according to Regulation (EC) No. 1907/2006 (REACH)

Safety data sheet



#### Palladium on activated carbon 10 % Pd/C with approx. 60 % water

article number: **1446** Version: **2.0 en** Replaces version of: 2017-08-28 Version: (1)

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

#### 1.1 Product identifier

Identification of the substance

Article number

1446

Registration number (REACH)

not relevant (mixture)

approx. 60 % water

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

Relevant identified uses:

Uses advised against:

Laboratory chemical Laboratory and analytical use

Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

Palladium on activated carbon 10 % Pd/C with

#### **1.3** Details of the supplier of the safety data sheet

Carl Roth GmbH + Co KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

**Telephone:**+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 **e-mail:** sicherheit@carlroth.de **Website:** www.carlroth.de

Competent person responsible for the safety data :Department Health, Safety and Environment sheet:

#### e-mail (competent person):

#### sicherheit@carlroth.de

#### 1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

## **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 (CLP)

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/ EC.

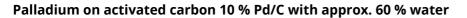
#### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008 (CLP)

not required

date of compilation: 2017-08-28 Revision: 2021-08-16

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#### 2.3 Other hazards

#### **Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

## **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

not relevant (mixture)

Molecular formula

Pd/C

#### 3.2 Mixtures

#### Description of the mixture

Name of sub- stance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
Palladium	CAS No 7440-05-3 EC No 231-115-6	9,9	Flam. Sol. 1 / H228 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335		

For full text of abbreviations: see SECTION 16

## **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures



#### **General notes**

Take off contaminated clothing.

#### **Following inhalation**

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following skin contact

Rinse skin with water/shower.

#### Following eye contact

Rinse cautiously with water for several minutes.

#### **Following ingestion**

Rinse mouth. Call a doctor if you feel unwell.

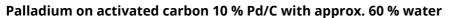
## 4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

# **4.3 Indication of any immediate medical attention and special treatment needed** none



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## SECTION 5: Firefighting measures

#### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings water, foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

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

None.

#### Hazardous combustion products

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

## **SECTION 6: Accidental release measures**

6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Control of dust.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

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

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically.

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

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## **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

No special measures are necessary.

#### Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.

## 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

#### Incompatible substances or mixtures

Observe hints for combined storage.

#### Consideration of other advice:

#### **Ventilation requirements**

Use local and general ventilation.

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

### **SECTION 8: Exposure controls/personal protection**

#### 8.1 Control parameters

#### **National limit values**

#### **Occupational exposure limit values (Workplace Exposure Limits)**

Coun try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m <sup>3</sup> ]	Nota- tion	Source
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005
GB	graphite	7440-44-0	WEL	10			i	EH40/2005
GB	graphite	7440-44-0	WEL	4			r	EH40/2005

Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur Inhalable fraction

Inhalable fraction Respirable fraction

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15minute period (unless otherwise specified)

TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant PNECs of components of the mixture								
Name of sub- stance	CAS No	End- point	Threshol d level	Organism	Environmental compartment	Exposure time		
Palladium	7440-05-3	PNEC	0,027 <sup>µg</sup> / <sub>l</sub>	aquatic organ- isms	freshwater	short-term (single instance)		



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Relevant PNECs	Relevant PNECs of components of the mixture								
Name of sub- stance	CAS No	AS No End- point Threshol Organism Environmental compartment		Environmental compartment	Exposure time				
Palladium	7440-05-3	-05-3 PNEC 0,003 <sup>µg</sup> / <sub>I</sub> aquatic organ- isms marine water		short-term (single instance)					
Palladium	7440-05-3	PNEC	NEC 1,46 <sup>mg</sup> / <sub>l</sub> aquatic organ- isms sewage treatment plant (STP)		short-term (single instance)				
Palladium	7440-05-3	PNEC	0,274 <sup>mg</sup> / <sup>kg</sup>	aquatic organ- isms	freshwater sedi- ment	short-term (single instance)			
Palladium	7440-05-3	PNEC	0,027 <sup>mg</sup> / kg	aquatic organ- isms	marine sediment	short-term (single instance)			
Palladium	7440-05-3	7440-05-3 PNEC 0,012 <sup>mg</sup> / kg isms		soil	short-term (single instance)				

#### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### Eye/face protection



Use safety goggle with side protection.

