

**SAFETY DATA SHEET****According to Regulation n. 1907/2006 and Regulation 830/2015  
Dicloro[1,1' bis(diphenylphosphino)ferrocene]palladium(II)-dichloromethane**

Revision n. III dd 01.21.2019

Replaces revision n II dd 06.01.2015

**1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY****1.1 Product Identifier**Denomination **Dicloro [1,1' bis(diphenylphosphino)ferrocene] palladium(II), complex with dichloromethane (1:1)**

C.A.S. Registry Number 95464-05-4

EINECS No. -

Molecular weight 731.77 (816.65) g/mol

Formula bruta  $C_{34}H_{28}Cl_2FeP_2Pd$ Commercial Name **Diclorobis[(difenilfosfina)ferrocene]Palladium(II)-Diclorometano****1.2 Substance or Mixture Identified pertinent uses and suggested uses**

Omogeneous Catalyst

**1.3 Safety Data Sheet supplier information****EU market introducing responsible**

Name FAGGI ENRICO S.P.A.

Address Via Majorana, 101/103 50019 Sesto Fiorentino FI

Telephone number 055311861

Fax number 055311791

Qualified person responsible for SDS

[lorenzo.magaldi@faggi.it](mailto:lorenzo.magaldi@faggi.it)**1.4 Emergency Telephone Number:** Tel. 0557947819 Centro Antiveleni di Firenze**1.5 Registry 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 Mixture classification according to Reg. (CE) n. 1272/2008 :**

Hazard Classes	Categories Codes	Hazard codes
Acute Tox.	4	H302
Acute Tox.	4	H312
Skin irritation	2	H315
Eye irrit.	2	H319
Acute Tox.	4	H332
STOT SE	3	H335

**2.2 Label elements :****Pictograms:****Advices****ATTENTION**

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<b>Hazard advices</b>	<b>H302</b>	Harmful if swallowed
	<b>H312</b>	Harmful in contact with skin
	<b>H315</b>	Cause skin irritation
	<b>H319</b>	Cause serious eye irritation
	<b>H332</b>	Harmful if Inhaled
	<b>H335</b>	May cause respiratory irritation
<b>Safety advices</b>	<b>P261</b>	Avoid breathing dust / fumes / gas / mist / vapours / spray
	<b>P273</b>	Avoid release to the environment.
	<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection
	<b>P302+P352</b>	IF ON SKIN: Wash with plenty of water
	<b>P333-P313</b>	If skin irritation or a rash occurs: Get medical advice/attention.
	<b>P501</b>	Dispose of contents / container in accordance with local / regional / national / international regulation
<b>More information</b>	None	
• <b>Results of PBT and vPvB ev.</b>	PBT : not applicable vPvB : not applicable	

3. **3. COMPOSITION / INFORMATION ON INGREDIENTS****3.1 Substance Dichloro [1,1' bis(diphenylphosphino)ferrocene] palladium(II), complex with dichloromethane (1:1)**

CAS No : 95464-05-04

EINECS No.

CE No. : -

IUPAC No. -

4. **FIRST AID MEASURES****4.1 Description of first aid measures**

Inhalation	Move the subject from exposure to fresh air. By security consult a doctor. If the subject is unconsciousness bring him into stable side position for transportation.
Ingestion	Call immediately a doctor. Let drink water immediately (at least 2 glasses)
Skin contact	Wash immediately with water and soap, rinsing carefully
Eye contact	Remove contact lenses. Wash immediately with plenty of water for at least 15 minutes, opening eyes. Consult a doctor if the problem persists.

**Recommendations:**

• <b>Need to consult immediately a doctor</b>	YES
• <b>Possibility of delayed effects after exposure</b>	YES
• <b>Move the exposed individual from exposure place to outdoor</b>	YES
• <b>Remove individual's clothes and shoes</b>	YES
• <b>Contaminated clothes handling</b>	With gloves
• <b>For first aid responders, wear IPD</b>	YES

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### 4.2 Most important symptoms and effects, both acute and delayed

Skin and eye irritation

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

Consult immediately a doctor

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media:** CO<sub>2</sub>, water dust or spray. Fight larger fires with water spray or alcohol resistant foam.

**Non suitable extinguishing media:** None in particular

### 5.2 Special hazards arising from the substance or mixture

Avoid to breath smokes. If involved in a fire may generate: Carbon monoxide, hydrochloric acid, phosphorus oxides

### 5.3 Advice for firefighters

**General information** Do not allow water used to extinguish the fire flows into drain, in groundwater or surface water.

