

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020
PD DIAMINODINITRITE 100 g / l



Revision 10 – 23.09.2024

Replaces revision 9 – 30.06.2023

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

1.1 Product identifier

Chemical name PD DIAMINODINITRITE 100 g / l
 Product code 115
 UFI code RR23-908K-D00V-76HX

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

Recommended uses Industrial use. Industrial use. Additive for electroplating
 Uses advised against None in particular

1.3 Details of the supplier 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 111 - Medical helpline operating in England, in Scotland (NHS 24) and in Wales (NHS Direct Wales)

1.5 Registration number Exempt under Article 6(1)

2 HAZARDS IDENTIFICATION

2.1 Classification of the mixture according to Regulation (EC) n. 1272/2008

Hazard class	Category codes	Hazards indications
Skin corr.	1B	H314
STOT SE	3	H335

2.2 Label elements

Pictograms



Signal word

DANGER (ammonia, Diamminedinitropalladium(II))

Hazard statements

H314 Causes severe skin burns and eye damage
 H335 May cause respiratory irritation

Precautionary advice

P280 Wear protective gloves / clothing / eye protection / face protection
 P301 + P330 + P331 IF SWALLOWED: rinse mouth. DO NOT induce vomiting
 P303+P361+P353 IN CASE OF CONTACT WITH SKIN (or hair): immediately take off all contaminated clothing. Rinse the skin / take a shower
 P305 + P351 + P338 IN CASE OF CONTACT WITH THE EYES: rinse thoroughly for several minutes. Remove any contact lenses if easy to do. Continue rinsing
 P273 Avoid release to the environment

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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

3.2 Mixture

Product identifier	Concentration %	Classifications	
		Hazard Classes	Category codes
Ammonia	$1 \leq C \leq 7$	Skin corr. 1 B	H314
CAS 1336-21-6		STOT SE 3	H335
EC: 215-647-6		Aquatic acute 1	H400
INDEX 007-001-01-2			
REACH n. 01-2119488876-14-XXXX			
ATE: not applicable			
M factor acute toxicity: 1			
M factor chronic: not applicable			
Specific limits:			
STOT SE 3; H335: $C \geq 5 \%$			
Diamminedinitropalladium(II)	$20 \leq C \leq 40$	Skin irrit. 2	H315
CAS 14409-60-0		Eye irrit. 2	H319
EC: 238-388-0		STOT SE 3	H335
INDEX: Not available			
M factor : not applicable			
ATE: not applicable			
N. Reach: exempt for quantity			

4 FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	If the person is unconscious, keep him stable on his side during transport.
Ingestion	Drink plenty of water and stand in a well-ventilated area. Seek immediate medical attention. Do not induce vomiting.
Contact with skin	Wash immediately with soap and water and rinse thoroughly.
Contact with eyes	Wash with running water for several minutes holding the eyelids wide open and consult a doctor. Do not use eye drops and ointments.

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 who take first care, wear PPE	YES

4.2 Most important symptoms and effects, both acute and delayed

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Causes serious eye damage. It can irritate the respiratory tract. Causes severe burns. It can cause heartburn in the mouth, throat and stomach.

4.3 Indication of any immediate medical attention and special treatment needed

In case of skin contact, ingestion or inhalation, call a physician immediately.

5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media Suitable extinguishing media: CO₂, powder or water spray.
 Extinguish large fires with water spray or alcohol-resistant foam.

Unsuitable extinguishing media None in particular

5.2 Special hazards arising from the substance or mixture

In a fire or if heated, a pressure increase will occur and the container may burst. Possible formation of ammonia vapors and nitrogen oxide fumes.

5.3 Advice for firefighters

Isolate the area by removing all people in case of fire. Prevent the water used to extinguish the fire from flowing into the sewer, groundwater or surface water.
 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)

General information

Equipment

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Keep away from contaminated area and keep upwind

6.1.2. For emergency responders

Wear:

Gloves for chemical risks compliant with EN420 EN374 Standards

Complete clothing compliant with the UNI EN 13034: 2006 standard

Mask with K-type filters compliant with EN14387: 2004 + A1: 2008

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

6.3.1. Advice in order to contain a spill

Move containers from the spill area. Contain and collect any spills with non-combustible absorbent material, such as sand, earth, vermiculite, diatomite. Prevent leakage into sewer systems, waterways, basements or surrounding areas

