

# Safety data sheet

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



## Lead(II) oxide ≥99 %, extra pure

article number: **4456**  
Version: **2.0 en**  
Replaces version of: 2019-08-21  
Version: (1)

date of compilation: 2019-08-21  
Revision: 2022-09-07

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

### 1.1 Product identifier

Identification of the substance	<b>Lead(II) oxide</b> ≥99 %, extra pure
Article number	4456
EC number	215-267-0
CAS number	1317-36-8

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

### 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 sheet: :Department Health, Safety and Environment

**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 acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.1I	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.6	Carcinogenicity	2	Carc. 2	H351

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.7	Reproductive toxicity	1A	Repr. 1A	H360Df
3.7L	Effects on or via lactation	L	Lact.	H362
3.9	Specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	Hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

## The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

## 2.2 Label elements

### Labelling

#### Signal word

**Danger**

#### Pictograms

GHS07, GHS08,  
GHS09



#### Hazard statements

H302+H332	Harmful if swallowed or if inhaled
H351	Suspected of causing cancer (if exposed)
H360Df	May damage the unborn child. Suspected of damaging fertility
H362	May cause harm to breast-fed children
H372	Causes damage to organs (kidney, central nervous system, haematopoietic system) through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

#### Precautionary statements

##### Precautionary statements - prevention

P202	Do not handle until all safety precautions have been read and understood
P263	Avoid contact during pregnancy and while nursing
P273	Avoid release to the environment
P280	Wear protective gloves/eye protection

##### Precautionary statements - response

P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell
P308+P313	IF exposed or concerned: Get medical advice/attention

For professional users only

# Safety data sheet

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



Lead(II) oxide  $\geq 99\%$ , extra pure

article number: 4456

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance	Lead(II) oxide
Molecular formula	PbO
Molar mass	223,2 g/mol
CAS No	1317-36-8
EC No	215-267-0

#### Substance of Very High Concern (SVHC)

Name of substance	CAS No	EC No	Listed in	Remarks
Lead(II) oxide	1317-36-8	215-267-0	Candidate list	Repr. A57c

#### Legend

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV  
Repr. A57c Toxic for reproduction (article 57c)

#### Substance, Specific Conc. Limits, M-factors, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
Repr. 1A; H360D: C $\geq 0,3\%$ Repr. 2; H361f: C $\geq 2,5\%$ STOT RE 2; H373: C $\geq 0,5\%$	M-factor (acute) = 10	500 mg/kg	oral

## 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. Wash with plenty of soap and water.

#### Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

## Following ingestion

Rinse mouth with water (only if the person is conscious). Induce vomiting when the affected person is not unconscious. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Call a doctor.

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

Vomiting, Abdominal pain, Gastrointestinal complaints, Liver and kidney damage, Circulatory collapse

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

none

## 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

Non-combustible.

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. 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

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 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. Control of dust.

# Safety data sheet

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



Lead(II) oxide  $\geq 99\%$ , extra pure

article number: 4456

## Other information relating to spills and releases

Place in appropriate containers for disposal.

## 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.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid exposure. Avoid dust formation.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. 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

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

#### 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)

This information is not available.

#### Biological limit values

Country	Name of agent	CAS No	Parameter	Notation	Identifier	Value	Material	Source
GB	lead compounds		lead	Pb-bio-2, Pb-med-2, wmn<45y	AL_NIR	250 µg/l	whole blood	CLWR-NIR

# Safety data sheet

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



## Lead(II) oxide ≥99 %, extra pure

article number: 4456

Country	Name of agent	CAS No	Parameter	Notation	Identifier	Value	Material	Source
GB	lead compounds		lead	Pb-bio-2, Pb-med-2, wmn<45y	AL	250 µg/l	whole blood	CLWR
GB	lead compounds		lead	Pb-bio-2, Pb-med-3, wmn>45y, men	AL_NIR	400 µg/l	whole blood	CLWR-NIR
GB	lead compounds		lead	Pb-bio-2, Pb-med-3, wmn>45y, men	AL	400 µg/l	whole blood	CLWR
GB	lead compounds		lead	Pb-bio-2, Pb-med-4, young	AL_NIR	500 µg/l	whole blood	CLWR-NIR
GB	lead compounds		lead	Pb-bio-2, Pb-med-4, young	AL	500 µg/l	whole blood	CLWR

