

Safety data sheet
According to Regulation n. 1907/2006 and Regulation 878/2020
1,1'-Bis(diphenylphosphino)ferrocene-palladium(II)dichloride.dichloromethane

Revision n. 7 – 25.09.2024

Replaces revision 6 – 29.11.2022

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

1.1 Product identifier

Chemical name	Dichlorobis [(diphenylphosphine) ferrocene] palladium (II) .dichloromethane
Product code	200
C.A.S. Registry Number	95464-05-4
EC number	619-128-9
Molecular weight	731.77 (816.65) g/mol
Raw formula	C ₃₄ H ₂₈ Cl ₂ FeP ₂ Pd

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

Intended 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 Registration number Exempt under Article 6(1)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Hazard class	Category codes	Hazards indications
Acute Tox.	4	H302
Acute Tox.	4	H312
Skin Irrit.	2	H315
Eye Irrit.	2	H319
Acute Tox.	4	H332
STOT SE	3	H335

2.2 Label elements:

Pictograms



Signal word

WARNING

Hazard statement

H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled

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	H335	May cause respiratory irritation
Precautionary advise	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
	P273	Avoid release to the environment
	P280	Wear protective gloves / protective clothing / eye protection / face protection
	P302+P352	IF ON SKIN: Wash with soap and water.
	P333+P313	If skin irritation or a rash occurs: Get medical advice/attention.
	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) .dichloromethane
 CAS number : 95464-05-04
 EC number : 619-128-9
 Index Number : Not available
 ATE: 500 mg/kg bw
 M factor : 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 |

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4.2 Most important symptoms and effects, both acute and delayed

Irritation of skin and eyes

4.3 Indication of any immediate medical attention and special treatment needed

Seek medical attention

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

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

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

Move 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

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



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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 umidity and direct sunlight.

7.2.3. Conditions for keeping substances / mixtures intact

Store in labeled and sealed containers. Immediately close containers after use.

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 (related to metallic Silver species)

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.

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- 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 | 275 - 280 °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 applicable |
| Decomposition temperature | Data not available |
| pH | Not defined |
| 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**
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**
Oxidising 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 | LD50 > 500 mg/kg bw |
| Skin corrosion / irritation | May have irritating effects |
| Serious eye damage/irritation | May cause eye irritation |
| Respiratory or skin sensitization | Data not available |
| Germ cell mutagenicity | Data not available |
| Carcinogenicity | Data not available |
| Reproductive toxicity | Data not available |

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	STOT – single exposure	May cause damage to organs in case of single exposure	
	STOT – repeated exposure	Data not available	
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	Data not available	
12.6	Endocrine disrupting properties	No known effects	
12.7	Other adverse effects	No known effects	
13.	DISPOSAL CONSIDERATIONS		
13.1.	Waste treatment methods		
	Both the mixture and the packaging must be sent to plants authorized for the disposal of industrial waste.		
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	n.a.	
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

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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

Changes compared to the previous edition

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

Acronym and abbreviation legend

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

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

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