

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 1 of 10

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Silver Bath JE39 for Pen-Plating

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Plating agents and metal surface treating agents

1.3. Details of the supplier of the safety data sheet

Company name:	Jentner Plating Technology GmbH	
Street:	Johann-Staib-Strasse 2	
Place:	D-75179 Pforzheim	
Telephone:	+49 (0)7231 418094 0	Telefax: +49 (0)7231 418094 77
e-mail:	info@jentner.de	
Contact person:	Department of Chemistry	
Internet:	www.jentner.de	
Responsible Department:	Poison Information Center of the University of Freiburg.	

1.4. Emergency telephone number: 0049 (0)761 19240 - 24 h german and english

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 3

Acute toxicity: Acute Tox. 2

Acute toxicity: Acute Tox. 4

Hazardous to the aquatic environment: Aquatic Chronic 2

Hazard Statements:

Toxic if swallowed.

Fatal in contact with skin.

Harmful if inhaled.

Toxic to aquatic life with long lasting effects.

2.2. Label elements**Regulation (EC) No. 1272/2008****Hazard components for labelling**

salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex

Signal word: Danger**Pictograms:****Hazard statements**

H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 2 of 10

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see 4 on this label).
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see 4 on this label).
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container to an officially registered waste disposal company.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Chemical characterization**

Mixture of subsequent listed substances with not dangerous additives.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
-	salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex			max. 5%
	-	006-007-00-5		
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, Aquatic Acute 1, Aquatic Chronic 1; H310 H330 H300 H400 H410 EUH032			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. Medical treatment necessary.

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 3 of 10

After contact with skin

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Call a physician immediately. After contact with skin, wash immediately with plenty of water and soap.

After contact with eyes

After eye contact: Rinse immediately carefully and thoroughly with eye-bath or water. Consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms of poisoning may develop several hours following exposure. Victim should be under medical observation for at least 48 hours after exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture

Non-flammable.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not empty into drains; dispose of this material and its container in a safe way.

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Do not breathe gas/fumes/vapour/spray. Handle and open container with care.

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 4 of 10

Advice on protection against fire and explosion

No special fire protection measures are necessary.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaust at critical locations. Keep only in the original container in a cool, well-ventilated place.

7.3. Specific end use(s)

Plating agents and metal surface treating agents

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Additional advice on limit values**

To date, no national critical limit values exist.

8.2. Exposure controls**Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Eye/face protection

Wear eye protection/face protection.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. After cleaning apply high-fat content skin care cream. Thorough skin-cleansing after handling the product.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	clear
Odour:	none
pH-Value (at 20 °C):	11

Changes in the physical state

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 5 of 10

Melting point:	No data available
Initial boiling point and boiling range:	105 °C
Flash point:	not applicable
Flammability	
Solid:	not applicable
Gas:	not applicable
Explosive properties	
not explosive.	
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Auto-ignition temperature	
Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	ca. 200 °C
Oxidizing properties	
Not oxidising.	
Vapour pressure:	No data available
Density (at 20 °C):	1,06 g/cm ³
Water solubility:	unlimited
Solubility in other solvents	
not determined	
Partition coefficient:	No data available
Vapour density:	No data available
Evaporation rate:	not determined
9.2. Other information	
Solid content:	not determined

SECTION 10: Stability and reactivity**10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.4. Conditions to avoid

Acid, concentrated.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

Hydrocyanic acid (hydrocyanic acid).

SECTION 11: Toxicological information**11.1. Information on toxicological effects****Acute toxicity**

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 6 of 10

Fatal in contact with skin.
Toxic if swallowed.
Harmful if inhaled.
Fatal if swallowed.
Toxic in contact with skin or if inhaled.

