

Palladium Plating Pen PL-1015

Safety Data Sheet

US-SDS according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)
Issue date: 8/23/2023 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Palladium Plating Pen PL-1015
Other means of identification : PL-1015 Plating Pen

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Hunter Products, Inc
36 Madison Avenue
Flemington, NJ 08822
T 908-526-8440

1.4. Emergency telephone number

Emergency number : 001 908 581 1499

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 1B

Causes severe skin burns and eye damage

Serious eye damage/eye irritation Category 1

Causes serious eye damage

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Causes severe skin burns and eye damage
Causes serious eye damage

Precautionary statements (GHS US) :

Do not breathe mist, vapors, spray.
Wash hands, forearms and face thoroughly after handling.
Wear eye protection, protective gloves.
If swallowed: rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER, a doctor.
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Ammonium chloride	CAS-No.: 12125-02-9	5 – 10
ammonia%	CAS-No.: 1336-21-6	1 – 5
Palladium	CAS-No.: 7440-05-3	1 – 3

The specific chemical component identities and/or the exact component percentages of this material may be withheld as trade secrets.

This information is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of 29 CFR 1910.1200 (I)(1). Trace ingredients (if any) are present in < 1% concentration, (< 0.1% for potential carcinogens, mutagen, and reproductive toxicant, respiratory tract and skin sensitizers in addition to oral/ inhalation acute toxicant in category 1 and 2). None of the trace ingredients contribute significant additional hazards at the concentrations that may be present in this product. All pertinent hazard information has been provided in this document, per the requirements of the Federal Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalents.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Specific hazards arising from the chemical

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid contact with skin and eyes. Do not breathe mist, spray, vapors.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe mist, spray, vapors. Wear personal protective equipment.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Palladium Plating Pen PL-1015	
No additional information available	
Palladium (7440-05-3)	
No additional information available	
Ammonium chloride (12125-02-9)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ammonium chloride, fume
ACGIH OEL TWA	10 mg/m ³
ACGIH OEL STEL	20 mg/m ³
Remark (ACGIH)	TLV® Basis: Eye & URT irr
Regulatory reference	ACGIH 2023
ammonia% (1336-21-6)	
No additional information available	

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8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Protective gloves
Eye protection:
Safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Device containing liquid.
Color : Mixture contains one or more component(s) which have the following colour(s):
white
Odor : Mixture contains one or more component(s) which have the following odour:
Odor threshold : No data available
pH : No data available
Melting point : Lesser than water
Freezing point : No data available
Boiling point : Greater than water
Flash point : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Flammability : Not applicable.
Vapor pressure : No data available
Relative vapor density at 20°C : No data available
Relative density : No data available
Solubility : No data available
Partition coefficient n-octanol/water (Log Pow) : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosion limits : No data available
Explosive properties : Not classified.
Oxidizing properties : Not oxidising.

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Palladium (7440-05-3)	
LD50 oral rat	> 4900 mg/kg body weight Animal: rat, Animal sex: male
Ammonium chloride (12125-02-9)	
LD50 oral rat	1410 mg/kg body weight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1260 - 1550
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: EU Method B.3 (Acute Toxicity (Dermal))
ATE US (oral)	1410 mg/kg body weight
ammonia% (1336-21-6)	
LD50 oral rat	> 350 mg/kg Source: HSDB
ATE US (oral)	500 mg/kg body weight
Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Palladium (7440-05-3)	
NOAEL (oral, rat, 90 days)	1000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

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Palladium (7440-05-3)	
Ammonium chloride (12125-02-9)	
NOAEL (oral,rat,90 days)	≈ 1695.7 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after skin contact	: Burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Palladium (7440-05-3)	
LC50 - Fish [1]	306 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	35.19 µg/l Test organisms (species): Daphnia magna
LC50 - Fish [2]	154 µg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [2]	69.91 µg/l Test organisms (species): Daphnia magna

Ammonium chloride (12125-02-9)	
LC50 - Fish [1]	209 mg/l Cyprinus carpio, semi static , 96h
EC50 - Crustacea [1]	136.6 mg/l Test organisms (species): Daphnia magna
LOEC (chronic)	18.7 mg/l Pimephales promelas, flow-through, Fresh water ,28-d
NOEC (chronic)	11.8 mg/l Pimephales promelas, flow-through, Fresh water ,28-d

ammonia% (1336-21-6)	
EC50 - Crustacea [1]	> 0.66 mg/l Source: HSDB, ECHA

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

ammonia% (1336-21-6)	
Partition coefficient n-octanol/water (Log Pow)	-2.66 Source: EPISUITE

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

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SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

14.1. UN number

DOT NA No : UN3547
UN-No. (IMDG) : 3547
UN-No. (IATA) : 3547

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Articles containing corrosive substance, n.o.s. (CONTAINS : ammonia%)
Proper Shipping Name (IMDG) : ARTICLES CONTAINING CORROSIVE SUBSTANCE, N.O.S. (CONTAINS : ammonia%)
Proper Shipping Name (IATA) : Articles containing corrosive substance, n.o.s. (CONTAINS : ammonia%)

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 8

IMDG

Transport hazard class(es) (IMDG) : 8
Hazard labels (IMDG) : 8



IATA

Transport hazard class(es) (IATA) : 8

14.4. Packing group

Packing group (DOT) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN3547
DOT Special Provisions (49 CFR 172.102) : 391 - Except for articles being transported by motor vehicle as a material of trade in accordance with 173.6 of this subchapter, articles containing hazardous materials of Division 2.3, or Division 4.2, or Division 4.3, or Division 5.1, or Division 5.2, or Division 6.1 (substances with an inhalation toxicity of Packing Group I) and articles containing more than one of the following hazards: (1) Gases of Class 2; (2) Liquid desensitized explosives of Class 3; or (3) Self-reactive substances and solid desensitized explosives of Division 4.1, may only be offered for transportation and transported under conditions approved by the Associate Administrator.

DOT Packaging Non Bulk (49 CFR 173.xxx) : 232
DOT Packaging Bulk (49 CFR 173.xxx) : 232
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : Forbidden

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DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

IMDG

Special provision (IMDG) : 274, 391
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P006, LP03
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG) : B
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes.

IATA

PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : Forbidden
CAO max net quantity (IATA) : Forbidden
Special provision (IATA) : A2
ERG code (IATA) : 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Ammonium chloride (12125-02-9)

CERCLA RQ	5000 lb
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ammonia% (1336-21-6)

CERCLA RQ	1000 lb
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15.2. International regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

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Component	State or local regulations
Ammonium chloride(12125-02-9)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List
ammonia%(1336-21-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - New York City - Right to Know Hazardous Substances List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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ICSDS_SDS_USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.