

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 830/2015
PALLADIUM NITRATE HYDRATE



Revision n. V dd 01.21.2019
 Replaces revision n IV dd 12.06.2018

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

1.1 Product Identifier

Chemical name Palladium nitrate hydrate
 C.A.S. Registry Number 10102-05-3
 EINECS number 233-265-8
 Molecular weight 266,5 g/mol
 Chemical formula $\text{Pd}(\text{NO}_3)_2 \cdot n\text{H}_2\text{O}$

1.2 Pertinent use of the substance and recommended use

Additive for electroplating baths

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
1.4 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
Ox. Sol.	1	H271
Met. Corr.	1	H290
Acute tox.	4	H302
Skin corr.	1A	H314
Aquatic acute	1	H400
Aquatic chronic	1	H410

2.2 Label elements

Pictograms



Warnings

DANGER

Hazard statements

H271 May cause fire or explosion; strong oxidizer
 H290 May be corrosive to metals
 H302 Harmful if swallowed
 H314 Causes severe skin burns and eye damage
 H410 Very toxic to aquatic life with long-lasting effects

Safety Advice

P220 Keep/Store away from clothing/combustible materials.
 P234 Keep only in original container
 P260 Avoid breathing dust, fumes, gas, mist, vapors, spray
 P273 Avoid release to the environment.

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P280 Wear protective gloves/protective clothing/eye protection/face protection
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

- **Futher Informations:** NONE
- **Results of PBT** PBT : not applicable
- **PBT and vPvB evaluation** vPvB : not applicable

3. Composition/information on ingredients

3.1 Substance : Palladium nitrate hydrate(II)

CAS number 10102-05-3
 EINECS number 233-265-8
 CE number -
 IUPAC number -

4. FIRST-AID MEASURES

4.1 Description of the first-aid measures

Inhalation Keep the victim in a warm and well ventilated place . If the subject is unconsciousness bring patient into stable position. Consult a doctor for medical treatment

Ingestion Rinse mouth thoroughly. If the person is conscious, make him drink plenty of water. If the subject is unconscious, arrange to keep open the respiratory tracts. Call a doctor for medical treatment

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, occasionally lifting the upper and lower eyelids. Consult a doctor for medical treatment.

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 lenders of first aid, wear the DPI** YES

4.2 Main symptoms and effects both acute and delayed

Burns of eyes and skin

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

get medical attention immediately

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media suitable CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant to foam

Extinguishing media unsuitable None in particular

5.2 Special hazards arising from the substance or the mixture

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Avoid breathing fumes. In case of fire, can generate toxic vapours of nitrogen oxide

5.3 Special recommendations for firefighters

General information Avoid that the water used to extinguish the fire goes into sewage system, aquifers 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

Half-masks with P2 P3 R filters complying with EN14387:2004 + a1:2008 regulations

Avoid raising dust.

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

Limiting spills with non-combustible material

Avoid powder formation

6.3.2. Recommendations about the methods of reclamation of a spill

Wash with plenty of water

6.3.3. Any other informations

None

6.4 Reference to other sections

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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

Use in areas with a good ventilation

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 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 away from flammable materials

7.2.3. Containment of the effects of weather conditions, pressure, temperature, sunlight, humidity and vibrations

Store in a well-ventilated place

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7.2.4. Conditions to maintain the integrity of the substance or mixture

Store in its original containers

7.2.5. Decisions about ventilation requirements, specific design for storage rooms or vessels, quantitative limits in storage conditions, compatibility of the packaging

The storage rooms must be ventilated and free from sewage.

7.3. Specific end use

Additive for electroplating baths

8. EXPOSURE CONTROL/ INDIVIDUAL PROTECTION

8.1. Controller parameters

For this substance It has not been established values for professional and biological exposure limits corresponding to EC limits referred to in Directives 98/24 / EC and 2004/37 / EC

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Use under a fume hood. Periodically check suction flow.

Workplace showers should be available and emergency and eyewash systems.

8.2.2. Individual measures, such as personal protective equipment

Eye/face protection

Protective gloves material complying with EN420 and E374 regulations

Skin protection (hands)

Complete clothing antacid complying with UNI EN 13034: 2006 type 6 regulation

Skin protection (body)

Complete clothing antacid complying with UNI EN 13034: 2006 type 6 regulation

Respiratory protection

Respiratory protection Mask with P2 P3 filters white color code.

