

**Safety data sheet**  
**According to Regulation n. 1907/2006 and Regulation 878/2020**  
**Dichlorobis(triphenylphosphine)palladium(II)**



Revision n. 7 – 24.09.2024

Replaced revision n 6 – 22.11.2022

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

**1.1 Product identifier**

Chemical name                   Dichlorobis(triphenylphosphine)palladium(II)  
Product code                    199  
C.A.S. Registry Number       13965-03-2  
EC number                       237-744-2  
Molecular weight               701.9 g/mol  
Raw formula                     $[(C_6H_5)_3P]_2PdCl_2$

**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               lorenzo.magaldi@faggi.it  
responsible for the safety  
data sheet

**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
Aquatic chronic	4	H413 May cause long-lasting effects to aquatic life

**2.2 Label elements:**

<b>Signal word</b>	-	
<b>Hazard statement</b>	H413	May cause long-lasting effects to aquatic life
<b>Precautionary advise</b>	P273	Avoid release to the environment
	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(triphenylphosphine)palladium(II)**

CAS number : 13965-03-02  
EC number : 237-744-2  
Index Number : Not available  
ATE: Not applicable  
M factor : 1

**4. FIRST AID MEASURES**

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**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 NO
- 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 particular criticalities

**4.3 Indication of any immediate medical attention and special treatment needed**

Seek immediate medical attention

**5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

Suitable extinguishing media CO<sub>2</sub>, 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**

In case of fire it can generate toxic fumes (phosphorus oxides, carbon monoxide and hydrochloric acid)

**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 contaminated area

**6.1.2. For emergency responders**

Use:

Protective gloves in nitrile rubber, compliant with standard (EN374)

Semi-face mask with P2 filters

Complete clothing with chemical protection in compliance with UNI EN 13034: 2006 type 6

**6.2 Environmental precautions**

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Prevent spillage into sewers or waterways.

**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**

No special measures are required.

**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 in the original packaging and close them immediately after use.

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

Keep in cool dry place

**7.2.3. Conditions for keeping substances / mixtures intact**

Store at a temperature of 6 ° C and in an inert atmosphere

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

Store in an area without drains or access to sewers and away from humidity and direct light.

**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.

**8.2. Exposure controls**

**8.2.1. Appropriate engineering controls**

Use under a fume 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)**

Protective gloves made of fluororubber, compliant with the standard (EN374).

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The breakthrough time of the gloves must be  $\geq 480$  min and the thickness 0.11 mm.

**Skin protection (body)** Complete clothing compliant with UNI EN 13034: 2006 type 6  
**Respiratory protection** Semi-face mask with P3 filters  
**Thermal hazards** none

**8.2.3. Environmental exposure controls**

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

Physical state	Crystalline powder
Color	Yellow- green
Odor	Characteristic
Melting point / freezing point	254 ° 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	Data not available
pH	Data not available
Kinematic viscosity	Not applicable
Solubility	Insoluble in water
Partition coefficient n-octanol / water (logarithmic value)	Log Pow 5.69 at 20 ° C
Vapor pressure	Not applicable
Density and / or relative density	1.44 g/cm <sup>3</sup>
Relative vapor density	Not applicable
Characteristics of the particles	<100 $\mu$ m: 82.3%

**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**

May react violently with hot nitric or sulfuric acid

**10.4 Conditions to avoid**

Do not expose it to the oxidizing action of the air.

**10.5 Incompatible materials**

Nitric acid and sulfuric acid

**10.6 Hazardous decomposition products**

In the event of a fire, carbon monoxide, hydrochloric acid, phosphorus oxides can develop

**11. TOXICOLOGICAL INFORMATION**

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

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	<b>Acute toxicity</b>	Based on the available data, the classification criteria are not met
	<b>Skin corrosion / irritation</b>	Based on the available data, the classification criteria are not met
	<b>Serious eye damage/irritation</b>	Based on the available data, the classification criteria are not met
	<b>Respiratory or skin sensitization</b>	Based on the available data, the classification criteria are not met
	<b>Germ cell mutagenicity</b>	Based on the available data, the classification criteria are not met
	<b>Carcinogenicity</b>	Based on the available data, the classification criteria are not met
	<b>Reproductive toxicity</b>	Based on the available data, the classification criteria are not met
	<b>STOT – single exposure</b>	Based on the available data, the classification criteria are not met
	<b>STOT – repeated exposure</b>	Based on the available data, the classification criteria are not met
<b>11.2</b>	<b>Information on other hazards</b>	
	None	
<b>12.</b>	<b>ECOLOGICAL INFORMATION</b>	
<b>12.1</b>	<b>Toxicity</b>	Data not available
<b>12.2</b>	<b>Persistence and degradability</b>	Data not available
<b>12.3</b>	<b>Bioaccumulative potential</b>	Data not available
<b>12.4</b>	<b>Mobility in soil</b>	Data not available
<b>12.5</b>	<b>Results of PBT and vPvB assessment</b>	Data not available
<b>12.6</b>	<b>Endocrine disrupting properties</b>	No known effect
<b>12.7</b>	<b>Other adverse effects</b>	None known
<b>13.</b>	<b>DISPOSAL CONSIDERATIONS</b>	
<b>13.1.</b>	<b>Waste treatment methods</b>	
	The substance and its packaging must be disposed of as hazardous waste and delivered to authorized companies.	
<b>14.</b>	<b>TRANSPORT INFORMATION</b>	
<b>14.1</b>	<b>UN number or ID number</b>	Not subject to ADR regulations
<b>14.2</b>	<b>Official UN shipping name</b>	n.a.
<b>14.3</b>	<b>Transport hazard class(es)</b>	
	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.
<b>14.4</b>	<b>Packing group</b>	n.a.
<b>14.5</b>	<b>Dangers for the environment</b>	
	ADR/RID/ICAO-IATA:	n.a.
	IMDG: Marine Contaminant:	n.a.
<b>14.6</b>	<b>Special precautions for user</b>	
	<b>Maritime transport in bulk according to IMO instruments</b>	
<b>14.7</b>	Bulk transport is not foreseen	
<b>15.</b>	<b>Special precautions for user : none</b>	

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<b>15.1</b>	<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	<b>Applicability</b>
	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 <a href="https://echa.europa.eu/it/substances-restricted-under-reach">https://echa.europa.eu/it/substances-restricted-under-reach</a>	NO

**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 1-8-9

**Acronim 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

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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