



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 28.02.2013

Version 13.0

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

### 1.1 Product identifier

Catalogue No.	807383
Product name	Lead(II) chloride anhydrous for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	EQ-RS * e-mail: <a href="mailto:prodsafe@merckgroup.com">prodsafe@merckgroup.com</a>

**1.4 Emergency telephone number**      **Please contact the regional company representation in your country.**

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**

Reproductive toxicity, Category 1A, H360Df  
Acute toxicity, Category 4, Inhalation, H332  
Acute toxicity, Category 4, Oral, H302  
Specific target organ toxicity - repeated exposure, Category 2, H373  
Acute aquatic toxicity, Category 1, H400  
Chronic aquatic toxicity, Category 1, H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification (67/548/EEC or 1999/45/EC)**

		R33
Repr.Cat.1	Toxic to Reproduction Category 1	R61
Repr.Cat.3	Toxic to Reproduction Category 3	R62
Xn	Harmful	R20/22
N	Dangerous for the environment	R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

#### Hazard pictograms



*Signal word*  
Danger

#### Hazard statements

H302 + H332 Harmful if swallowed or 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

Prevention  
P201 Obtain special instructions before use.  
P273 Avoid release to the environment.  
Response  
P314 Get medical advice/ attention if you feel unwell.

Restricted to professional users.

#### Reduced labelling ( $\leq 125$ ml)

##### Hazard pictograms



*Signal word*  
Danger

##### Hazard statements

H360Df May damage the unborn child. Suspected of damaging fertility.

##### Precautionary statements

P201 Obtain special instructions before use.

Restricted to professional users.

*Index-No.* 082-001-00-6

### Labelling (67/548/EEC or 1999/45/EC)

<i>Symbol(s)</i>	T N	Toxic Dangerous for the environment
<i>R-phrases(s)</i>	61-20/22-33-50/53-62	May cause harm to the unborn child. Also harmful by inhalation and if swallowed. Danger of cumulative effects. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility.
<i>S-phrases(s)</i>	53-45-60-61	Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice

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immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets.


Further information  
Restricted to professional users.

EC-No. 231-845-5

EC Label

Reduced labelling ( $\leq 125$  ml)

Symbol(s)  T

 N

R-phrase(s) 61-20/22-62

S-phrase(s) 53-45

Toxic  
Dangerous for the environment  
May cause harm to the unborn child. Also harmful by inhalation and if swallowed. Possible risk of impaired fertility.  
Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

### 2.3 Other hazards

None known.

## SECTION 3. Composition/information on ingredients

### 3.1 Substance

Formula	PbCl <sub>2</sub>	Cl <sub>2</sub> Pb (Hill)
CAS-No.	7758-95-4	
Index-No.	082-001-00-6	
EC-No.	231-845-5	
Molar mass	278,1 g/mol	

### Hazardous components (REGULATION (EC) No 1272/2008)

Chemical Name (Concentration)

CAS-No.	Registration number	Classification
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lead dichloride ( $\geq 50\%$  -  $\leq 100\%$ )

The concentration stated or, in the absence of such concentrations, the general concentrations of Directive 1999/45/EC are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.

7758-95-4 \*)

Reproductive toxicity, Category 1A, H360Df

Acute toxicity, Category 4, H332

Acute toxicity, Category 4, H302

Specific target organ toxicity - repeated exposure, Category 2, H373

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 1, H410

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

### Hazardous components (1999/45/EC)

Chemical Name (Concentration)

CAS-No.	Classification
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*lead dichloride (>= 50 % - <= 100 % )*

*The concentration stated or, in the absence of such concentrations, the general concentrations of Directive 1999/45/EC are the percentages by weight of the metallic element calculated with reference to the total weight of the mixture.*

7758-95-4 Repr.Cat.1; R61  
Repr.Cat.3; R62  
Xn, Harmful; R20/22  
R33  
N, Dangerous for the environment; R50/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

### 3.2 Mixture

not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air. If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician.

After skin contact: wash off with plenty of water. Remove contaminated clothing. Consult a physician.

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The following applies to lead compounds in general: Due to the poor absorbability via the gastrointestinal tract, only very high doses lead to acute cases of intoxication. After a latency period of several hours, metallic taste, nausea, vomiting, and colics occur, in many instances followed by shock. Chronic uptake causes peripheral muscular weakness ("drop-wrist"), anaemia, and central-nervous disorders. Women of child-bearing age should not be exposed to the substance over longer periods of time (observe critical threshold).

