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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: Lead sulphide Product Code: L 1423 CAS No : 1314-87-0

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email info@ottokemi.com

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm).

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Acute toxicity, (Category 4) Acute toxicity, (Category 4) Reproductive toxicity, (Category 1A) Specific target organ toxicity repeated exposure, (Category 2) Short-term (acute) aquatic hazard, (Category 1) Long-term (chronic) aquatic hazard. (Category 1) 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Hazard Statements H302 + H332 H360FD H373 H410

Precautionary Statements P202

P260 P273 P301 + P312

P304 + P340 + P312

P308 + P313 Supplemental Hazard Statements Restricted to professional users. Reduced Labeling (<= 125 ml) Pictogram Signal Word Hazard Statements H360FD H302: Harmful if swallowed. H332: Harmful if inhaled. H360FD: May damage fertility. May damage the unborn child. 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.

Danger

Harmful if swallowed or if inhaled. May damage fertility. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

Do not handle until all safety precautions have been read and understood. Do not breathe dust.

Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. IF exposed or concerned: Get medical advice/ attention. none

Danger

May damage fertility. May damage the unborn child.

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Precautionary Statements P202

Supplemental Hazard

P308 + P313

Do not handle until all safety precautions have been read and understood. IF exposed or concerned: Get medical advice/ attention. none

Statements 2.3 Other hazards This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances	
Formula	: PbS
Molecular weight	: 239,27 g/mol
CAS-No.	: 1314-87-0
EC-No.	: 215-246-6

Component	Classification	Concentration
Lead sulphide		
CAS-No. 1314-87-0 EC-No. 215-246-6	Acute Tox. 4; Repr. 1A; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H302, H332, H360FD, H373, H400, H410 Concentration limits: >= 2,5 %: Repr. 2, H361f; >= 0,5 %: STOT RE 2, H373; M- Factor - Aquatic Acute: 1 M-Factor - Aquatic Chronic: 1	<= 100 %

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

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

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

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with

water/ shower. Consult a physician.

In case of eye contact

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

lenses.

If swallowed

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 most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data 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 Sulfur oxides Lead oxides Not combustible. Ambient fire may liberate hazardous vapours. 5.3 Advice 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. 5.4 Further information Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. **SECTION 6: Accidental release measures** 6.1 Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8. 6.2 Environmental precautions Do not let product enter 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 For disposal see section 13. **SECTION 7: Handling and storage** 7.1 Precautions for safe handling Advice on safe handling Work under hood. Do not inhale substance/mixture. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Storage class Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated **SECTION 8: Exposure controls/personal protection** 8.1 Control parameters

Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses Skin protection

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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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L Body Protection protective clothing Respiratory protection required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P3 The entrepeneur 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. Control of environmental exposure Do not let product enter drains. **SECTION 9: Physical and chemical properties** 9.1 Information on basic physical and chemical properties a) Physical state powder b) Color gray c) Odor No data available d) Melting Melting point: 1.114 °C point/freezing point e) Initial boiling point 1.281 °C at 1.066 hPa and boiling range f) Flammability (solid, The product is not flammable. gas) g) Upper/lower No data available flammability or explosive limits h) Flash point Not applicable i) Autoignition No data available temperature i) Decomposition No data available temperature k) pH No data available I) Viscosity Viscosity, kinematic: No data available Viscosity, dynamic: No data available m) Water solubility No data available n) Partition coefficient: Not applicable for inorganic substances n-octanol/water o) Vapor pressure No data available p) Densitv 7.5 g/mL at 25 °C - lit. Relative density No data available g) Relative vapor No data available density r) Particle No data available characteristics

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s) Explosive properties
t) Oxidizing properties
9.2 Other safety information
No data available

No data available none

SECTION 10: Stability and reactivity 10.1 Reactivity No data available 10.2 Chemical stability The product is chemically stable under standard ambient conditions (room temperature) . 10.3 Possibility of hazardous reactions Violent reactions possible with: Iodine chloride hydrogen peroxide 10.4 Conditions to avoid no information available 10.5 Incompatible materials iodine monochloride 10.6 Hazardous decomposition products In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available. Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 0,915 mg/l - 96 h Remarks: (ECOTOX Database) Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 0,138 mg/l - 48 h Remarks: (ECOTOX Database) 12.2 Persistence and degradability The methods for determining biodegradability are not applicable to inorganic substances. 12.3 Bioaccumulative potential No data available 12.4 Mobility in soil No data available 12.5 Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. 12.6 Endocrine disrupting properties Product: Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. 12.7 Other adverse effects

No data available

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SECTION 13: Disposal considerations

13.1 Waste treatment methods No data available

SECTION 14: Transport information 14.1 UN number IMDG: 3077 ADR/RID: 3077 IATA: 3077 14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead sulphide) ADR/RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID. N.O.S. (Lead sulphide) IMDG ΙΑΤΑ : Environmentally hazardous substance, solid, n.o.s. (Lead sulphide) 14.3 Transport hazard class(es) ADR/RID: 9 IMDG: 9 IATA: 9 14.4 Packaging group ADR/RID: III IMDG: III IATA: III 14.5 Environmental hazards ADR/RID: yes IATA: yes IMDG Marine pollutant: yes 14.6 Special precautions for user Tunnel restriction code : (-) Further information EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids. 14.7 Maritime transport in bulk according to IMO instruments Not applicable for product as supplied. **SECTION 15: Regulatory information** 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. Authorisations and/or restrictions on use REACH - Restrictions on the manufacture. placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Lead sulphide National legislation Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS Other regulations Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work. 15.2 Chemical Safety Assessment For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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