

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

### 1.1 Product identifier

Trade name:	<b><u>Lead(II) oxide</u></b>
Stock number:	A14071
CAS Number:	1317-36-8
EC number:	215-267-0
Index number:	082-001-00-6

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

Identified use: SU24 Scientific research and development

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

Manufacturer/Supplier:	Alfa Aesar GmbH & Co.KG A Johnson Matthey Company Zeppelinstr. 7b 76185 Karlsruhe / Germany Tel: +49 (0) 721 84007 280 Fax: +49 (0) 721 84007 300 Email: tech@alfa.com www.alfa.com
Informing department:	Product safety Tel + +049 (0) 7275 988687-0


### 1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)  
Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240


## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

 GHS08 health hazard

Repr. 1A H360Df May damage the unborn child. Suspected of damaging fertility.  
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.


 GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.  
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.


 GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
Acute Tox. 4 H332 Harmful if inhaled.

### Classification according to Directive 67/548/EEC or Directive 1999/45/EC

 T; Toxic  
Repr. Cat. 1, 3  
R61: May cause harm to the unborn child.

 Xn; Harmful  
R62-20/22: Possible risk of impaired fertility. Harmful by inhalation and if swallowed.

 N; Dangerous for the environment  
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R33: Danger of cumulative effects.  
**Information concerning particular hazards for human and environment:**

Not applicable

**Other hazards that do not result in classification**

No information known.

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008  
Hazard pictograms

The substance is classified and labelled according to the CLP regulation.

    
GHS07 GHS08 GHS09

Signal word  
Hazard statements

Danger  
H302 Harmful if swallowed.  
H332 Harmful if inhaled.  
H360Df May damage the unborn child. Suspected of damaging fertility.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P281 Use personal protective equipment as required.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.  
vPvB: Not applicable.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

CAS# Designation:	1317-36-8 Lead(II) oxide
Identification number(s):	
EC number:	215-267-0
Index number:	082-001-00-6

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

##### After skin contact

Seek immediate medical advice.  
Instantly wash with water and soap and rinse thoroughly.

##### After eye contact

Seek immediate medical advice.  
Rinse opened eye for several minutes under running water. Then consult doctor.

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

Seek medical treatment.

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

No further relevant information available.

No further relevant information available.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

#### Suitable extinguishing agents

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

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

#### 5.3 Advice for firefighters

#### Protective equipment:

If this product is involved in a fire, the following can be released:  
Leadoxide vapour

Wear self-contained breathing apparatus.  
Wear full protective suit.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation

#### 6.2 Environmental precautions:

Do not allow product to reach sewage system or water bodies.  
Do not allow to enter the ground/soil.

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

Dispose of contaminated material as waste according to item 13.

#### Prevention of secondary hazards:

#### 6.4 Reference to other sections

Ensure adequate ventilation.  
No special measures required.  
See Section 7 for information on safe handling  
See section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Keep containers tightly sealed.  
Store in cool, dry place in tightly closed containers.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle container with care.

#### Information about protection against explosions and fires:

The product is not flammable

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

#### Storage Requirements to be met by storerooms and containers:

No special requirements.

#### Information about storage in one common storage facility:

Do not store together with acids.  
Store away from oxidising agents.

#### Further information about storage conditions:

Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
No further relevant information available.

#### 7.3 Specific end use(s)

### SECTION 8: Exposure controls/personal protection

#### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

#### 8.1 Control parameters

#### Components with critical values that require monitoring at the workplace:

#### 1317-36-8 Lead(II) oxide (100,0%)

MAK (Germany)	vgl.Abschn.XII
PEL (USA)	Long-term value: 0,05 mg/m <sup>3</sup> as Pb; See 29 CFR 1910,1025
REL (USA)	Long-term value: 0,05* mg/m <sup>3</sup> as Pb;*8-hr TWA; See Pocket Guide App. C
TLV (USA)	Long-term value: 0,05 mg/m <sup>3</sup> as Pb; BEI

#### Ingredients with biological limit values:

#### 1317-36-8 Lead(II) oxide (100,0%)

BEI (USA)	30 µg/100 ml Medium: blood Time: not critical Parameter: Lead
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#### Additional information:

No data

#### 8.2 Exposure controls

#### Personal protective equipment

#### General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Store protective clothing separately.  
Maintain an ergonomically appropriate working environment.  
Use breathing protection with high concentrations.

#### Breathing equipment:

#### Recommended filter device for short term use:

Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

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<b>Protection of hands:</b>	Check protective gloves prior to each use for their proper condition. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
<b>Material of gloves</b>	Nitrile rubber, NBR
<b>Penetration time of glove material</b>	Not determined
<b>Eye protection:</b>	Safety glasses
<b>Body protection:</b>	Protective work clothing.

**SECTION 9: Physical and chemical properties**

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

**General Information**

**Appearance:**

<b>Form:</b>	Powder
<b>Colour:</b>	Yellow
<b>Smell:</b>	Odourless
<b>Odour threshold:</b>	Not determined.

