash hands carefully after use.
Avoidance of contact:	Refer to Section 10.
Storage:	
Technical measure:	Set up facilities equipped with adequate lighting and ventilation to store and handle dangerous object in storage place.
Hazardous Polymerization:	Refer to Section 10.
Conditions to storage:	Store in a locked place.
Materials of containers or package:	Keep in closed package.

8.Exposure control and personal protection

Control concentration:	Not set
Allowance concentration (Exposure limit, Biological exposure indicator) : ACGIH	TLV-TWA : 0.1mg/m ³
Engineering Controls:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations under the limit of exposure. In case of having fume or dust in process, set up ventilation device to keep air pollutive substances under control concentration.
Personal Protective Equipment:	
Respiratory organs:	In case of poor ventilation, wear appropriate respirators.
Hands:	Wear appropriate protective gloves.
Eyes:	Wear appropriate protective eyeglasses. Wear appropriate protective face protections.
Skin and Body:	Wear appropriate protective clothing and safety shoes.
Sanitary measure:	Wash hands carefully after use.

9. Physical and chemical properties

	[Ag]	[Organic binder + water]
Appearance, physical state, form, color:	White Metal	White liquid
Odor:	Odorless	No data
pH:	No data	No data
Melting point, Coagulating point:	962°C(Melting Point)	No data
Boiling point, Initial boiling point and Boiling range:	2212°C (Boiling Point)	No data
Flash point:	No data	No data
Explosion range:	No data	No data
Steam pressure:	0.000000565Pa (25°C)(Conversion value)	No data
Steam density(Air=1):	No data	No data
Specific Gravity:	10.5g/cm ³	No data
Solubility:	Insoluble(Water)	No data
Octanol/Water Partition Coefficient:	No data	No data
Spontaneous combustion temperature:	No data	No data
Decomposition temperature:	No data	No data
Threshold of odor:	No data	No data
Evaporation speed (Butyl acetate= 1):	No data	No data
Combustion property(Solid, Gas):	No data	No data
Viscosity:	No data	No data

10. Stability and reactivity

Chemical Stability:	Stable under normal storage and handling conditions.
Incompatibilities with Other Materials:	Darken with exposure to ozone, hydrogen sulfide or sulfur. Impossible to contact strong acids and strong bases. Form compounds sensitive to shock by acetylene. Fine fragment of silver and concentrated hydrogen peroxide solution are likely to explode. (Emit oxygen gas by decomposing heavily) If contact ammonia when drying, likely to generate explosive compounds. React easily with dilute nitric acid or concentrated sulfuric acid. Cause fire.
Conditions to Avoid:	Nothing special.
Hazardous Polymerization:	Strong acids, strong bases, concentrated hydrogen peroxide solution, ammonia (when drying dilute nitric acid or concentrated sulfuric acid.
Hazardous Decomposition Products:	Not applicable

11.Toxicological information

Acute toxicity:	Oral	Rat	LD ₅₀	>5,000mg/kg
	Dermal	Rat	LD ₅₀	>2,000mg/kg
	Inhalation(Dust)	No data		
Skin corrosive, Irritation:	Mentioned slightly irritating by experiments on rabbits.			
Heavy injuries to eyes•Irritation:	Mentioned slightly irritation and recover in 48hours by experiments on rabbits. Eye irritation (Division 2B)			
Sensitization of respiratory organs or skin:	Sensitization of respiratory organs: No data. Sensitization of skin: Mentioned exposure of powder cause allergic contact dermatitis and contacting accessories contained silver causes allergic dermal reaction. Likely to occur allergic skin reaction. (Division 1)			
Variation of germ cell:	No data			
Carcinogenicity:	No information by classification estimative institution of IARC etc. Not recognized by experiments on rats of intramuscular injection with powder and no evidence of carcinogenicity for humans.			
Genital toxicity:	No data			
Specific target organs, General toxicity (Single exposure):	Developed pulmonary impediment with water on the pulmonary by 4hours' exposure to heated metal silver steam. Cause irritation to the respiratory tract by career exposure of dust. Impediment of respiratory organs. (Division 1)			
Specific target organs, General toxicity (Repetition exposure):	Occur argyria (pigmentary stain to skin or mucous membrane) by career exposure of dust. However mentioned decline of night eyesight is recognized as functional impediment, therefore, set Division 1. (Eye) Mentioned developed bronchitis from stain to lungs by long-term inhalation of dust, therefore, set Division 1. (Respiratory organs: inhalation) Impediment of eyes and respiratory organs(Inhalation) by long-term or repetition exposure. (Division 1)			
Hazardous of Inhalational respiratory organs :	No data			

12.Ecological information

Acute hazardous to the aquatic Environmental:	Impossible to classify because of insufficient data.
Chronic hazardous to the aquatic Environmental:	Impossible to classify because of insufficient data.
Ecological toxicity:	No data
Hazardous to the ozone layer:	No data

13. Disposal considerations**The rest of waste,
contaminated vessel :**

Obey the relevant law as to the disposal of wastes.
Provide hazardous information with a waste disposer in advance of committing.
Do not discharge or dispose by landfill the product, waste liquid or
detergent drain to environment.

14. Transport information**International regulations:**

UN classification: Not applicable to the criteria for classification.
UN number: Not applicable to the criteria for classification.
UN proper shipping name: Not applicable to the criteria for classification.
Packing group: Not applicable to the criteria for classification.

Marine pollutant: Not applicable to the criteria for classification.

Domestic regulations: Refer to laws and regulation that are applied.

Special precautions: Prior to transport, prevent direct rays of the sun, and verify that there is no damage,
corrosion or leakage of the container.
Do not pile up a heavy load on top of the shipment.

**Emergency response
guideline number:** No information

15. Regulations**In Japan**

[Ag]

**Industrial Safety and Health
Act (Result of Mutagenicity
Tests):** Ag and its water-soluble compounds:
Article 18-2, Attached Table 9-137 of
Cabinet order

Air Pollution Control Act: Ag and its compounds: Hazardous air
pollutants, 45 of Central Environment
Council 9th Report

Water Pollution Control Act: Not Identified

**Soil Contamination
Countermeasures Act:** Not Identified

**Act on Confirmation, etc. of
Release Amounts of
Specific Chemical
Substances in the
Environment and Promotion
of Improvements to the
Management Thereof
(MSDS required) (Effective
from October 1, 2009):** Ag and its water-soluble compounds:
Article 2-2, Class I Designated Chemical
Substance, No.82

16. Other information

The information is revised by the new knowledge. Although the information herein is based on the best of our knowledge,
we cannot guarantee the accuracy or completeness of the information contained.