

SAFETY DATA SHEET

According to Regulation n. 1907/2006 and Regulation 830/2015

Tetrakis(Triphenylphosphine) Palladium (0)



Revision n. V dd 01.21.2019

Replaces revision n VI dd 11.21.2018

1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

1.1 Product Identifier

Denomination Tetrakis(triphenylphosphine)palladium(0)
C.A.S. Registry Number 14221-01-3
EINECS No. 238-086-9
Molecular weight 1155,56 g/mol
Formula bruta $C_{72}H_{60}P_4Pd$
Commercial Name **Tetrakis(triphenylphosphine)palladium(0)**

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

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	Hazard codes
Aquatic Chronic	4	H413

2.2 Label elements :

Pictograms:

Advices **ATTENTION**

Hazard advices **H413** May cause long lasting harmful effects to aquatic life

Safety advices **P273** Avoid release to the environment

P501 Dispose of contents/container in accordance with local/regional/national/international regulation

More information None

PBT : not applicable

• Results of vPvB : not applicable

PBT and

vPvB ev.

3. COMPOSITION / INFORMATION ON INGREDIENTS

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3.1 Substance Tetrakis(triphenylphosphine)palladium(0)

CAS No : 14221-01-3

EINECS No. 238-086-9

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.
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:

• Need to consult immediately a doctor	YES
• Possibility of delayed effects after exposure	NO
• Move the exposed individual from exposure place to outdoor	YES
• Remove individual's clothes and shoes	YES
• Contaminated clothes handling	With gloves
• For first aid responders, wear IPD	YES

4.2 Most important symptoms and effects, both acute and delayed

Not known significant effects or critical issues

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: CO₂, 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

In case of fire can generate toxic fumes (phosphorus oxides, carbon monoxide)

5.3 Advice for firefighters

General information Avoid to breath smokes. Do not allow used water for extinguishing 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 :

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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 P2 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:

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7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

7.1.1. General recommendations

No special measures required.

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 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 in a cool and dry place

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

Store at a temperature between 2 and 8 °C and under inert atmosphere

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 for pharmaceutical applications

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

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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(ENX374). Gloves permeation time must be ≥ 480 min. and thickness of 0,11 mm.

Skin protection (Body)

Clothing complete conformity with the UNI EN 13034: 2006

Respiratory protection

Mask with P2 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1

Basic Information on physical and chemical properties

Appearances

Green –Yellow powder

Odour

Characteristic

Odour Threshold

Not defined

pH

Not applicable

Melting point/freezing

Decomposes over 103°C

Initial boiling point and boiling range:

Not applicable

Flash point

Not flammable

Evaporation Rate

Not available

Flammability (solid & gas)

Not flammable

Upper/Lower flammability or explosive limits

Not defined

Vapour pressure

Not defined

Vapour Density

Not defined

Bulk density

4,0 g/cc

Solubility in water

Not soluble in water

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Partition coefficient n-octanol/Water	Not applicable
Auto-ignition Temperature	Not applicable
Decomposition Temperature	103°
Viscosity	Not applicable
Explosive Properties	Not classified as explosive
Oxidizing Properties	Not Oxidizing

9.2. Other informations

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

The product has catalytic properties

10.2 Chemical stability

The product can be oxidated by air.

10.3 Possibility of hazardous reactions

It can react violently with nitric acid or hot sulfuric acid

10.4 Conditions to avoid

Do not expose to the air oxidant action.

10.5 Incompatible materials

Information not available

10.6 Hazardous decomposition products

The product does not decompose in normal condition uses

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:	Data not available
Corrosion / irritation	Not irritant
Eye irritations/damages	Data not available
Sensitization	Not sensitizing
Mutagenicity	Not mutagenic
Carcinogenicity:	Not Carcinogenic
Reproductive toxicity	Not toxic for reproduction
Specific target organ toxicity (STOT) - single exposure	Data not available
Specific target organ toxicity (STOT) – repeated exposure	Data not available
Inhalation hazards	Not Irritant
11.2 Information about exposure routes	Eyes , skin and respiratory system
11.3 Symptoms related to the physical, chemical and toxicological	Itchy eyes and skin
11.4 Immediate, delayed and chronic effects from exposure to short and long term	Skin and eyes irritation. Risk of eyes injuries
11.5 Interactive effects	

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- 11.6 **Absence of specific data**
 Unknown interactive effects
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- 11.7 **Other Information**
 None
12. **Ecological informations**
Specific data for this substance are unknown, so dichloromethane data have been used
- | | |
|---|--------------------------|
| Toxicity | No information available |
| Persistence and degradability | No information available |
| Bioaccumulative potential | No information available |
| Mobility in soil | No information available |
| Results of PBT and vPvB evaluation | No information available |
| Other adverse effects | No information available |
13. **DISPOSAL CONSIDERATIONS**
- 13.1. **13. Methods of Waste Treatment:**
 The substance and packages must be sent to approved facilities for the disposal of industrial waste
14. **TRANSPORT INFORMATION**
The substance is not submitted to ADR law
15. **REGULATORY INFORMATION**
- | 15.1 | Legislazione | Applicabilità |
|------|--|---------------|
| | Reg. (CE) 1907/2006/CE Reach | YES |
| | Reg. (EC) 1272/2008 and subsequent CLP. amendments and additions | YES |
| | Reg. (EC) 2037/2000 "substances that deplete the ozone layer" | NO |
| | Reg. (EC) 850/2004 "Persistent organic pollutants" | NO |
| | Reg. (EC) 689/2008 "export and import hazardous chemicals" | NO |
| | 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 | NO |
| | Italian Legislative Decree 81/2008 (Consolidated Act on protection of health and safety in the workplace), as amended | YES |
| | Directive 2014/103/UE "Adr" | NO |
| 15.2 | Chemical Safety Assessment
A chemical safety assessment has not been carried out. | |
16. **OTHER INFORMATION**
- 16.1 **Data compared to the previous version:**
 Modified section 1
- 16.2 **Abbreviations and acronyms**
 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
- 16.3 **Key literature references and sources of the data on this MSDS:**
<http://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>
 platform ESIS <http://esis.jrc.ec.europa.eu>

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- Safety data sheets of the suppliers of substances used in the formulation
- 16.4 Classification and procedure used to derive it in accordance with Reg. (EC) 1272/2008 in relation to the mixtures.**
Classification according to Regulation (CE) 1272/2008 **Classification Procedure**
- 16.5. Formazioni adeguate per i lavoratori al fine di garantire la protezione della salute umana e dell'ambiente**
- 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.
 - PPE use
- 16.6. Other informations**
None