#### Skin protection



#### hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374.

#### • type of material

NBR (Nitrile rubber)

#### material thickness

>0,11 mm

#### • breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### • other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### **Respiratory protection**



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

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#### Environmental exposure controls

Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

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

1 3 1	•
Physical state	solid
Form	powder
Colour	black
Odour	characteristic
Melting point/freezing point	1.554 °C
Boiling point or initial boiling point and boiling range	2.963 °C
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	>600 °C
Decomposition temperature	not relevant
pH (value)	6 – 7 (in aqueous solution: 50 <sup>g</sup> / <sub>l</sub> , 20 °C)
Kinematic viscosity	not relevant
Solubility(ies)	
Water solubility	(insoluble (< 1 mg/l))
Partition coefficient	
Partition coefficient n-octanol/water (log value):	this information is not available
Vapour pressure	not determined
Density	1,353 <sup>g</sup> / <sub>ml</sub>
Relative vapour density	information on this property is not available
Bulk density	~ 400 <sup>kg</sup> / <sub>m³</sub>
Particle characteristics	No data available.
Other safety parameters	
Oxidising properties	none
Other information	

9.2

according to Regulation (EC) No. 1907/2006 (REACH)



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Information with regard to physical hazard classes:

hazard classes acc. to GHS (physical hazards): not relevant

There is no additional information.

Other safety characteristics:

## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

#### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

#### **10.3** Possibility of hazardous reactions

Violent reaction with: Alcohols, Bases, strong oxidiser, Strong acid, Arsenic

#### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

#### **10.5** Incompatible materials

There is no additional information.

#### **10.6 Hazardous decomposition products**

Hazardous combustion products: see section 5.

## **SECTION 11: Toxicological information**

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

Test data are not available for the complete mixture.

#### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### Classification according to GHS (1272/2008/EC, CLP)

This mixture does not meet the criteria for classification in accordance with Regulation No 1272/2008/ EC.

#### Acute toxicity

Shall not be classified as acutely toxic.

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

#### Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

#### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

#### Carcinogenicity

Shall not be classified as carcinogenic.

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#### **Reproductive toxicity**

Shall not be classified as a reproductive toxicant.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

#### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

#### • If swallowed

Data are not available.

#### • If in eyes

Data are not available.

#### • If inhaled

Inhalation of dust may cause irritation of the respiratory system

#### • If on skin

Data are not available.

#### Other information

none

#### **11.2 Endocrine disrupting properties** None of the ingredients are listed.

#### **11.3** Information on other hazards

There is no additional information.

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

#### **Biodegradation**

Data are not available.

### 12.2 Process of degradability

Data are not available.

**12.3 Bioaccumulative potential** Data are not available.

## 12.4 Mobility in soil

Data are not available.

- **12.5 Results of PBT and vPvB assessment** Data are not available.
- **12.6 Endocrine disrupting properties** None of the ingredients are listed.



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#### 12.7 Other adverse effects

Data are not available.

## **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



Consult the appropriate local waste disposal expert about waste disposal.

#### Sewage disposal-relevant information

Do not empty into drains.

#### 13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

## **SECTION 14: Transport information**

14.1	UN number or ID number	not subject to transport regulations
14.2	UN proper shipping name	not assigned
14.3	Transport hazard class(es)	none
14.4	Packing group	not assigned
14.5	Environmental hazards	non-environmentally hazardous acc. to the dan- gerous goods regulations

#### 14.6 Special precautions for user

There is no additional information.

