Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020

SALT PD SULFATE
Palladium tetramino sulfate

Revision n. 8– 02.11.2026
Replaces revision n. 7 – 02.04.2024

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

1.1 Product identifier

Chemical name	Palladium tetramino sulfate
Product codes	180
	1180
C.A.S. Registry Number	13601-06-4
EC number	426-980-3
INDEX	Not available
Molecular weight	269,96
Raw formula	H12N4O4PdS
Commercial name	Salt Pd sulfate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Intended uses	Industrial use. Additive for electroplating
Advised against uses	None in particular

1.3 Details of the supplier of the safety data sheet

Name	FAGGI ENRICO S.P.A.
Adress	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

1.4 Emergency telephone number 111 - Medical helpline operating in England, in Scotland (NHS 24) and in Wales (NHS Direct Wales).

1.5 REACH registration number Exempt according to art. 6(1)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture according to Reg. (EU) n. 1272/2008

Hazard classes	Category codes	Hazard statements
Toxic acute (oral) (ATE: 500 mg/kg bw)	4	H302
Aquatic Acute (M factor: 1)	1	H400
Aquatic Chronic (M factor: 1)	1	H410

2.2 Label elements

Pictograms



Signal words **WARNING**

Hazard statements

H302	Harmful if swallowed
H400	Highly toxic to aquatic organisms
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P270	Do not eat, drink or smoke during use
P302+ P352	IF ON SKIN: Wash with plenty of soap and water.

	P304+ P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	P312	Call a POISON CENTER or doctor/physician if you feel unwell.
	P280	Wear protective gloves / clothing. Protect eyes / face.
	P273	Avoid release to the environment

2.3 Other hazards

It does NOT contain PBT / vPvB substances according to Regulation (EC) 1907/2006, annex XIII
It does NOT contain substances that interfere with the endocrine system in accordance with Regulation (EC) 1907/2006 art.59 paragraph 1 and in accordance with the criteria established in Regulation (EU) 2017/2100 and Regulation (EU) 2018/605.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance : Palladium tetramino sulfate

CAS number	13601-06-4
EC number	426-980-3
INDEX	Not available
ATE	Oral: 500 mg/kg bw Dermal: data not available Inhalation: data not available
M factor: acute	100
Factor M: chronic	10

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Take the person to a well-ventilated area and, to be safe, consult a doctor. If the subject is unconscious, keep him in a stable position on his side during transport.
Ingestion	Call a doctor immediately. Do not give to drink or eat.
Contact with skin	Remove contaminated clothing. Wash with soap and water and rinse thoroughly.
Contact with eyes	Rinse with plenty of running water for at least 15 minutes while keeping the eyelids open (remove contact lenses if it is easy to do so). Consult an ophthalmologist.

Recommendations:

Need to see a doctor immediately	YES
Possibility of delayed effects following exposure	YES
Move the exposed individual from the place of exposure to the open air	YES
Remove the clothing and shoes of the exposed individual	YES
How to handle contaminated clothing	With gloves
For those providing first aid, wear PPE	YES

4.2 Most important symptoms and effects, both acute and delayed

No known significant effects or criticalities

4.3 Indication of any immediate medical attention and special treatment needed

If swallowed or inhaled, consult a doctor immediately.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	CO2 or powder or water spray extinguishers. Extinguish large fires with water spray or alcohol-resistant foam.
Unsuitable extinguishing media	None

5.2 Special hazards arising from the substance or mixture

If heated, it can generate ammonia vapors. In the event of a fire, toxic fumes of nitrogen oxides or sulfur oxides may be formed.

5.3 Advice for firefighters

General information: Prevent the water used to extinguish the fire from flowing into the sewer, groundwater or surface water.

Equipment: Normal fire-fighting clothing, such as self-contained open-circuit compressed air breathing apparatus (EN137), flame retardant suit (EN469), flame retardant gloves (EN659) and firefighter boots (HOA29 or A30)

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Keep away from contamined area

6.1.2. For emergency responders

Chemical risk gloves compliant with EN420 EN374 standards
Splash goggles compliant with Directive 89/686 / EEC and standard EN166: 2001
Complete antacid clothing compliant with the UNI EN 13034: 2006 type 6 standard mask with K filters

6.2 Environmental precautions

In case of infiltration into bodies of water or sewers, notify the competent authorities.
In case of penetration into the ground, notify the competent authorities.
Prevent infiltration into the sewer, groundwater and surface water.

