

Palladium Bath JE42 V/D

Revision date: 24.02.2023

Product code: 68

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

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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****GB CLP Regulation**

Skin Irrit. 2; H315
Eye Irrit. 2; H319
Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

2.2. Label elements**GB CLP Regulation****Signal word:** Warning**Pictograms:****Hazard statements**

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

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P501 Dispose of contents/container to an officially registered waste disposal company.

Special labelling of certain mixtures

EUH208 Contains Palladium(II)chloride. May produce an allergic reaction.

Labelling of packages where the contents do not exceed 125 ml

Signal word: Warning

Pictograms:



Hazard statements

H412

2.3. Other hazards

The product is due to our present information no hazardous material as defined by the current valid laws.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Inorganic compounds, aqueous solution containing palladium.

Hazardous components

CAS No	Chemical name	Quantity		
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
12125-02-9	ammonium chloride			1 - < 5 %
	235-186-4	017-014-00-8		
	Acute Tox. 4, Eye Irrit. 2; H302 H319			
7647-10-1	Palladium(II)chloride			< 1 %
	231-596-2			
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1, Aquatic Acute 1, Aquatic Chronic 1; H302 H315 H318 H317 H400 H410			

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		
12125-02-9	235-186-4	ammonium chloride	1 - < 5 %
	oral: LD50 = 1440 mg/kg		
7647-10-1	231-596-2	Palladium(II)chloride	< 1 %
	oral: LD50 = 570 mg/kg		

Further Information

The product is due to our present information no hazardous material as defined by the current valid laws.

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Provide fresh air.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. After contact with skin, wash immediately with plenty of water and soap.

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After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink plenty of water. Let water be drunken in little sips (dilution effect).

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

No information available.

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

In case of fire: Wear self-contained breathing apparatus.

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

Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**Other information**

Treat the recovered material as prescribed in the section on waste disposal. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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**

General Precautions for safe handling of chemicals.

Advice on protection against fire and explosion

The product itself does not burn.

Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

When using do not eat, drink, smoke, sniff.

7.2. Conditions for safe storage, including any incompatibilities

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Requirements for storage rooms and vessels

Keep container tightly closed. Store in a well-ventilated place. Keep container tightly closed.

Hints on joint storage

No special measures are necessary.

7.3. Specific end use(s)

Plating agents and metal surface treating agents

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
12125-02-9	Ammonium chloride, fume	-	10		TWA (8 h)	WEL
		-	20		STEL (15 min)	WEL

Additional advice on limit values

No substance related limit value derivable.

8.2. Exposure controls**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection. Safety glasses.

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. Wear suitable gloves.

Skin protection

Wear suitable protective clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Do not breathe gas/fumes/vapour/spray.

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

Physical state:	liquid	
Colour:	bright green -yellow	
Odour:	like ammonia	
Melting point/freezing point:		not determined
Flammability:		not applicable
		not applicable
Decomposition temperature:		not determined
pH-Value (at 20 °C):		7-8
Water solubility:		highly soluble.

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Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

not determined

Density (at 20 °C):

1,06 g/cm³

Relative vapour density:

not determined

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

not explosive.

Self-ignition temperature

Solid:

not applicable

Gas:

not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:

not determined

Solvent separation test:

not applicable

Solid content:

not determined

Sublimation point:

not determined

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

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

In case of appropriate treatment and warehousing are no dangerous reactions common.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

Ammonia

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Toxicokinetics, metabolism and distribution**

Toxicological data are not available.

ATEmix calculated

ATE (oral) 144000,0 mg/kg

Acute toxicity

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
12125-02-9	ammonium chloride				
	oral	LD50 mg/kg	1440	Rat	
7647-10-1	Palladium(II)chloride				
	oral	LD50 mg/kg	570	Rat	

Irritation and corrosivity

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Causes serious eye irritation.

Causes skin irritation.

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.

Aspiration hazard

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

Additional information on tests

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
12125-02-9	ammonium chloride					
	Acute fish toxicity	LC50 209 mg/l	96 h	Cyprinus carpio	IUCLID	
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna		

12.2. Persistence and degradability

not determined

12.3. Bioaccumulative potential

not determined

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
12125-02-9	ammonium chloride	-4,37

12.4. Mobility in soil

not determined

12.5. Results of PBT and vPvB assessment

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

The product has not been tested.

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.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

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

Dispose of waste according to applicable legislation. For the recovery of precious metals in accordance with local regulations feeding into a recycling process.

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List of Wastes Code - residues/unused products

110112 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); aqueous rinsing liquids other than those mentioned in 11 01 11

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Contaminated packages must be completely emptied and can be re-used following proper cleaning.

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

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.2. UN proper shipping name: No dangerous good in sense of this transport regulation.

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

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, Entry 65, Entry 75

National regulatory information

Water hazard class (D): 2 - obviously hazardous to water

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): 2,3,11,15.

Abbreviations and acronyms

ADR: 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%

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Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Skin Irrit. 2; H315	On basis of test data
Eye Irrit. 2; H319	On basis of test data
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH208	Contains Palladium(II)chloride. May produce an allergic reaction.

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.)