6.3.2. Advice in order to clean-up a spill

Use means of neutralization

6.3.3 Other information

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

6.4 Reference to other sections

None

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- 7 HANDLING AND STORAGE**
- 7.1. Precautions for safe handling**
- 7.1.1. *Raccomentations in order to manipulate the substance or the mixture in a safe manner, such as containment measures and prevention of fire and aerosol and powders formation***
Store in original and labeled packaging. Provide sufficient ventilation / extraction in the workplace. Avoid the formation of aerosols.
- 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 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***
Keep the container closed and sealed until use. Keep away from acid substances.
- 7.2.2. *Containment of the effects of weather conditions, pressure, temperature, sunlight, humidity and vibrations***
Store in original container protected from direct sunlight in a dry, cool and well-ventilated area.
- 7.2.3. *Conditions for keeping substances / mixtures intact***
Open containers must be resealed and kept straight
- 7.2.4. *Provisions relating to ventilation, specific design of storage rooms or containers, quantitative limits in storage conditions, compatibility of packaging***
Use ADR-approved packaging and store them in a containment basin equal to the capacity of the packaging with greater volume in rooms without sewage drains.
- 7.3. Specific end use(s)**
Industrial use. Additive for elctroplating
- 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**
- 8.1. Control parameters**
- SUBSTANCE: AMMONIA**
(Annex XXXVIII Legislative Decree 81/06)
- EU OEL:**
TWA (8h) 14 mg/m³ or 20 ppm (gaseous state)
STEL (short term) 36 mg/m³ or 50 ppm (gaseous state)
- DNEL**
- Workers**
Systemic effects for long-term exposure – inhalation: 47.6 mg/m³
Systemic effects for short-term exposure – inhalation: 47.6 mg/m³
Local effects for long-term exposure – inhalation: 14 mg/m³
Local effects for short-term exposure – inhalation: 36 mg/m³
Systemic effects for long-term exposure – dermal: 6.8 mg/kg body weight per day
Systemic effects for short-term exposure – dermal: 6.8 mg/kg body weight per day
Local effects for Long-term exposure – dermal: moderate risk (no threshold derived)
Local effects for short-term exposure – dermal: moderate risk (no threshold derived)
Eye hazards: moderate risk (no threshold derived)
- General population**
Systemic effects for long-term exposure – inhalation: 23.8 mg/m³
Systemic effects for short-term exposure – inhalation: 23.8 mg/m³
Local effects for long-term exposure – inhalation: 2.8 mg/m³
Local effects for short-term exposure – inhalation: 7.2 mg/m³

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Systemic effects for long-term exposure – dermal: 6.8 mg/kg body weight per day
 Systemic effects for short-term exposure – dermal: 6.8 mg/kg body weight per day
 Local effects for long-term exposure – dermal: moderate risk (no threshold derived)
 Local effects for short-term exposure – dermal: moderate risk (no threshold derived)
 Systemic effects for long-term exposure – oral: 6.8 mg/kg body weight per day
 Systemic effects for short-term exposure – oral: 6.8 mg/kg body weight per day
 Eye hazards: moderate risk (no threshold derived)

PNEC

Freshwater: 0.001 mg/l (Anhydrous ammonia)

Marine water: 0.001 mg/l (Anhydrous ammonia)

Soil: 0.022 mg/kg dry soil

SUBSTANCE: PALLADIUM DIAMINODINITRITE

DNEL: Data not available due to lack of appropriate studies

PNEC: Data not available due to lack of appropriate studies

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Local exhaust systems, emergency showers and eyewash systems near the work area.

8.2.2. Individual protection measures, such as personal protective equipment

Eye/face protection Splash goggles compliant with Directive 89/686 / EEC and with standard EN166: 2001

Skin protection (hands) Chemical risk gloves compliant with EN420 EN374 standards

Material: latex, nitrile rubber

Thickness: 0.4 mm

Breakthrough time: > 240 min

Skin protection (body) Complete antacid clothing compliant with the UNI EN 13034: 2006 type 6 standard

Respiratory protection Semi-face mask with K type filter

Thermal hazards Data not available

8.2.3. Environmental exposure controls

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

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Color	Light yellow
Odor	Ammoniacal
Melting point / freezing point	- 33 ° C
Boiling point or initial boiling point and boiling range	> 60 ° C
Flammability	Not inflammable
Lower and upper explosive limits	Not explosive
Flash point	Not inflammable
Self-ignition temperature	Not inflammable
Decomposition temperature	Data not available
pH	> 8 at 20 ° C
Cinematic viscosity	Data not available

