Matt Silver Bath JE37

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Matt Silver Bath JE37

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. 1
Acute toxicity: Acute Tox. 2
Acute toxicity: Acute Tox. 2
Skin corrosion/irritation: Skin Corr. 1A
Serious eye damage/eye irritation: Eye Dam. 1
Hazardous to the aquatic environment: Aquatic Chronic 2
Hazard Statements:
Fatal in contact with skin.
Fatal if swallowed.
Fatal if inhaled.
Causes severe skin burns and eye damage.
Causes serious eye damage.
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

H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.

H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see 4.1 on this label).
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P310	Immediately call a POISON CENTER/doctor.
P321	Specific treatment (see 4.1 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.
P310	Immediately call a POISON CENTER/doctor.
P320	Specific treatment is urgent (see 4.1 on this label).
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to an officially registered waste disposal company .

Special labelling of certain mixtures

EUH032	Contact with acids liberates very toxic gas. Restricted to professional users.

2.3. Other hazards

Very toxic by inhalation, in contact with skin and if swallowed. Contact with acids liberates very toxic gas.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
151-50-8	Potassium cyanide			max. 15 %
	205-792-3			
	Acute Tox. 1, Acute Tox. 1, Skin Corr. 1A, Aquatic Acute 1, Aquatic Chronic 1 (M-Factor = 10); H330 H300 H314 H400 H410 EUH031			
-	salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex			7 %
	-	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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!
The following first aid and treatment recommendations should already be available to all first responders and doctors, before the work with cyanides. It can be used for First Aid performance. Act quickly and keep calm. Self-respect. Remove soiled or soaked clothing immediately and dispose safely. Leave the danger area. Possible signs of poisoning: headache, dizziness, drowsiness, nausea, convulsions, unconsciousness, respiratory disorders, respiratory arrest, cardiac arrest.dispose of safely. Concerned from the danger area. Possible signs of poisoning: headache, dizziness, drowsiness, nausea, convulsions, unconsciousness, respiratory disorders, respiratory arrest, cardiac arrest.

After inhalation

After inhaling vapours, first symptoms of poisoning may develop hours later, so always consult a doctor.
No direct artificial respiration to be given by first aider.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Put victim at rest, cover with a blanket and keep warm. Do not leave affected person unattended. In case of breathing difficulties administer oxygen. If victim is at risk of losing consciousness, position and transport on their side.

After contact with eyes

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist. Protect uninjured eye.

After ingestion

No direct artificial respiration to be given by first aider. Rinse mouth immediately and drink plenty of water. Call a physician immediately.

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

after ingestion: Headaches and dizziness may occur, proceeding to fainting or unconsciousness; large doses may result in coma and death.

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

Treatment as for cyanide poisoning. Attend attached additional text note. Eye Contact: Therapy as alkali burn.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
Extinguishing powder. Foam.

Unsuitable extinguishing media
Extinguishing media which must not be used for safety reasons: Water spray. Carbon dioxide (CO2).

5.3. Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.
The product itself does not burn. Do not allow water used to extinguish fire to enter drains or waterways.
Provide adequate fire-fighting water retention. Contaminated fire-fighting water must be disposed of according to local regulations.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
Wear personal protection equipment. (8.) Keep away from unprotected people. Keep upwind.

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
Take up mechanically, placing in appropriate containers for disposal.
Retain contaminated washing water and dispose it.

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
When using do not eat, drink, smoke, sniff.
The product should be handled only by trained personnel.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep locked up and out of the reach of children.
Keep only in the original container in a cool, well-ventilated place away from acids.

Hints on joint storage
Do not store together with: acid.

Further information on storage conditions
Store in a place accessible by authorized persons only.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
151-50-8	Potassium cyanide (as cyanide)	-	5		TWA (8 h)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
151-50-8	Potassium cyanide			
Worker DNEL, long-term		dermal	systemic	0,14 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	4,03 mg/kg bw/day
Worker DNEL, long-term		inhalation	systemic	0,94 mg/m³
Worker DNEL, acute		inhalation	systemic	12,5 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
151-50-8	Potassium cyanide	
Freshwater		0,001 mg/l
Freshwater (intermittent releases)		0,005 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,004 mg/kg
Marine sediment		0,004 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,05 mg/l
Soil		0,007 mg/kg

8.2. Exposure controls





Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures
Do not eat, drink, smoke or sneeze at the workplace.
Wash hands before breaks and after work.