**Devices** Normal clothing to fight the fire, such as a compressed air breathing apparatus open circuit (EN137), full flame retardant (EN469), fire resistant gloves (EN659) and boots for firefighters (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 and keep upwind.

#### 6.1.2. For emergency responders

Wear :

Gloves for chemical risks comply with the rule EN420 EN374

Complete acid-proof clothing in conformity with the UNI EN 13034: 2006

Half-facial masks with filters ABEK2P3 R complies with EN14387: 2004 + A1: 2008

### 6.2 Environmental precautions:

Do not allow to enter drainage system, ground water and surface water. In case of water penetration or infiltration to terrain, warn qualified authorities

### 6.3 Methods and materials for containment and cleaning up

#### 6.3.1. Recommendations on how to contain a spill

Avoid powder formation

#### 6.3.2. Recommendations on how to clean up a spill

Wash the area with plenty of water.

#### 6.3.3. Other informations:

None

### 6.4 Reference to other sections:

-

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling:

#### 7.1.1. General recommendations

Store in original packaging and labeled. Maintain container well sealed in a fresh and dry space

#### 7.1.2. General recommendations on personal hygiene

do not eat, drink or smoke in work areas; Wash hands thoroughly after use and remove contaminated clothing and protective equipment before entering areas where

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you eat.

### 7.2. Conditions for safe storage, including any incompatibilities

#### 7.2.1. Managing the risks associated with explosive atmospheres, corrosive conditions, dangers of flammability, incompatible substances and mixtures, evaporation conditions, potential ignition sources

Keep away from oxidizing agents

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

Keep protected from direct sunlight in a dry, cool and well-ventilated space.

#### 7.2.4. Precautions for maintaining integrity of the substances

Containers must be well sealed and labeled. Close containers immediately after use

#### 7.2.5. Provisions on ventilation, specific design for storage rooms or vessels, quantity limits under storage conditions, packaging compatibilities

Stockage spaces must be fresh and dry. Store in an area without manhole or access to sewerage

### 7.3. Specific end use

Omogeneous Catalyst

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control 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 extractor hood. Verify periodically hood capacity.

#### 8.2.2. Individual protection measures, such as personal protective equipment

##### Protection Eye / face

protective goggles for the eyes conform to Directive 89/686 / EEC and to the standard EN166: 2001

##### Skin protection (Hands)

Latex protective gloves or nitrile rubber comply with directive UE89/89/CEE and with standard(EX374). Gloves permeation time must be  $\geq 480$  min. and thickness of 0,11 mm.

##### Skin protection (Body)

Clothing complete conformity with the UNI EN 13034: 2006

##### Respiratory protection

Mask with P3 filters

##### Thermal hazards

Info not available

#### 8.2.3. Environmental exposure controls

Maintain aspiration to all environments using local capture systems and ambient air change. Conveying the withdrawn volumes to an abatement system and then into the atmosphere. Do not use vacuum systems to air recirculation. Avoid any spillage in the environment.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Basic Information on physical and chemical properties

#### Appearances

Red crystal powder

#### Odour

Odourless

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<b>Odour Threshold</b>	Not defined
<b>pH</b>	Not applicable
<b>Melting point/freezing</b>	275-280°C
<b>Initial boiling point and boiling range:</b>	Not defined as product decompose
<b>Flash point</b>	Not flammable
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid &amp; gas)</b>	Not flammable
<b>Upper/Lower flammability or explosive limits</b>	Not flammable and not explosive
<b>Vapour pressure</b>	Not defined
<b>Vapour Density</b>	Not defined
<b>Bulk density</b>	Not applicable
<b>Solubility in water</b>	Low water solubility. Soluble in ammonia
<b>Partition coefficient n-octanol/Water</b>	Not applicable
<b>Auto-ignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	120°
<b>Viscosity</b>	Not applicable
<b>Explosive Properties</b>	Not classified as explosive
<b>Oxidizing Properties</b>	Not Oxidizing