## 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

#### 14.8 Information for each of the UN Model Regulations

# Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Not subject to ADR, RID and ADN.

**International Maritime Dangerous Goods Code (IMDG) - Additional information** Not subject to IMDG.

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information** Not subject to ICAO-IATA.

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## SECTION 15: Regulatory information

#### Safety, health and environmental regulations/legislation specific for the substance or mixture 15.1

**Relevant provisions of the European Union (EU)** 

#### **Restrictions according to REACH, Annex XVII**

Dangerous substances with restrictions (REACH, Annex XVII)						
Name of substance Name acc. to inventory CAS No Restriction No						
Palladium	flammable / pyrophoric		R40	40		

#### Leaend R40

1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: - metallic glitter intended mainly for decoration,

- artificial snow and frost,
- 'whoopee' cushions
- silly string aerosols - imitation excrement,
- horns for parties,
- decorative flakes and foams,
- artificial cobwebs
- stink bombs.

2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with:

'For professional users only'.

3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/324/EEC (2).

4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

#### List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list

None of the ingredients are listed. (Or Concentration of the substance in a mixture: <0.1 % Mass concentration)

#### **Seveso Directive**

2012/	2012/18/EU (Seveso III)						
Νο	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements	Notes				
	not assigned						

#### **Deco-Paint Directive**

VOC content	0 % , 0 <sup>g</sup> / <sub>l</sub>
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#### **Industrial Emissions Directive (IED)**

VOC content	0 %
VOC content Water content was discounted	0 g/l

#### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed



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# Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

none of the ingredients are listed

#### Water Framework Directive (WFD)

List of pollutants (WFD)						
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks		
Palladium	Metals and their compounds		A)			

#### Legend

A)

Indicative list of the main pollutants

#### Regulation on the marketing and use of explosives precursors

none of the ingredients are listed

#### Regulation on drug precursors

none of the ingredients are listed

#### Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

#### Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

#### **Regulation on persistent organic pollutants (POP)**

none of the ingredients are listed

#### **National inventories**

Country	Inventory	Status
AU	AICS	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	all ingredients are listed
NZ	NZIoC	all ingredients are listed
PH	PICCS	all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed

#### Legend

AICS Australian Inventory of Chemical Substances CICR Chemical Inventory and Control Regulation CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS) DSL Domestic Substances List (DSL) ECSI EC Substance Inventory (EINECS, ELINCS, NLP) IECSC Inventory of Existing Chemical Substances Produced or Imported in China INSQ National Inventory of Chemical Substances KECI Korea Existing Chemicals Inventory Palladium on activated carbon 10 % Pd/C with approx. 60 % water

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Legend	
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

#### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

## **SECTION 16: Other information**

#### Indication of changes (revised safety data sheet)

Alignment to regulation: Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU

#### Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-
			relev- ant
2.1	Classification according to Regulation (EC) No 1272/2008 (CLP)	Classification according to Regulation (EC) No 1272/2008 (CLP): This mixture does not meet the criteria for clas- sification in accordance with Regulation No 1272/2008/EC.	yes
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.2	Labelling according to Regulation (EC) No 1272/ 2008 (CLP)	Labelling according to Regulation (EC) No 1272/ 2008 (CLP): not required	yes
2.2	Signal word: Warning		yes
2.2	Pictograms		yes
2.2		Pictograms: change in the listing (table)	yes
2.2	Hazard statements		yes
2.2		Hazard statements: change in the listing (table)	yes
2.2	Precautionary statements		yes
2.2	Precautionary statements - prevention		yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2	Precautionary statements - response		yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Warning		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.	yes

## Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi- fier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li- cence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Sol.	Flammable solid
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na- tions
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)

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Abbr.	Descriptions of used abbreviations
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT SE	Specific target organ toxicity - single exposure
SVHC	Substance of Very High Concern
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

#### Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

#### **Classification procedure**

Physical and chemical properties. The classification is based on tested mixture. Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

#### List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H228	Flammable solid.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

#### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.