Eye/face protection
Tightly sealed safety glasses.

Hand protection
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.

Skin protection
Use personal protection equipment.

Respiratory protection
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	liquid
Colour:	dark brown ,black
Odour:	Ammonia
pH-Value (at 20 °C):	11,5 - 12,5

Changes in the physical state

Initial boiling point and boiling range:	ca. 101 °C
Sublimation point:	not determined

Explosive properties
not explosive.

Oxidizing properties
Not oxidising.

Density (at 20 °C):	ca. 1,3 g/cm³
Water solubility:	unlimited

Solubility in other solvents
not determined

Partition coefficient:	not determined
Evaporation rate:	not determined
Solvent separation test:	not applicable

9.2. Other information

Solid content:	not determined

SECTION 10: Stability and reactivity

10.3. Possibility of hazardous reactions
Contact with acids liberates very toxic gas. Hydrocyanic acid (hydrocyanic acid).

10.4. Conditions to avoid
Thermal decomposition can lead to the escape of irritating gases and vapours.

10.5. Incompatible materials
Contact with acids liberates very toxic gas.

10.6. Hazardous decomposition products
Hydrocyanic acid (hydrocyanic acid). Ammonia.

Further information
Absorbs carbon dioxide from the air, forming hydrogen cyanide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Fatal in contact with skin.
Fatal if swallowed.
Fatal if inhaled.

ATEmix calculated
ATE (oral) 25,0 mg/kg; ATE (dermal) 25,0 mg/kg; ATE (inhalation vapour) 2,50 mg/l; ATE (inhalation aerosol) 0,250 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
151-50-8	Potassium cyanide					
	oral	LD50	5 mg/kg	Rat		
	inhalation vapour	ATE	0,05 mg/l			
	inhalation aerosol	ATE	0,005 mg/l			
-	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
Causes severe skin burns and eye damage.
Causes serious eye damage.

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.
No information available.

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

SECTION 12: Ecological information

12.1. Toxicity
Cyanide poisons are strong for all living things.

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
151-50-8	Potassium cyanide						
	Acute fish toxicity	LC50	0,57 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)	Arch.Environ.Contam.	
	Acute crustacea toxicity	EC50	0,25 mg/l	48 h	Daphnia pulex (water flea)	Gestis	

12.2. Persistence and degradability
EC50(48h) 0,041mg/l (Daphnia magna)
LC0(96h) 0,042 mg/l(Oncorhynchus mykiss)

12.3. Bioaccumulative potential
No information available.

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Refer to manufacturer or supplier for information on recovery or recycling.

Waste disposal number of used product

110301 WASTES FROM CHEMICAL SURFACE TREATMENT AND COATING OF METALS AND OTHER MATERIALS; NON-FERROUS HYDRO-METALLURGY; sludges and solids from tempering processes; wastes containing cyanide; hazardous waste

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
Non-contaminated packages may be recycled.

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. (contains potassium cyanide)
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: 274 525
Transport category: 2
Tunnel restriction code: D/E

Inland waterways transport (ADN)

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

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. (contains potassium cyanide)
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

Other applicable information (marine transport)
Special provisions: -

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 1935
14.2. UN proper shipping name: CYANIDE SOLUTION, N.O.S. (contains potassium cyanide)
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)
60 L

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: yes

Danger releasing substance: Potassium cyanide

SECTION 15: Regulatory information

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

EU regulatory information
Information according to 2012/18/EU (SEVESO III): H1 ACUTE TOXIC
Additional information: E1

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

15.2. Chemical safety assessment

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

SECTION 16: Other information

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

Classification	Classification procedure
Acute Tox. 1; H310	Calculation method
Acute Tox. 2; H300	Calculation method
Acute Tox. 2; H330	Calculation method
Skin Corr. 1A; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
Aquatic Chronic 2; H411	Calculation method

Relevant H and EUH statements (number and full text)

H300	Fatal if swallowed.
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled.
H310	Fatal in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H330	Fatal 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.
EUH031	Contact with acids liberates toxic gas.
EUH032	Contact with acids liberates very toxic gas.

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 singulary 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.)