

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020
Dichlorobis [(diphenylphosphino) ferrocene] palladium (II)



Revision n. 6 – 25.09.2024

Replaced revision n. 5 - 21.11.2022

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

- 1.1 Product identifier**
 Trade name (1,1'-bis(diphenylphosphino)ferrocene)dichloro palladium(II) free
 Chemical name (1,1'-bis(diphenylphosphino)ferrocene)dichloro palladium(II)
 Product code 201
 C.A.S. Registry Number 72287-26-4
 EC number 615-748-9
 Molecular weight 731.77 g/mol
 Brute formula $C_{34}H_{28}Cl_2FeP_2Pd$
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Recommended use: Industrial use. Catalyst for synthesis
 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 REACH registration number** Exempt under Article 6(1)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Hazard class	Category codes	Hazards indications
Skin irritation	2	H315
Eye irritation	2	H319
STOT SE	3	H335

2.2 Label elements:

Pictograms



Signal word	WARNING	
Hazard statement	H315	Causes skin irritation
	H319	Causes serious eye irritation
	H335	May cause respiratory irritation
Precotinary advise	P261	Avoid breathing dust / fume / gas / mist / vapors / spray.
	P273	Avoid release to the environment
	P280	Wear protective gloves / protective clothing / eye protection / face protection
	P302+P352	In case of skin contact: wash with plenty of water and soap.
	P333-P313	If skin irritation or rash occurs: seek medical attention

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P501 Dispose of the product / container in accordance with national regulations

- 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 : Dichlorobis [(diphenylphosphine) ferrocene] palladium (II)

CAS number: 72287-26-4

EC number: 615-748-9

Index Number: Not available

M factor: Not applicable

ATE: Not applicable

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation Take the person to a very well ventilated area and consult a doctor for safety. If the person is unconscious, keep him stable on his side during transport.

Ingestion Call a doctor immediately. Make victim drink water (two glasses at most).

Contact with skin Wash immediately 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

Irritation of the skin and eyes

4.3 Indication of any immediate medical attention and special treatment needed

Consult a physician immediately

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

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

Unsuitable extinguishing media None

5.2 Special hazards arising from the substance or mixture

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Avoid breathing fumes. If involved in a fire, the following may develop: carbon monoxide, hydrochloric acid, phosphorus oxides.

5.3 Advice for firefighters

Avoid breathing fumes. 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)

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Move away from the contaminated area immediately and keep to windward.

6.1.2. For emergency responders

Wear: Chemical risk gloves compliant with EN420 EN374 Standards

Complete clothing compliant with the UNI EN 13034: 2006 standard

Semi-face masks with ABEK2P3 R filters conforming to EN14387: 2004 + A1: 2008

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

6.3.1. Advice in order to contain a spill

Avoid formation of dust

6.3.2. Advice in order to clean-up a spill

Wash contaminated area with water

6.3.3 Other information

None

6.4 Reference to other sections

None

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

7.1.1. Recommendations 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

Keep containers tightly closed in a cool and dry place

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

Do not store together with oxidizing agents.

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

Keep away from humidity and direct light.

7.2.3. Conditions for keeping substances / mixtures intact

Store in closed and labeled containers. Close the containers immediately after use.

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7.2.4 Provisions relating to ventilation, specific design of storage rooms or containers, quantitative limits in storage conditions, compatibility of packaging

The storage rooms must be cool and dry. Store in an area without drains or access to sewers

7.3. Specific end use(s)

Industrial use. Catalyst for synthesis

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

No data available up to now

PNEC

No data available up to now

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Use under a fume hood. Periodically check the range of the hood.

8.2.2. Individual protection measures, such as personal protective equipment

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

Skin protection (hands) Chemical gloves according to EN 420 EN 374
Glove material:

Natural latex

Material thickness: 0.5 mm

Penetration time: ≥ 60 min DIN EN374 method

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

Respiratory protection Mask with P2 filters

Thermal hazards None

8.2.3. Environmental exposure controls

Maintain suction of all environments using localized collection systems and ambient air exchange. Convey the sucked 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	Solid
Color	Red
Odor	Odorless
Melting point / freezing point	266 - 283 ° C
Boiling point or initial boiling point and boiling range	Not applicable
Flammability	Not inflammable
Lower and upper explosive limits	Not explosive
Flash point	Not inflammable
Self-ignition temperature	Not inflammable
Decomposition temperature	

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	pH	Undefined
	Kinematic viscosity	Not applicable
	Solubility	Insoluble
	Partition coefficient n-octanol / water (logarithmic value)	Not applicable
	Vapor pressure	Not applicable
	Density and / or relative density	1 g/cm ³
	Relative vapor density	Not applicable
	Characteristics of the particles	Data not available
9.2.	Other information	
	None	
10.	STABILITY AND REACTIVITY	
10.1	Reactivity	
	The product has catalytic properties	
10.2	Chemical stability	
	This product is stable under normal use conditions	
10.3	Possibility of hazardous reactions	
	Reactions with strong oxidants	
10.4	Conditions to avoid	
	Umidity	
10.5	Incompatible materials	
	Oxidizing agents	
10.6	Hazardous decomposition products	
	Carbon monoxide, hydrochloric acid, phosphorus oxides	
11.	TOXICOLOGICAL INFORMATION	
11.1	Information on hazard classes as defined in Regulation (EC) No 1272/2008	
	Acute toxicity	Data not available
	Skin corrosion / irritation	May have irritating effects
	Serious eye damage/irritation	May cause eye irritation
	Respiratory or skin sensitization	May cause skin irritation
	Germ cell mutagenicity	Data not available
	Carcinogenicity	Data not available
	Reproductive toxicity	Data not available
	STOT – single exposure	May irritate the respiratory tract
	STOT – repeated exposure	Based on the available data, the classification criteria are not met
11.2	Information on other hazards	
	None	
12.	ECOLOGICAL INFORMATION	
12.1	Toxicity	Data not available
12.2	Persistence and degradability	Data not available
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	Data not available
12.7	Other adverse effects	No known effect
13.	DISPOSAL CONSIDERATIONS	

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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	Not subject to ADR regulations
14.2	Official UN shipping name	n.a.
14.3	Transport hazard class(es)	n.a.
	ADR/RID/IMDG/ICAO-IATA: Class:	n.a.
	ADR/RID/IMDG/ICAO-IATA: Label:	n.a.
	ADR: Tunnel restriction code	n.a.
	IMDG - EmS:	n.a.
14.4	Packing group	
14.5	Dangers for the environment	
	ADR/RID/ICAO-IATA:	n.a.
	IMDG: Marine Contaminant:	n.a.
14.6	Special precautions for user	none
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	NO
	Legislative Decree 81/2008 Consolidated Law on health and safety at work	YES
	Directive 2014/103 / EU "Adr"	NO
	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 75 (check link)
15.2	Chemical safety assessment	
	A chemical safety assessment has not been carried out	
16.	OTHER INFORMATION	
16.1	Changes compared to the previous edition	
	Regulatory update	
16.2	Acronym and abbreviation legend	
	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road	

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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

16.3 Main references and data sources

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

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

16.4 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