Thermal hazards

Non presenta pericolo termico

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	Solid reddish-brown deliquescent
Odour	Acid
Odour threshold	Undefined
pH	Undefined
Melting point/freezing point	decomposes at temperatures > 100 ° C
Initial boiling point and boiling range	Not applicable
Flashpoint	Not flammable
Evaporation rate	Not applicable
Flammability solids/gases	Not flammable
Upper/lower flammability	Not flammable nor explosive
Vapour pressure	Not applicable
Vapour density	Not applicable
Relative density	Undefined
Solubility/Solubilities	Soluble in water and in nitric acid

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	The log octanol/water partition	Not applicable
	Auto-ignition temperature	Not subject to compression ignition engines
	Decomposition temperature	>100°C
	Viscosity	Not applicable
	Explosive properties	Not explosive
	Oxidising properties	Combustion category 2
9.2.	Other informations (miscibility, solubility, fat solubility, conductivity, redox potential, radical formation potential and photocatalytic properties)	
	None	
10.	STABILITY AND REACTIVITY	
10.1	Reactivity	
	It is a strong oxidizing	
10.2	Chemical stability	
	The product is stable	
10.3	Possibility of hazardous reactions	
	Dangerous reactions with reducing materials, combustible or organic peroxides	
10.4	Conditions to avoid	
	Flames or heat	
10.5	Incompatible materials	
	Combustible materials	
10.6	Hazardous decomposition products	
	Nitrogen oxides	
11.	TOXICOLOGICAL INFORMATION	
11.1	Informations about toxicological effects	
	Acute toxicity	LD50 oral 2704 mg/kg rat
	Skin corrosion/irritation	Causes severe skin burns
	eye damage/irritation	May cause severe eye damage
	Sensitization	May cause an allergic reaction on skin
	Germ cell mutagenicity	Not mutagenic
	Carcinogenity	Not carcinogenic
	Reproductive toxicity	Not toxic for reproduction
	Specific target organ toxicity (STOT) - single exposure	There are no data available
	Specific target organ toxicity (STOT) – repeated exposure	There are no data available
	Aspiration hazard	Irritating for respiratory tracts
11.2	Specific target organ toxicity	
	Skin, eyes, respiratory tracts	
11.3	Symptoms related to the physical, chemical and toxicological characteristic	
	Irritation of the skin, eyes and respiratory tract	
11.4.	Delayed, immediate and chronic effects from short and long term exposure	
	Irritant effects to the skin and to the eyes. Serious eye damage. May cause allergic reactions	
11.5.	Interactive effects	
	There are no interactive effects known	
11.6.	In the absence of specific data	
	For this mixture are not known specific data	

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11.7.	Other informations	
	None	
12.	ECOLOGICAL INFORMATIONS	
	Toxicity	LC50 Tubifex tubifex (Tubificid worm) 0.237 mg/L Pd2
	Persistence and degradability	Not persistent
	Bioaccumulation potential	Not bioaccumulative
	Mobility in soil	There are no available data
	Results of PBT e vPvB	There are no available data
	Other adverse effects	Very toxic to fish Water hazard class 2D
13.	DISPOSAL CONSIDERATIONS	
13.1.	Waste treatment methods	This product and its packaging must be disposed of in licensed facilities.
14.	TRANSPORT INFORMATIONS	
	UN number	3085
	Name	Oxidizing solid, corrosive n.o.s.
	Hazard class referred to transport	5.1
	Pack Group	I
	Environmental Hazards	SI
	Special precautions for user	Use approved packaging
15.	REGULATORY INFORMATION	
15.1	Legislation	Applicability
	<i>Reg. (CE) 1907/2006/CE Reach</i>	YES
	<i>Reg. (CE) 1272/2008 CLP and subsequent amendments and addenda</i>	YES
	<i>Reg. (CE) 2037/2000 "Substances that deplete the ozone layer"</i>	NO
	<i>Reg. (CE) 850/2004 "The persistent organic pollutants"</i>	NO
	<i>Reg. (CE) 689/2008 "The export and import of dangerous chemicals"</i>	NO
	<i>Substance listed in Annex I 2012/18/UE cd Seveso</i>	YES
	<i>D.lgs 81/2008 Uniform Occupational Health and Safety Code</i>	YES
	<i>Directive 2014/103/UE "Adr"</i>	YES
15.2	Chemical Safety Assessment	
	A chemical safety assessment has not been carried out	
16.	OTHER INFORMATIONS	
16.1	Changes as compared to the previous version	
	Modified sections 1 and 14	
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	Key literature references and sources of the data on this MSDS:	
	http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances platform ESIS http://esis.jrc.ec.europa.eu Safety data sheets of the suppliers of substances used in the formulation	
16.5.	Advice on any training appropriate for workers to ensure protection of human health and the environment	

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- Training session on Chemical Risk pursuant to Legislative Decree 81/08 Title IX substances dangerous
- Training sessions on DPI

16.6. Other informations

Not available