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	Solubility	Fully miscible in water
	Production coefficient n-octanol / water (logarithmic value)	Data not available
	Vapor pressure	Data not available
	Density and / or relative density	1.13 g / cm ³
	Relative vapor density	Data not available
	Characteristics of the particles	Not applicable
9.2.	Other information	
	None	
10	STABILITY AND REACTIVITY	
10.1	Reactivity	
	The product has alkaline properties	
10.2	Chemical stability	
	Do not expose to direct sunlight and keep away from heat sources	
10.3	Possibility of hazardous reactions	
	In normal conditions of use and storage no dangerous reactions are foreseeable.	
	It can react violently with acids and reducing agents generating heat.	
10.4	Conditions to avoid	
	Information not available	
10.5	Incompatible materials	
	Strong acids, reducing agents.	
10.6	Hazardous decomposition products	
	Ammonia, nitrogen oxides	
11	TOXICOLOGICAL INFORMATION	
11.1	Information on hazard classes as defined in Regulation (EC) No 1272/2008	
	Acute toxicity	Based on available data, the classification criteria are not met
	Skin corrosion / irritation	Corrosive to the skin
	Serious eye damage/irritation	Causes serious eye damage
	Respiratory or skin sensitization	Based on available data, the classification criteria are not met
	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	Respiratory tract irritation
	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	Substance: ammonia LC50 – Fish: 0.89 mg/l/96h Pimephales promelas

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		EC50 – Crustacea: 20 mg/l/48h Daphnia magna
		NOEC Chronic Crustacea: 0.79 mg/l Daphnia
		Readily biodegradable in plants and soils.
12.2	Persistence and degradability	
12.3	Bioaccumulative potential	Data not available
12.4	Mobility in soil	Data not available
12.5	Results of PBT and vPvB assessment	Not applicable
12.6	Endocrine disrupting properties	No known effects
12.7	Other adverse effects	No known effects
13	DISPOSAL CONSIDERATIONS	
13.1	Waste treatment methods	
	The substance and its packaging must be disposed of as hazardous waste by authorized companies.	
14	TRANSPORT INFORMATION	
14.1	UN number or ID number	3266
14.2	Official UN shipping name	
	ADR/RID/ADN/IMDG/ICAO-IATA:	Corrosive, basic, inorganic liquid, nas (ammonia, palladium diaminodinitrite)
14.3	Transport hazard class	
	ADR/RID/IMDG/ICAO-IATA: Class:	8
	ADR/RID/IMDG/ICAO-IATA: Label:	8
	ADR: Tunnel restriction code	E
	IMDG - EmS:	F-A,S-B
14.4	Packing group	II
14.5	Dangers for the environment	
	ADR/RID/ICAO-IATA:	NO
	IMDG: Marine Contaminant:	NO
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 loading and unloading 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	

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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	NO
	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	Limited use
	https://echa.europa.eu/it/substances-restricted-under-reach	Item 3 - 75
		(check link)

15.2 Chemical safety assessment

A chemical safety assessment was not carried out

OTHER INFORMATION

Changes compared to the previous edition

Changes to sections 1-2-3-8-12-14-16

Acronim and abbreviation legend

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

GHS: Globally Harmonized System of Classification and Labeling of Substances

EINECS: European Inventory of Chemical Substances

CAS: Chemical Abstract Service

STA: Acute Toxicity Estimate

PBT: Persistent, Bioaccumulative and Toxic.

vPvB: (very persistent and very bioaccumulative). Very persistent and very bioaccumulative

LD: lethal dose

PNEC: predicted 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: no observed adverse effect level

LC: lethal concentration

NOEC: no observed effect concentration

LOEC: lowest observed effect concentration

Bw: body weight

Koc: organic carbon-water partition coefficient

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Main references and data sources

ECHA's data bank on registered substances and soon to be registered substances:

<https://chem.echa.europa.eu/>

Indication, for mixtures, of which methods of evaluation of the information have been used for the purposes of classification

	Classification	Classification procedure
H314	Causes serious skin burns and serious eye injuries	According to 3.3.3.1.2 of Annex I to CLP
H335	Can irritate the respiratory tract	Calculation method

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

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

PPE training