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

*Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Hydrogen chloride gas

### 5.3 Advice for firefighters

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*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not empty into drains.

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

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

**6.4 Reference to other sections**

Indications about waste treatment see section 13.

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**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling**

*Advice on safe handling*

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

*Storage conditions*

Dry. Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Store at +15°C to +25°C.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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**SECTION 8. Exposure controls/personal protection**

**8.1 Control parameters**

**8.2 Exposure controls**

**Engineering measures**

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Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

**Individual protection measures**

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

*Eye/face protection*

Safety glasses

*Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

*Other protective equipment*

protective clothing

*Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Environmental exposure controls**

Do not empty into drains.

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**SECTION 9. Physical and chemical properties**

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

Form	powder, finocrystalline
Colour	white
Odour	No strong odour known.

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Odour Threshold	No information available.
pH	No information available.
Melting point	500 °C
Boiling point/boiling range	950 °C at 1.013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Relative density	5,85 g/cm <sup>3</sup> at 20 °C
Water solubility	10 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Exothermic reaction with:

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Alkali metals, Alkaline earth metals

**10.4 Conditions to avoid**

no information available

**10.5 Incompatible materials**

no information available

**10.6 Hazardous decomposition products**

in the event of fire: See section 5.

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**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

*Acute oral toxicity*

LD50 rat: > 1.947 mg/kg (RTECS)

absorption

*Acute inhalation toxicity*

absorption

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

This information is not available.

*Eye irritation*

This information is not available.

*Sensitisation*

This information is not available.

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

*Teratogenicity*

This information is not available.

*CMR effects*

Teratogenicity:

May damage the unborn child.

Reproductive toxicity:

Suspected of damaging fertility.

*Specific target organ toxicity - single exposure*

This information is not available.

*Specific target organ toxicity - repeated exposure*

May cause damage to organs through prolonged or repeated exposure.

*Aspiration hazard*

This information is not available.



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### 11.2 Further information

Danger of cumulative effects.

The following applies to lead compounds in general: Due to the poor absorbability via the gastrointestinal tract, only very high doses lead to acute cases of intoxication. After a latency period of several hours, metallic taste, nausea, vomiting, and colics occur, in many instances followed by shock. Chronic uptake causes peripheral muscular weakness ("drop-wrist"), anaemia, and central-nervous disorders. Women of child-bearing age should not be exposed to the substance over longer periods of time (observe critical threshold).

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### 12.1 Toxicity

No information available.

### 12.2 Persistence and degradability

No information available.

### 12.3 Bioaccumulative potential

No information available.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

*Additional ecological information*

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number	UN 2291
14.2 Proper shipping name	LEAD COMPOUND, SOLUBLE, N.O.S. (LEAD(II) CHLORIDE ANHYDROUS)
14.3 Class	6.1
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

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14.1 UN number UN 2291  
14.2 Proper shipping name LEAD COMPOUND, SOLUBLE, N.O.S. (LEAD(II) CHLORIDE ANHYDROUS)  
14.3 Class 6.1  
14.4 Packing group III  
14.5 Environmentally hazardous yes  
14.6 Special precautions for user no

**Sea transport (IMDG)**

14.1 UN number UN 2291  
14.2 Proper shipping name LEAD COMPOUND, SOLUBLE, N.O.S. (LEAD(II) CHLORIDE ANHYDROUS)  
14.3 Class 6.1  
14.4 Packing group III  
14.5 Environmentally hazardous yes  
14.6 Special precautions for user yes  
EmS F-A S-A

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

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**SECTION 15. Regulatory information**

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

*EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Dangerous for the environment  
9a  
Quantity 1: 100 t  
Quantity 2: 200 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

*National legislation*

|| Storage class 6.1 D

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

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**SECTION 16. Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

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.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Full text of R-phrases referred to under sections 2 and 3**

R20/22	Harmful by inhalation and if swallowed.
R33	Danger of cumulative effects.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R61	May cause harm to the unborn child.
R62	Possible risk of impaired fertility.

**Training advice**

Provide adequate information, instruction and training for operators.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

**Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*