6.3 Methods and material for containment and cleaning up

6.3.1 Advice in order to contain a spill

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Avoid formation of dust

6.3.2 Advice in order to clean-up a spill

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Wash the contaminated area with water. Prevent infiltration into the sewer, groundwater and surface water

***6.3.3* Other information**

Disposal of contaminated material in accordance with point 13. Provide adequate ventilation.

6.4 Reference to other sections

None

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Recommendations that allow the substance or mixture to be handled safely, such as measures to contain and prevent fires and the formation of aerosols and dust
Store in original and labeled packaging. Use under suction. Close the jars immediately after use. Use is permitted only to trained and informed personnel.

7.1.2. General recommendation on work hygiene
Do not eat, drink and smoke in work areas. Wash your hands after use. Remove contaminated clothing and protective equipment before entering eating areas

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Risk management associated with explosive atmospheres, corrosive conditions, flammability hazards, incompatible substances or mixtures, evaporative conditions, potential ignition sources
Store in an area without drains or access to sewers and protected from humidity and direct sunlight.

7.2.2. Control of weather conditions, ambient pressure, temperature, sunlight, humidity, and vibration

7.2.3. Conditions to maintain the integrity of the substance or mixture
Keep in closed and labeled containers

7.2.4. Advice regarding the ventilation, specific design for storage rooms or vessels, quantity limits under storage conditions, packaging compatibilities
Keep in closed and labeled containers

7.3. Specific end use(s)
Industrial use. Galvanic industry

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters
For this substance, the occupational and biological exposure limit values corresponding to the relative Community limit values referred to in Directives 98/24 / EC and 2004/37 / EC have not been established.
DNEL: Data not available
PNEC: Data not available

8.2. Exposure controls

8.2.1. Appropriate engineering controls
Periodically check the range of the extractor hood

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection	Protective goggles for eyes compliant with Directive 89/686 / EEC and with standard EN166: 2001
Skin protection (hands)	Gloves for chemical risks compliant with EN374 standards Material: fluorinated rubber, butyl rubber, chloroprene, nitrile rubber, PVC, latex Thickness: 0.40mm Breakthrough time > 60 minutes
Skin protection (body)	Complete antacid clothing compliant with the UNI EN 13034: 2006 type 6 standard
Respiratory protection	Semi-facial masks with P3 filters compliant with 14387: 2004 + A1: 2008 standards in the absence of technical measures to limit worker exposure

	Thermal hazards	The substance does not present thermal hazards

8.2.3. Environmental exposure controls

Maintain suction in all environments using localized collection and ambient air exchange systems. Convey the aspirated volumes to an abatement system and then into the atmosphere. Do not use recirculating air suction systems. Avoid any spill into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Crystalline powder
Colour	Pale yellow
Odour	Odorless
Melting point/freezing point	It decomposes at about 80 ° C
Boiling point or initial boiling point and boiling range	Not applicable
Flammability	Not inflammable
Lower and upper explosion limit	Not explosive
Flash point	Not inflammable
Auto-ignition temperature	Not inflammable
Decomposition temperature	About 80 ° C
pH	8,5-9,5 a 20 °C
Kinematic viscosity	Not applicable
Solubility	About 20 g/l @ 20° C
Partition coefficient n-octanol/water (log value)	Not applicable
Vapour pressure	Not applicable
Density and/or relative density	Data not available
Relative vapour density	Not applicable
Particle characteristics	Data not available

9.2. Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

The substance reacts violently to heat with strong reducing agents

10.2 Chemical stability

The product is stable under normal conditions

10.3 Possibility of hazardous reactions

There are no relevant information

10.4 Conditions to avoid

Informatin not available

10.5 Incompatible materials

Strong reducing agents

10.6 Hazardous decomposition products

Ammonia, nitrogen oxides, sulfur oxides

11. TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

	Acute toxicity	ATE: Oral: 500 mg/kg bw STA: Inhalation: data not available STA: Dermal: data not available
	Skin corrosion / irritation	Based on available data, the classification criteria are not met
	Serious eye damage/irritation	Based on available data, the classification criteria are not met
	Respiratory or skin sensitization	It can cause allergic reactions
	Germ cell mutagenicity	Based on available data, the classification criteria are not met
	Carcinogenicity	Based on available data, the classification criteria are not met
	Reproductive toxicity	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

11.2 Information on other hazards

None

12. ECOLOGICAL INFORMATION

12.1	**Toxicity**	Acute ERV: lowest acute threshold value: 3.57 µg Pd/L (Derived ERV for Palladium tetramino sulfate based on molecular weight and toxicity data from analogue substances: 9.1 µg /L) Chronic ERV: lowest acute threshold value: 2.26 µg Pd/L (Derived ERV for Palladium tetramino sulfate based on molecular weight and toxicity data from analogue substances: 5.7 µg /L)
12.2	**Persistence and degradability**	Not applicable
12.3	**Bioaccumulative potential**	No data available
12.4	**Mobility in soil**	No data available
12.5	**Results of PBT and vPvB assessment**	Not applicable
12.6	**Endocrine disrupting properties**	Not known effects
12.7	**Other adverse effects**	Not known effects

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

The substance and its packaging must be disposed of as hazardous waste and delivered to authorized companies.