### Notation

Pb-bio-2	Biological monitoring: (a) in respect of an employee other than a young person or a woman of reproductive capacity, at least every 6 months, but where the results of the measurements for individuals or for groups of workers have shown on the previous two consecutive occasions on which monitoring was carried out a lead in air exposure greater than 0.075 mg/m <sup>3</sup> but less than 0.100 mg/m <sup>3</sup> and where the blood-lead concentration of any individual employee is less than 30 µg/dl, the frequency of monitoring may be reduced to once a year; or (b) in respect of any young person or a woman of reproductive capacity, at such intervals as the relevant doctor shall specify, being not greater than 3 months
Pb-med-2	Medical surveillance: in respect of a woman of reproductive capacity, 20 g/dl (blood-lead concentration) or 20 g Pb/g creatinine (urinary lead concentration)
Pb-med-3	Medical surveillance: in respect of any other employee, 35 µg/dl (blood-lead concentration) or 40 µg Pb/g creatinine (urinary lead concentration) suspension level: in respect of a woman of reproductive capacity, 60 µg/dl (blood-lead concentration) or 110 µg Pb/g creatinine (urinary lead concentration)
Pb-med-4	Medical surveillance: in respect of any other employee, 35 µg/dl (blood-lead concentration) or 40 µg Pb/g creatinine (urinary lead concentration) suspension level: in respect of a young person, 50 µg/dl (blood-lead concentration) or 110 µg Pb/g creatinine (urinary lead concentration)
wmn<45y	Women of reproductive capacity (women < 45 years)
wmn>45y, men	Women of non-reproductive capacity, men (women > 45 years)
young	Adolescents (young person < 18 years)

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

## Environmental values

Relevant PNECs and other threshold levels				
End-point	Threshold level	Organism	Environmental compartment	Exposure time
PNEC	2,4 µg/l	aquatic organisms	freshwater	short-term (single instance)
PNEC	3,3 µg/l	aquatic organisms	marine water	short-term (single instance)
PNEC	100 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	186 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	168 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
PNEC	212 mg/kg	terrestrial organisms	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. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### • 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.

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

## Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

## 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

Physical state	solid
Form	powder, crystalline
Colour	yellow
Odour	odourless
Melting point/freezing point	>600 °C at 1.013 hPa (ECHA)
Boiling point or initial boiling point and boiling range	>600 °C at 1.013 hPa (ECHA)
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	8 – 9 (in aqueous solution: 100 g/l, 20 °C)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	0,07 g/l at 20 °C (practically insoluble) (ECHA)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	13 hPa at 20 °C
<u>Density and/or relative density</u>	
Density	9,53 g/cm <sup>3</sup> at 20 °C
Relative vapour density	information on this property is not available
Bulk density	~3.700 kg/m <sup>3</sup>



# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

Particle characteristics No data available.

## Other safety parameters

Oxidising properties none

## 9.2 Other information

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

Other safety characteristics: There is no additional information.

## 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:** strong oxidiser, Sodium, Boron, Chlorine, Sulphur oxides, Titanium, Hydrogen peroxide

### 10.4 Conditions to avoid

Protect from moisture. Keep away from heat.

### 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 toxicological effects

#### Classification acc. to GHS

#### Acute toxicity

Harmful if swallowed. Harmful if inhaled.

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2.000 mg/kg	rat		ECHA
dermal	LD50	>2.000 mg/kg	rat		ECHA

#### 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.

# Safety data sheet

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



## Lead(II) oxide ≥99 %, extra pure

article number: 4456

### 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

Suspected of causing cancer (if exposed).

### Reproductive toxicity

May damage the unborn child. Suspected of damaging fertility. May cause harm to breast-fed children.

### Specific target organ toxicity - single exposure

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

### Specific target organ toxicity - repeated exposure

Causes damage to organs (kidney, central nervous system, haematopoietic system) through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
1	kidney	if swallowed
1	central nervous system	if swallowed
1	haematopoietic system	if swallowed
1	kidney	if inhaled
1	central nervous system	if inhaled
1	haematopoietic system	if inhaled

### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

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

#### • If swallowed

vomiting, severe abdominal pain, Liver and kidney damage, nausea

#### • If in eyes

slightly irritant

#### • If inhaled

nausea, Liver and kidney damage

#### • If on skin

Data are not available.

#### • Other information

none

### 11.2 Endocrine disrupting properties

Not listed.

### 11.3 Information on other hazards

There is no additional information.

# Safety data sheet

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



Lead(II) oxide  $\geq 99\%$ , extra pure

article number: 4456

## SECTION 12: Ecological information

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
EC50	0,132 mg/l	daphnia magna		48 h
LC50	1.170 µg/l	fish	ECHA	96 h
ErC50	35,9 µg/l	algae	ECHA	48 h

Aquatic toxicity (chronic)				
Endpoint	Value	Species	Source	Exposure time
ErC50	388 µg/l	algae	ECHA	2 d

### Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

### 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

Not listed.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

## Waste treatment of containers/packagegings

It is a dangerous waste; only packagegings which are approved (e.g. acc. to ADR) may be used.