ATEmix calculated

ATE (oral) 125,0 mg/kg; ATE (dermal) 125,0 mg/kg; ATE (inhalation vapour) 12,50 mg/l; ATE (inhalation aerosol) 1,250 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
-	salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex				
	oral	ATE 5 mg/kg			
	dermal	ATE 5 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation aerosol	ATE 0,05 mg/l			

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

LD50 oral , Ratte: 25 < LD50 =<200 mg/kg

The statement is derived from the properties of the single components.

Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

SECTION 12: Ecological information

12.1. Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product has not been tested.

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

The product has not been tested.

12.4. Mobility in soil

If product enters soil, it will be mobile and may contaminate groundwater.

12.5. Results of PBT and vPvB assessment

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No information available.

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 7 of 10

Further information

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Dispose of waste according to applicable legislation. Refer to manufacturer or supplier for information on recovery or recycling.

Waste disposal number of waste from residues/unused products

110198 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY; wastes from chemical surface treatment and coating of metals and other materials (for example galvanic processes, zinc coating processes, pickling processes, etching, phosphating, alkaline degreasing, anodising); other wastes containing hazardous substances; hazardous waste

Contaminated packaging

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself. Contaminated packages must be completely emptied and can be re-used following proper cleaning.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number:	UN 1935
14.2. UN proper shipping name:	CYANIDE SOLUTION, N.O.S. (Potassium dicyanoargentate(I))
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1



Classification code:	T4
Special Provisions:	274 525
Limited quantity:	100 mL
Excepted quantity:	E4
Transport category:	2
Hazard No:	60
Tunnel restriction code:	D/E

Other applicable information (land transport)Special provisions: 274
: 2**Inland waterways transport (ADN)**

14.1. UN number:	UN 1935
14.2. UN proper shipping name:	CYANIDE SOLUTION, N.O.S. (Potassium dicyanoargentate(I))
14.3. Transport hazard class(es):	6.1
14.4. Packing group:	II
Hazard label:	6.1

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 8 of 10



Classification code: T4
 Special Provisions: 274 525 802
 Limited quantity: 100 mL
 Excepted quantity: E4

Marine transport (IMDG)

14.1. UN number: UN 1935
14.2. UN proper shipping name: CYANIDE SOLUTION, N.O.S. (Potassium dicyanoargentate(I))
14.3. Transport hazard class(es): 6.1
14.4. Packing group: II
 Hazard label: 6.1



Marine pollutant: P
 Special Provisions: 274
 Limited quantity: 100 mL
 Excepted quantity: E4
 EmS: F-A, S-A

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1935
14.2. UN proper shipping name: CYANIDE SOLUTION, N.O.S. (Potassium dicyanoargentate(I))
14.3. Transport hazard class(es): 6.1
14.4. Packing group: II
 Hazard label: 6.1



Special Provisions: A3
 Limited quantity Passenger: 1 L
 Passenger LQ: Y641
 Excepted quantity: E4
 IATA-packing instructions - Passenger: 654
 IATA-max. quantity - Passenger: 5 L
 IATA-packing instructions - Cargo: 661
 IATA-max. quantity - Cargo: 60 L

Other applicable information (air transport)

Special provisions: A3 A4 A137

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: Potassium dicyanoargentate(I)

14.6. Special precautions for user

Warning: Toxic.

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 9 of 10

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information****Additional information**

To follow: 850/2004/EC, 1107/2009/EC, 649/2012/EC.

National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D):

3 - highly water contaminating

Skin resorption/Sensitization:

Permeates easily through outer skin and causes poisoning.

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,4,5,6,7,8,11,12,13,14,15,16.

Abbreviations and acronymsADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 2; H310	Calculation method
Acute Tox. 3; H301	Calculation method
Acute Tox. 4; H332	Calculation method
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH032	Contact with acids liberates very toxic gas.

Jentner Plating Technology GmbH
Safety Data Sheet

according to Regulation (EC) No 1907/2006



JENTNER
PLATING TECHNOLOGY

Silver Bath JE39 for Pen-Plating

Revision date: 31.07.2019

Product code: 115

Page 10 of 10

Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)