

SAFETY DATA SHEET

Date Printed: 05/18/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifier: Silver Palladium Ink

Product Code: AG-PD-01-INK

CAS Number: 60495-83-2

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351
Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification:

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements:

None required

Hazards not otherwise classified (HNOC):

Very toxic to aquatic life with long lasting effects

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component / CAS-No:

Palladium / 7440-05-3

Silver / 7440-22-4

SECTION 4. FIRST AID MEASURES

General Advice:

If symptoms persist, call a physician.

Eye Contact:

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact:

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion:

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects:

None reasonably foreseeable.

Notes to Physician:

Treat symptomatically

SECTION 5. FIREFIGHTING MEASURES

Suitable Extinguishing Media Not combustible. approved class D extinguishers.

Unsuitable Extinguishing Media: Water may be ineffective

Flash Point No information available

Method - No information available

Autoignition Temperature No information available

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical:

Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products:

Silver oxides Palladium oxide

Protective Equipment and Precautions for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA:

Health: 0

Flammability: 0

Instability: 0

Physical hazards: -

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. No special precautions required.

Environmental Precautions:

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

Methods for Containment and Clean Up:

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed

containers for disposal. Pick up and transfer to properly labelled containers.

SECTION 7. HANDLING AND STORAGE

Handling:

Wear personal protective equipment. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Storage:

Keep in a dry place. Keep away from acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Component: Silver

ACGIH TLV: TWA: 0.1 mg/m³

OSHA PEL:(Vacated) TWA: 0.01 mg/m³ TWA: 0.01 mg/m³

NIOSH IDLH: IDLH: 10 mg/m³ TWA: 0.01 mg/m³

Mexico OEL (TWA): TWA: 0.1 mg/m³

Engineering Measures: None under normal use conditions

Personal Protective Equipment

Eye/face Protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection:

Long sleeved clothing.

Respiratory Protection:

No protective equipment is needed under normal use conditions. No special protective equipment required.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid

Appearance No information available

Odor Odorless

Odor Threshold No information available

pH No information available

Melting Point/Range No data available

Boiling Point/Range No information available

Flash Point No information available

Evaporation Rate Not applicable

Flammability (solid,gas) No information available

Flammability or explosive limits

Upper No data available

Lower No data available

Vapor Pressure <=1100 hPa @ 50 °C

Vapor Density Not applicable

Specific Gravity No information available

Solubility No information available

Partition coefficient; n-octanol/water No data available
Autoignition Temperature No information available
Decomposition Temperature No information available
Viscosity Not applicable
Molecular Formula Pd:Ag; 75:25 wt%

SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard: None known, based on information available
Stability Stable: under normal conditions.
Conditions to Avoid: Incompatible products.
Incompatible Materials: Acids
Hazardous Decomposition Products: Silver oxides, Palladium oxide
Hazardous Polymerization: Hazardous polymerization does not occur.
Hazardous Reactions: None under normal processing.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Product Information
Oral LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. Dermal LD50 Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. Mist LC50 Based on ATE data, the classification criteria are not met. ATE > 5 mg/l.
Component: Silver
LD50 Oral: > 2000 mg/kg (Rat)
LD50 Dermal: LD50 > 2000 mg/kg (Rat)
LC50 Inhalation: Not listed
Toxicologically Synergistic Products
No information available
Delayed and immediate effects as well as chronic effects from short and long-term exposure
Irritation: No information available
Sensitization: No information available
Mutagenic Effects No information available
Reproductive Effects No information available. Developmental Effects No information available.
Teratogenicity No information available. STOT - single exposure None known
STOT - repeated exposure None known
Aspiration hazard No information available
Symptoms / effects, both acute and delayed
No information available
Endocrine Disruptor Information No information available
Other Adverse Effects The toxicological properties have not been fully investigated.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity:
The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.
Component: Silver

Freshwater Algae: Not listed

Freshwater Fish: LC50: = 0.064 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.0062 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.00155 - 0.00293 mg/L, 96h static (Pimephales promelas)

Microtox: Not listed

Water Flea: EC50: = 0.00024 mg/L, 48h Static (Daphnia magna)

Persistence and Degradability Insoluble in water May persist

Bioaccumulation/ Accumulation No information available. Mobility Is not likely mobile in the environment due its low water solubility.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

IMDG/IMO Not regulated

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

7440-22-4 Silver

California Proposition 65

Prop 65 - Chemicals known to cause cancer

Substance is not listed.

Prop 65 - Developmental toxicity

Substance is not listed.

Prop 65 - Developmental toxicity, female

Substance is not listed.

Prop 65 - Developmental toxicity, male

Substance is not listed.

Information about limitation of use:

For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.

Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use)

Substance is not listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.