**9.2. Other informations**

None

**10. STABILITY AND REACTIVITY****10.1 Reactivity**

The product has catalytic properties

**10.2 Chemical stability**

The substance is stable into the normal way of use

**10.3 Possibility of hazardous reactions**

Reaction with strong oxidizing agents

**10.4 Conditions to avoid**

Humidity

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<b>10.5</b>	<b>Incompatible materials</b> Oxidizing agents	
<b>10.6</b>	<b>Hazardous decomposition products</b> Carbon monoxide, hydrochloric acid, phosphorus oxides	
<b>11.</b>	<b>TOXICOLOGICAL INFORMATION</b>	
<b>11.1</b>	<b>Information on toxicological effects</b>	
	<b>Acute toxicity:</b>	Oral LD50 >1600 mg /kg(rat)
	<b>Corrosion / irritation</b>	May have irritant effects
	<b>Eye irritations/damages</b>	Causes serious eyes irritation
	<b>Sensitization</b>	May cause skin irritation
	<b>Mutagenicity</b>	Data not available
	<b>Carcinogenicity:</b>	Data not available
	<b>Reproductive toxicity</b>	Data not available
	<b>Specific target organ toxicity (STOT) - single exposure</b>	Data not available
	<b>Specific target organ toxicity (STOT) – repeated exposure</b>	Data not available
	<b>Inhalation hazards</b>	Data not available
<b>11.2</b>	<b>Information about exposure routes</b> Eyes and skin	
<b>11.3</b>	<b>Symptoms related to the physical, chemical and toxicological</b> Irritation	
<b>11.4</b>	<b>Immediate, delayed and chronic effects from exposure to short and long term</b> Skin and eyes irritation. Risk of eyes injuries	
<b>11.5</b>	<b>Interactive effects</b> Unknown interactive effects	
<b>11.6</b>	<b>Absence of specific data</b> -	
<b>11.7</b>	<b>Other Information</b> None	
<b>12.</b>	<b>Ecological informations</b> <b>Specific data for this substance are unknown, so dichloromethane data have been used</b>	
	<b>Toxicity</b>	CL 50 at 96h (for fishes) 310 mg/l
	<b>Persistence and degradability</b>	No information available
	<b>Bioaccumulative potential</b>	No information available
	<b>Mobility in soil</b>	No information available
	<b>Results of PBT and vPvB evaluation</b>	No information available
	<b>Other adverse effects</b>	No information available
<b>13.</b>	<b>DISPOSAL CONSIDERATIONS</b>	
<b>13.1.</b>	<b>13. Methods of Waste Treatment:</b> The substance and packages must be sent to approved facilities for the disposal of industrial waste	
<b>14.</b>	<b>TRANSPORT INFORMATION</b> <b>The substance is not submitted to ADR law</b>	
<b>15.</b>	<b>REGULATORY INFORMATION</b>	
<b>15.1</b>	<b>Legislazione</b> <b>Reg. (CE) 1907/2006/CE Reach</b>	<b>Applicabilità</b> SI

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	<b>Reg. (EC) 1272/2008 and subsequent CLP. amendments and additions</b>	SI
	<b>Reg. (EC) 2037/2000 "substances that deplete the ozone layer"</b>	NO
	<b>Reg. (EC) 850/2004 "Persistent organic pollutants"</b>	NO
	<b>Reg. (EC) 689/2008 "export and import hazardous chemicals"</b>	NO
	<b>Substance listed in Annex I of Dir. 96/82 / EC - "Seveso II" Directive, which was transposed into national legislation by the Legislative Decree 334/99</b>	NO
	<b>Italian Legislative Decree 81/2008 (Consolidated Act on protection of health and safety in the workplace), as amended</b>	SI
	<b>Directive 2014/103/UE "Adr"</b>	NO
<b>15.2</b>	<b>Chemical Safety Assessment</b> A chemical safety assessment has not been carried out.	
<b>16.</b>	<b>OTHER INFORMATION</b>	
<b>16.1</b>	<b>Data compared to the previous version:</b> Modified sections 1 and 2	
<b>16.2</b>	<b>Abbreviations and acronyms</b> ADR: European Agreement on the transport of dangerous goods by road GHS: Globally Harmonized System of Classification and Labelling of Chemicals. EINECS: European chemical substance inventory CAS: Chemical Abstracts Service	
<b>16.3</b>	<b>Key literature references and sources of the data on this MSDS:</b> <a href="http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances">http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances</a> platform ESIS <a href="http://esis.jrc.ec.europa.eu">http://esis.jrc.ec.europa.eu</a> Safety data sheets of the suppliers of substances used in the formulation	
<b>16.4</b>	<b>Classification and procedure used to derive it in accordance with Reg. (EC) 1272/2008 in relation to the mixtures.</b> Classification according to Regulation (CE) 1272/2008	<b>Classification Procedure</b>
<b>16.5.</b>	<b>Formazioni adeguate per i lavoratori al fine di garantire la protezione della salute umana e dell'ambiente</b> <ul style="list-style-type: none"> <li>• Training in accordance with the provisions of the Legislative Decree 81/2008 (Consolidated Act on protection of health and safety in the workplace), as amended.</li> <li>• PPE use</li> </ul>	
<b>16.6.</b>	<b>Other informations</b> None	

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