14 TRANSPORT INFORMATION

14.1	**UN number or ID number**	UN3077

14.2	**Official UN shipping name**	
	ADR/RID/ADN/IMDG/ICAO-IATA:	Environmentally hazardous substance, solid, n.o.s. (Palladium tetramino sulfate)
14.3	**Transport hazard class**	
	ADR/RID/ADN/IMDG/ICAO-IATA: Class	9
	ADR/RID/ADN/IMDG/ICAO-IATA: Label:	9
	ADR: Tunnel restriction code	(-)
	IMDG - EmS:	F-A, S-F
14.4	**Packing group**	III
14.5	**Dangers for the environment**	
	ADR/RID/ADN/ICAO-IATA:	Product dangerous for enviroment
	IMDG: Marine Contaminant:	YES

14.6 **Special precautions for user**

Transport must be carried out by vehicles authorized for the transport of dangerous goods according to the provisions of the current edition of the A.D.R. Agreement. and the applicable national provisions. Transport must be carried out in the original packaging and, in any case, in packaging which is made of materials which cannot be attacked by the contents, and which are not likely to generate dangerous reactions. Those responsible for for loading/unloading/packaging/transporting dangerous goods must have received appropriate training on the risks presented by the preparation and on any procedures to be adopted in the event of emergency situations.

14.7 **Maritime transport in bulk according to IMO instruments**

Bulk transport is not foreseen

15 REGULATORY INFORMATION

15.1	**Safety, health and environmental regulations/legislation specific for the substance or mixture**	**Applicability**
	Reg. (EC) 1907/2006 / EC Reach	YES
	Reg. (EC) 1272/2008 CLP and subsequent changes and additions	YES
	Reg. (CE) 2037/2000 "Substances that deplete the ozone layer"	NO
	Reg. (EC) 850/2004 "Persistent organic pollutants"	NO
	Reg. (EC) 689/2008 "export and import of dangerous chemicals"	NO
	Substance listed in Annex I of Dir. 2012/18 / EU so-called Seveso	YES
	Legislative Decree 81/2008 Consolidated Law on health and safety at work	YES
	Directive 2014/103 / EU "Adr"	YES
	Reg. (CE) 1907/2006/CE Reach art. 59 – Candidate List of Substances of Very High Concern (SVHC)	NO
	Reg. (CE) 1907/2006/CE Reach - Annex XIV – Authorisation List	NO
	Reg. (CE) 1907/2006/CE Reach - Annex XVII – Restriction List	NO
	https://echa.europa.eu/it/substances-restricted-under-reach	

15.2 **Chemical safety assessment**

A chemical safety assessment was not carried out

16. OTHER INFORMATION

Changes compared to the previous edition

Changes to sections 3-9-12-16

Acronim and abbreviation legend

ADR: Agreement concerning the International Carriage of Dangerous Goods by Road
ADN: Accordo Europeo sul Trasporto Internazionale di Merci Pericolose per Via Navigabile Interna
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstract Service
PPE: Personal Protection Equipment
ATE: acute toxicity estimate
PBT: persistent, bioaccumulative and toxic. Persistent, bioaccumulative and toxic substance
vPvB: (very persistent and very bioaccumulative). Very persistent and very bioaccumulative substance
LD: lethal dose
PNEC: Predictable no-effect concentration
DNEL: Derived no effect level
TLV (ceiling value): Threshold limit value
STEL: short-term exposure limit
EU-OEL: European occupational exposure limit
TWA: time weighted average
EC: effective concentration
NOAEL: level at which no adverse effects are observed
LC: lethal concentration
NOEC: concentration at which no effects are observed
LOEC: lowest concentration at which effects are observed
Bw: body weight
Koc: organic carbon - water partition coefficient

Main references and data sources

ECHA's data bank on registered substances and soon to be registered substances: https://chem.echa.europa.eu/

Adequate training for workers in order to ensure the protection of human health and the environment

Training on Chemical Risk pursuant to Legislative Decree 81/08 Title IX dangerous substances
PPE training