

**Safety Data Sheet**

according to UK REACH Regulation

**Bright Silver Bath JE36**

Revision date: 16.02.2023

Product code: 34

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

Bright Silver Bath JE36

**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

**Further Information**

BfR Produktnummer 6271254

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Acute Tox. 1; H310  
Acute Tox. 2; H300  
Acute Tox. 2; H330  
Skin Corr. 1; H314  
Eye Dam. 1; H318  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****GB CLP Regulation****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.

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**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/hearing 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.

**Labelling of packages where the contents do not exceed 125 ml****Signal word:** Danger**Pictograms:****Hazard statements**

H300+H310+H330-H314

**Precautionary statements**

P260-P262-P264-P270-P271-P280-P284-P301+P330+P331-P310-P321-P302+P352-P303+P361+P353-P310-P321-P361+P364-P304+P340-P310-P320-P305+P351+P338-P310-P403+P233-P405-P501

**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****Chemical characterization**

contains potassium cyanide

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**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
-	salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex			20 %
	-	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.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
-	-	salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex	20 %
	inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); dermal: ATE = 5 mg/kg; oral: ATE = 5 mg/kg		

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

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**

Immediately attend to emergency medical alert (keyword: cyanide). Take affected person to fresh air. Do not leave affected persons unattended. Keep warm and at rest. In case of breathing difficulties administer oxygen. Apply artificial respiration. No direct rescue breathing (self-protection) Use resuscitator. If unconscious put into recovery position.

**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. Call a physician immediately.

**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**

Immediately attend to emergency medical alert (keyword: cyanide). Do not induce vomiting. Only when patient is fully conscious: Rinse mouth with water. Do not leave affected persons unattended. Keep warm and at rest. If case of breathing difficulties administer oxygen. Apply artificial respiration.. No direct rescue breathing (self-protection) Use resuscitator.

**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.

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## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### **Suitable extinguishing media**

Extinguishing powder. Foam.

#### **Unsuitable extinguishing media**

Water. Carbon dioxide (CO<sub>2</sub>).

### 5.2. Special hazards arising from the substance or mixture

Risk of decomposition with heat. Very toxic by inhalation. On burning hydrogen cyanide may be formed as Hazardous waste gas.

### 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.

#### **Additional information**

Specific methods of fire fighting: Water may only be exposed to cool the fire of metal containers be used.

Direct contact with water or steam with the material leads to decomposition with evolution of highly toxic cyanide gas. In addition, through water, a highly dangerous dissolved cyanide solution produced by sewers and waterways must be kept. It is known that cyanide, and sometimes spontaneously, with chlorates, nitrates plus ammonia nitrogen and chloride forms explosive mixtures.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### **General advice**

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

#### **Other information**

Take up mechanically, placing in appropriate containers for disposal.

Retain contaminated washing water and dispose it.

### 6.4. Reference to other sections

For the recovery of precious metals in accordance with local regulations feeding into a recycling process.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### **Advice on safe handling**

Wear personal protection equipment. Store in a place accessible by authorized persons only. Always close containers tightly after the removal of product. Always look for leaks. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

#### **Advice on general occupational hygiene**

All specified safeguards are strictly observed. When using do not eat, drink, smoke or take drugs. In case of contact with skin, wash immediately with plenty of water. Wash hands and face before breaks. Preventive skin protection recommended. In case of exceeding limits at the workplace and / or larger amounts are released (leakage, spilling, etc.) the indicated respiratory protection should be used. Do not breathe dust. Avoid contact with skin, eyes and clothing. With possibility of contact of the skin or eyes, the indicated hand / eye / body

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protection should be used. Separate storage of clothes.

**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. Kept under lock and key so that only skilled persons have access.

**Hints on joint storage**

Do not store together with: acid.

**Further information on storage conditions**

TRGS 510 "camps very toxic and toxic substances in packagings and portable tanks.

**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**

Additional information on plant design: Ensure suitable suction / aeration at the workplace or on the machines.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tightly sealed safety glasses.

**Hand protection**

Protective gloves made of butyl rubber (0.7 mm), breakthrough time > 8h

**Skin protection**

Chemical resistant suit. Take off immediately all contaminated clothing, including underwear and shoes .

**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

**Changes in the physical state**

Boiling point or initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Flash point:	n.a.

**Explosive properties**

not explosive.

pH-Value (at 20 °C):	11,5 - 12,5
Viscosity / dynamic:	not determined
Viscosity / kinematic:	not determined
Flow time:	not determined

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Water solubility: unlimited

**Solubility in other solvents**

not determined

Partition coefficient n-octanol/water: not determined

Vapour pressure: not determined

Density (at 20 °C): ca. 1,3 g/cm<sup>3</sup>**9.2. Other information****Information with regard to physical hazard classes**

Oxidizing properties

Not oxidising.

**Other safety characteristics**

Solvent separation test: not applicable

Solid content: not determined

Evaporation rate: not determined

**Further Information****SECTION 10: Stability and reactivity****10.2. Chemical stability**

not determined

**10.4. Conditions to avoid**

Absorbs carbon dioxide from the air, forming hydrogen cyanide

**10.5. Incompatible materials**

Acids and oxidizing agents (chlorates, nitrates, Permanganate, iodine, peroxides, etc.). Under the action of acids (pH 3) hydrocyanic acid is released, which is highly toxic and flammable and can form explosive mixtures with air.

**10.6. Hazardous decomposition products**

Potassium oxide; Nitrogen oxides; Hydrogen cyanide, cyanogen. Decomposition begins at 200 ° C

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Fatal if swallowed, in contact with skin or if inhaled.

Potassium cyanide: Toxic in contact with skin or if inhaled.

LD 50 (oral, rat)= 5 mg/kg

LD 50 (oral, mouse)= 8,5 mg/kg LD Lo (oral, human)= 2,8 mg/kg

**ATEmix calculated**

ATE (oral) 25,0 mg/kg; ATE (dermal) 25,0 mg/kg; ATE (inhalation vapour) 2,50 mg/l; ATE (inhalation dust/mist) 0,250 mg/l

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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 dust/mist	ATE 0,05 mg/l			

**Irritation and corrosivity**

Produces skin irritation, absorption of lethal quantities is possible. Skin: 500 mg 1 24 h, very irritating, rabbit  
 Eye: 0.25 mg 124 h, very irritating, rabbit

**Sensitising effects**

No information available.

**STOT-single exposure**

No information available.

**STOT-repeated exposure**

No information available.

**Practical experience**

Because of analogy considerations will be accepted at the following product characteristics: inhalation (already at about 200 - 250-µm HCN in the breath) or swallowing (ca. 200 - 300 NaCN) mg can cause immediate unconsciousness and death. Signs of poisoning: nausea, vomiting, convulsions, unconsciousness, and central apnea. Lethal amounts can be absorbed through the skin.

**SECTION 12: Ecological information****12.1. Toxicity**

Cyanide poisons are strong for all living things.

**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**

There are no data available on the mixture itself.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

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

**List of Wastes Code - used product**

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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 or ID 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 or ID 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 or ID 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



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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 or ID 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**

Restrictions on use (REACH, annex XVII):  
 Entry 3

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).  
 Water hazard class (D): 3 - highly hazardous to water

**15.2. Chemical safety assessment**

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

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**SECTION 16: Other information****Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Acute Tox. 1; H310	Calculation method
Acute Tox. 2; H300	Calculation method
Acute Tox. 2; H330	Calculation method
Skin Corr. 1; 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.
EUH032	Contact with acids liberates very toxic gas.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance 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.)*