

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 830/2015
Pd sulfate salt
Pd tetramine sulfate



Revision n. II dd 01.21.2019
 Replaces revision n I dd 01.06.2015

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

1.1 Product Identifier

Chemical name Pd tetramine sulfate
 C.A.S. Registry number 13601-06-4
 EINECS number ---
 Molecular weight 269,99
 Chemical Formula $\text{Pd}(\text{NH}_3)_4\text{SO}_4$
 Commercial name Pd sulfate salt

1.2 Pertinent use of the substance and recommended use

Catalyst in a homogenous phase

1.3 Informations about the furniture of the safety data sheet

Name FAGGI ENRICO S.P.A.
 Address Via Majorana, 101/103 50019 Sesto Fiorentino FI
 Telephone number 055311861
 Fax number 055311791
 Competent person responsible for the safety data sheet lorenzo.magaldi@faggi.it
 Emergency telephone number Tel. 0557947819 Centro Antiveleni di Firenze

1.5 Registration number

For this product is not available a registration number as the annual produced or imported quantity is below one ton

2. HAZARDS IDENTIFICATION

2.1 Classification of the mixture in accordance with Regulation (CE) n. 1272/2008

Hazard classes	Category codes	Hazard statements
Acute tox.	4	H302
Aquatic acute	1	H400
Aquatic chronic	1	H410

2.2 Label elements

Pittogrammi



Warnings

DANGER

Hazard statements

H302	Harmful if swallowed
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long-lasting effects

Safety Advice

P270	Do not eat, drink or smoke when using this product
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P304+P340	IF INHALED: Remove person to fresh air

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		and keep comfortable for breathing.
	P312	Call a POISON CENTER or a doctor if you feel unwell
	P280	Wear protective gloves/protective clothing/eye protection/face protection
	P273	Avoid release to the environment
• Further Informations	None	
Results of PBT e vPvB	PBT : not applicable	
	vPvB : not applicable	

3. **COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 **Substance Palladium tetramine sulfate**

CAS number	13601-06-4
EINECS number	-
CE number	-
IUPAC number	-

4. **FIRST-AID MEASURES**

4.1 **Description of the first-aid measures**

Inhalation	Bring to fresh air immediately. If not breathing provide artificial respiration and call a doctor for medical treatment. In case of unconsciousness place patient stably in side position for transportation
Ingestion	Consult a doctor immediately for medical treatment. Do not eat or drink
Skin contact	Take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes after removing contact lenses. Consult an ophthalmologist

Recommendations:

• Need for immediate medical attention	YES
• Possibility of delayed effects subsequent the exposition	YES
• Move the exposed individual from the area to fresh air	YES
• Remove clothes and shoes from the individual	YES
• Modality of manipulation of contaminated garments	With gloves
• For lendors of first aid, wear the DPI	YES

4.2 **Main symptoms and effects both acute and delayed**

No known significant effects

4.3 **Indication of the possible urgency to consult immediatly a doctor or of special treatments**

In case of inhalation or ingestion, a doctor should be consulted immediately.

5. **FIREFIGHTING MEASURES**

5.1 **Extinguishing media**

Suitable extinguishing media CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam

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- Unsuitable None in particular
extinguishing media
- 5.2** **Special hazards arising from the substance or the mixture**
If heated, it can generate ammonia vapors. In case of fire fumes of nitrogen oxides or sulfur oxides can be generated
- 5.3** **Advice for firefighters**
General Avoid that the water used to extinguish the fire goes into sewage system, aquifers
informations or to superficial waters.
- Equipment Normal garments for firefighting, as an air breathing apparatus (ref. standard EN 137) or fresh air hose breathing, protective clothing for welding (EN 469), flame resistant gloves (EN659) and fireman's boots (HOA29 or A30)
- 6.** **ACCIDENTAL RELEASE MEASURES**
- 6.1** **Personal precautions, protective equipment and emergency procedures**
- 6.1.1.** **For non-emergency personnel**
Get away immediately from the contaminated area.
- 6.1.2.** **For emergency responders**
Wear:
Chemical risks Gloves conform to the standards EN420 EN374
Complete clothing complying with the UNI EN 13034: 2006 regulation
Mask with K filters
- 6.2** **Environmental precautions**
Prevent product from going into sewers and water sources or soil. In case of seepage into water or sewage system or in case of seepage into the ground inform responsible authorities.
- 6.3** **Methods and materials for containment and clean-up**
- 6.3.1.** **Recommendations about the methods of containment of a spill**
Avoid generation of dusts
- 6.3.2.** **Recommendations about the methods of reclamation of a spill**
Wash the contaminated area with water. Do not allow into drains, ground and surface water
- 6.3.3.** **Any other informations**
Dispose contaminated material as waste according to item 13. Provide adequate ventilation
- 6.4** **Reference to other sections**
-
- 7.** **HANDLING AND STORAGE**
- 7.1.** **Precautions for safe handling**
- 7.1.1.** **Recommendations that allow safe handling of the substance or mixture, such as containment and measures to prevent fine as well as aerosol and dust generation**
Keep the original containers closed tightly. Use under suction. Jars should be closed immediately after use. The use is permitted only to a trained and an informed personnel.
- 7.1.2.** **Advice on general occupational hygiene**
Do not eat, drink or smoke in designated work areas. Wash hands after handling. To remove contaminated clothing and protective equipment

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- 7.2. before entering eating areas
- 7.2. Conditions for safe storage, including any incompatibilities**
- 7.2.1. Risk management decisions arising from explosive atmospheres, corrosive conditions, flammability hazards, incompatible materials, evaporative conditions, potential ignition sources**
Store in an area without drain or sewer access and away from moisture and direct light.
- 7.2.3. Containment of the effects of weather conditions, pressure, temperature, sunlight, humidity and vibrations**
Store in closed and labeled containers
- 7.2.4. Conditions to maintain the integrity of the substance or mixture**
Store in closed and labeled containers
- 7.2.5. Decisions about ventilation requirements, specific design for storage rooms or vessels, quantitative limits in storage conditions, compatibility of the packaging.**

Use ADR approved packaging

7.3. Specific end use

Additive for electroplating baths

8. EXPOSURE CONTROL/ INDIVIDUAL PROTECTION

8.1. Controller parameters

For this substance have not been established professional and biological limit values corresponding to the respective Community limits referred to in 98/24 / EC and 2004/37 / EC regulations

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Periodically check the flow rate of the exhaust hood

8.2.2. Individual measures, such as personal protective equipment

- | | |
|--------------------------------|---|
| Eye/face protection | Protective glasses complying with 89/686/CEE and EN166:2001 regulation |
| Skin protection (hands) | Protective gloves material complying with EN420 and E374 regulations |
| Skin protection (body) | Complete clothing antacid complying with UNI EN 13034: 2006 type 6 regulation |
| Respiratory protection | half-mask with P3 filters complying with 14387:2004 + a1:2008 regulations in the absence of technical measures limiting worker exposure |
| Thermal hazards | None |

8.2.3. Environmental exposure controls

Keep suction all environments using capture systems localized. Conveying the withdrawn volumes to an abatement system and then into the atmosphere. Do not use vacuum systems to air recirculation.