**pH-value:** Not applicable.

**Change in condition**

<b>Melting point/Melting range:</b>	886 °C
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined
<b>Inflammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Self-inflammability:</b>	Not determined.

**Danger of explosion:** Not determined.

**Critical values for explosion:**

<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Steam pressure:</b>	Not applicable.
<b>Density at 20 °C</b>	9,53 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.

**Solubility in / Miscibility with**

**Water:** Insoluble

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

**dynamic:** Not applicable.

**kinematic:** Not applicable.

**9.2 Other information** No further relevant information available.

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**

No information known.

**10.2 Chemical stability**

Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**10.3 Possibility of hazardous reactions**

Reacts with strong oxidizing agents

**10.5 Incompatible materials:**

Acids  
Oxidising agents  
Leadoxide vapour

**10.6 Hazardous decomposition products:**

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity:**

Harmful if inhaled.  
Harmful if swallowed.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

**LD/LC50 values that are relevant for classification:**

No data

**Skin irritation or corrosion:**

May cause irritation

**Eye irritation or corrosion:**

May cause irritation

**Sensitization:**

No sensitizing effect known.

**Germ cell mutagenicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity:**

EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.  
NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.  
ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure.  
IARC-2A: Probably carcinogenic to humans: limited human evidence; sufficient evidence in experimental animals

**Reproductive toxicity:**

May damage fertility or the unborn child.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

**Specific target organ system toxicity - repeated exposure:**

May cause damage to organs through prolonged or repeated exposure.

**Specific target organ system toxicity - single exposure:**

No effects known.

**Aspiration hazard:**

No effects known.

**Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**SECTION 12: Ecological information**

**12.1 Toxicity**

No further relevant information available.

**Aquatic toxicity:**

No further relevant information available.

**12.2 Persistence and degradability**

No further relevant information available.

**12.3 Bioaccumulative potential**

No further relevant information available.

**12.4 Mobility in soil**

**Ecotoxicological effects:**

Very toxic for fish

**Remark:**

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**Additional ecological information:**

**General notes:**

Water danger class 3 (Self-assessment): extremely hazardous for water.  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into soil.  
Also poisonous for fish and plankton in water bodies.  
May cause long lasting harmful effects to aquatic life.  
Avoid transfer into the environment.  
Very toxic for aquatic organisms

**12.5 Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects** No further relevant information available.

**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Recommendation**

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

**Uncleaned packagings:**

**Recommendation:**

Disposal must be made according to official regulations.

**SECTION 14: Transport information**

**UN-Number**

**ADR, IMDG, IATA**

UN3077

**14.2 UN proper shipping name**

**ADR**

3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

**IMDG, IATA**

(Lead(II) oxide)  
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead(II) oxide)

**14.3 Transport hazard class(es)**

**ADR**



**Class  
Label  
IMDG**

9 (M7) Miscellaneous dangerous substances and articles.

9



**Class  
Label  
IATA**

9 Miscellaneous dangerous substances and articles.

9



**Class  
Label**

9 Miscellaneous dangerous substances and articles.

9

**Packing group**

**ADR, IMDG, IATA**

III

**14.5 Environmental hazards:**

**Special marking (ADR):**

**Special marking (IATA):**

Symbol (fish and tree)

Symbol (fish and tree)

**14.6 Special precautions for user**

**Kemler Number:**

**EMS Number:**

Warning: Miscellaneous dangerous substances and articles.

90

F-A,S-F

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC**

**Code**

Not applicable.

**Transport/Additional information:**

**ADR**

**Excepted quantities (EQ):**

**Limited quantities (LQ)**

**Transport category**

**Tunnel restriction code**

E1

5 kg

3

E

**UN "Model Regulation":**

UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
(Lead(II) oxide), 9, III

**SECTION 15: Regulatory information**

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

**Australian Inventory of Chemical**

**Substances**

Substance is listed.

**Standard for the Uniform Scheduling of**

**Medicines and Poisons**

Substance is not listed.

**National regulations**

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.  
Employment restrictions concerning women of child-bearing age must be observed.  
For use only by technically qualified individuals.

**Technical instructions (air):**

Class	Share in %
II	100,0

**Water hazard class:**

Water danger class 3 (Self-assessment): extremely hazardous for water.

**Other regulations, limitations and prohibitive regulations**

**ELINCS (European List of Notified Chemical Substances)**

Substance is not listed.

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.**

This substance is included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH).

**REACH - Pre-registered substances**

Substance is listed.

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**15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

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**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:**  
**Abbreviations and acronyms:**

Health, Safety and Environmental Department.  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
vPvB: very Persistent and very Bioaccumulative  
ACGIH: American Conference of Governmental Industrial Hygienists (USA)  
OSHA: Occupational Safety and Health Administration (USA)  
NTP: National Toxicology Program (USA)  
IARC: International Agency for Research on Cancer  
EPA: Environmental Protection Agency (USA)  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Repr. 1A: Reproductive toxicity, Hazard Category 1A  
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1  
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

DE