## 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

ADRRID	UN 3077
IMDG-Code	UN 3077
ICAO-TI	UN 3077

### 14.2 UN proper shipping name

ADRRID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
ICAO-TI	Environmentally hazardous substance, solid, n.o.s.
Technical name	Lead(II) oxide

### 14.3 Transport hazard class(es)

ADRRID	9
IMDG-Code	9
ICAO-TI	9

### 14.4 Packing group

ADRRID	III
IMDG-Code	III
ICAO-TI	III

### 14.5 Environmental hazards

hazardous to the aquatic environment

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 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

# Safety data sheet


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




## Lead(II) oxide $\geq 99$ %, extra pure

article number: 4456

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

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the transport document	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Lead(II) oxide), 9, III, (-)
Classification code	M7
Danger label(s)	9, "Fish and tree"
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90
<b>Emergency Action Code</b>	2Z

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

<b>Classification code</b>	M7
<b>Danger label(s)</b>	9 Fish and tree
	
<b>Environmental hazards</b>	Yes Hazardous to water
<b>Special provisions (SP)</b>	274, 335, 375, 601
<b>Excepted quantities (EQ)</b>	E1
<b>Limited quantities (LQ)</b>	5 kg
<b>Transport category (TC)</b>	3
<b>Hazard identification No</b>	90

### International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Particulars in the shipper's declaration	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (Lead(II) oxide), 9, III
Marine pollutant	yes (hazardous to the aquatic environment), (Lead(II) oxide)
Danger label(s)	9, "Fish and tree"

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**



Special provisions (SP)	274, 335, 966, 967, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-F
Stowage category	A

## International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Particulars in the shipper's declaration	UN3077, Environmentally hazardous substance, solid, n.o.s., (Lead(II) oxide), 9, III
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, "Fish and tree"



Special provisions (SP)	A97, A158, A179, A197, A215
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

## SECTION 15: Regulatory information

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

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

##### Seveso Directive

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100                      200	56)

##### Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

##### Deco-Paint Directive

VOC content	0 % 0 g/l
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##### Industrial Emissions Directive (IED)

# Safety data sheet

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



## Lead(II) oxide ≥99 %, extra pure

article number: 4456

VOC content	0 %
VOC content	0 g/l

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

not listed

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

not listed

### Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Lead(II) oxide	lead compounds		b)	
Lead(II) oxide	lead compounds	7439-92-1	c)	
Lead(II) oxide	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Lead(II) oxide	Metals and their compounds		a)	

#### Legend

- A) Indicative list of the main pollutants
- B) List of priority substances in the field of water policy
- C) Environmental Quality Standards for Priority Substances and certain other pollutants

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

not listed

### Regulation on drug precursors

not listed

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

not listed

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

chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	Name acc. to inventory	CAS No	Wt%	Category / subcategory	Use limitation
Lead(II) oxide	lead compounds		100	i(2)	sr

#### Legend

- i(2) Sub-category: i(2) - industrial chemical for public use
- sr Use limitation: severe restriction (for the sub-category or sub-categories concerned) according to Union legislation

### Regulation on persistent organic pollutants (POP)

not listed

# Safety data sheet

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



Lead(II) oxide ≥99 %, extra pure

article number: 4456

## National regulations(GB)

### List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

Substance of Very High Concern (SVHC) acc. to GB REACH and HSE			
Name of substance	CAS No	Listed in	Remarks
Lead(II) oxide	1317-36-8	Candidate list	Repr. A57c

#### Legend

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV

Repr. A57c Toxic for reproduction (Article 57c)

## Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)			
Name of substance	Name acc. to inventory	CAS No	No
Lead(II) oxide	toxic for reproduction		30
Lead(II) oxide	Lead compounds		63
Lead(II) oxide	Lead compounds		72

## Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

## National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed

#### Legend

AIIC Australian Inventory of Industrial Chemicals  
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



# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

## Legend

KECI	Korea Existing Chemicals Inventory
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

No Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

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

Alignment to regulation:

Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.	yes
2.2		Hazard statements: change in the listing (table)	yes
2.2		Precautionary statements - prevention: change in the listing (table)	yes
2.2		Precautionary statements - response: change in the listing (table)	yes
2.2	Precautionary statements - storage		yes
2.2		Precautionary statements - storage: change in the listing (table)	yes
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		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
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.3	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

# Safety data sheet

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



**Lead(II) oxide ≥99 %, extra pure**

article number: **4456**

## Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLWR	Control of Lead at Work Regulations
CLWR-NIR	Control of Lead at Work Regulations (Northern Ireland)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HSE	Health and Safety Executive
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals

# Safety data sheet

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



## Lead(II) oxide ≥99 %, extra pure

article number: **4456**

Abbr.	Descriptions of used abbreviations
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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

Code	Text
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H351	Suspected of causing cancer (if exposed).
H360Df	May damage the unborn child. Suspected of damaging fertility.
H362	May cause harm to breast-fed children.
H372	Causes damage to organs (kidney, central nervous system, haematopoietic system) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### Disclaimer

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