9. PROPERTIES (PHYSICAL/CHEMICAL)

9.1 Informations about the main physical and chemical properties

Aspect Pale yellow crystalline

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		powder
	Odour	No smell
	Odour threshold	Undefined
	pH	Not applicable
	Melting point/freezing point	Decomposes
	Initial boiling point and boiling range	Not applicable
	Flashpoint	Not flammable
	Evaporation rate	Not applicable
	Flammability solids/gases	Not flammable
	Upper/lower flammability or explosive limits	Not applicable
	Vapour pressure	Not applicable
	Vapour density	Not applicable
	Relative density	Undefined
	Solubility/Solubilities	Insoluble in water
	The log octanol/water partition Coefficient	Not applicable
	Auto-ignition temperature	Not applicable
	Decomposition temperature	> 80 °C
	Viscosity	Not applicable
	Explosive properties	Not explosive
	Oxidising properties	Not oxidising
9.2.	Other informations	
	None	
10.	STABILITY AND REACTIVITY	
10.1	Reactivity	
	The substance reacts to heat in a violent manner with strong reducing	
10.2	Chemical stability	
	The product is stable	
10.3	Possibility of hazardous reactions	
	No relevant information	
10.4	Conditions to avoid	
	Informations are not available	
10.5	Incompatible materials	
	Strong reducing	
10.6	Hazardous decomposition products	
	Ammonia, nitrogen oxides, sulfur oxides	
11.	TOXICOLOGICAL INFORMATION	
11.1	Informations about toxicological effects (relatively to ammonia)	
	Acute toxicity	Oral LD50 2704 mg/kg (rat)
	Skin corrosion/irritation	Irritating effects
	eye damage/irritation	May cause serious eye damages
	Skin sensitisation or corrosion/irritation	May cause allergic reactions
	Germ cell mutagenicity	Not mutagenic

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	Carcinogenity	Not carcinogenic
	Reproductive toxicity	Not toxic for reproduction
	Specific target organ toxicity (STOT)-repeated exposure	There are no data available
	Specific target organ toxicity (STOT)-repeated exposure	There are no data available
	Aspiration hazard	There are no data available
11.2	Specific target organ toxicity Skin, eyes, respiratory tracts	
11.3	Symptoms related to the physical, chemical and toxicological characteristic None in particular	
11.4.	Delayed, immediate and chronic effects from short and long term exposure Harmful if ingested The substance is corrosive to the eyes, the skin and the respiratory tract Chronic effects Inhalation or ingestion can lead to generalized argyria, staining grey eyes and skin and brown fingernails.	
11.5.	Interactive effects There are no interactive effects known	
11.6.	In the absence of specific data For the substances are not known specific data; generic data relating to the mixture of palladium chloride have been used	
11.7.	Other informations None	
12.	ECOLOGICAL INFORMATIONS (data relating to substance: ammonia)	
	Toxicity	chronic toxicity LC50 96 h (for fish) ≤ 1 mg/l and / or EC50 48 h (for crustaceans) ≤ 1 mg/l and / or EC50 72 or 96 h (for algae and other aquatic plants) ≤ 1 mg/l
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13.	13.1.	Persistence and degradability Bioaccumulation potential Mobility in soil Results of PBT e vPvB Other adverse effects DISPOSAL CONSIDERATIONS Waste treatment methods This product and its packaging must be disposed of in licensed facilities.	Informations are not available Informations are not available Informations are not available Data are not available Data are not available
14.		TRANSPORT INFORMATIONS UN number Name Transport Hazard class Pack Group Environmental Hazards Special precautions for user	3077 hazardous substance for the environment n.a.s. (Palladium tetramine sulfate) 9 III YES approved packaging
15.	15.1	REGULATORY INFORMATION Legislation <i>Reg. (CE) 1907/2006/CE Reach</i> <i>Reg. (CE) 1272/2008 CLP and subsequent amendments and addenda</i> <i>Reg. (CE) 2037/2000 "Substances that deplete the ozone layer"</i> <i>Reg. (CE) 850/2004 "The persistent organic pollutants"</i> <i>Reg. (CE) 689/2008 "The export and import of dangerous chemicals"</i> <i>Substance listed in Annex I 2012/18/UE cd Seveso</i> <i>D.lgs 81/2008 Uniform Occupational Health and Safety Code</i> <i>DirettivE 2014/103/UE "Adr"</i>	Applicability YES YES NO NO NO YES YES YES
16.	15.2	Chemical Safety Assessment A chemical safety assessment has not been carried out	
	16.1	OTHER INFORMATIONS Changes as compared to the previous version Modified section 1	
	16.2	Legend to abbreviations and acronyms ADR: European Agreement on the international carriage of goods by road GHS: Globally Harmonised System of Classification and Labelling EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstract Service	
	16.3	Bibliographical references and data sources ECHA substance data bank: http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances	

