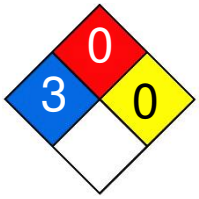
Material Safety Data Sheets



Revision 3

1. IDENTIFICATION

Product Name	**Lead (II) oxide**
Other Names	Lead monoxide; Lead oxide
Uses	No Data Available
Chemical Family	No Data Available
Chemical Formula	PbO
Chemical Name	No Data Available
Product Description	No Data Available
Company	**Arman sina.co**
Contact Information	info@armansina.com **www.armansina.com**

2. HAZARD IDENTIFICATION

Hazard Categories

Acute toxicity, (Category 4)	H302: Harmful if swallowed.
Acute toxicity, (Category 4)	H332: Harmful if inhaled.
Carcinogenicity, (Category 2)	H351: Suspected of causing cancer.
Reproductive toxicity, (Category 1A)	H360D: May damage the unborn child.
Effects on or via lactation	H362: May cause harm to breast-fed children.
Specific target organ toxicity - repeated exposure, (Category 1),	H372: Causes damage to organs through prolonged or repeated exposure.
Central nervous system, Kidney, Blood	
Short-term (acute) aquatic hazard, (Category 1)	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, (Category 1)	H410: Very toxic to aquatic life with long lasting effects.

Signal Word Danger

Hazard Statements

H302 + H332	Harmful if swallowed or if inhaled.
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H362	May cause harm to breast-fed children.
H372	Causes damage to organs (Central nervous system, Kidney, Blood) through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements Prevention

P260	Do not breathe dust.
P263	Avoid contact during pregnancy and while nursing.
P273	Avoid release to the environment.

Response

P301 + P312	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Storage

P405	Store locked up.

Disposal

P501	Dispose of contents/ container to an approved waste disposal plant.

Symbol

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Lead (II) oxide	PbO	1317-36-8	<= 100 %

4. FIRST AID MEASURES

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

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

Skin In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

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

Advice to Doctor Consult a doctor in case of discomfort showing the SDS for the product.

5. FIRE FIGHTING MEASURES

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

Flammability Conditions No Data Available

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

Fire and Explosion Hazard No Data Available

Hazardous Products of Combustion Lead oxides; Not combustible. Ambient fire may liberate hazardous vapours.

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

Personal Protective Equipment No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	No Data Available
Clean Up Procedures	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.
Containment	No Data Available
Decontamination	No Data Available
Environmental Precautionary Measures	Do not let product enter drains.
Evacuation Criteria	No Data Available
Personal Precautionary Measures.	Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

7. HANDLING AND STORAGE

Handling	Work under hood. Do not inhale substance/mixture.
Storage	Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Recommended storage temperature see product label.
Container	Keep containers tightly closed

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No Data Available
Exposure Limits	No Data Available
Biological Limits	No Data Available
Engineering Measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
Personal Protection Equipment	**Eye/face protection** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) **Skin protection** 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 Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L 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 Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min **Body Protection:** protective clothing **Respiratory protection:** required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following 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.
Special Hazards Precaustions	No Data Available
Work Hygienic Practices	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Solid
Odour	odorless
Colour	yellow, to, red
pH	8 - 9 at 100 g/l at 20 ° C
Vapour Pressure	1.7 hPa at 236 °C (457 °F)
Relative Vapour Density	No Data Available
Boiling Point	> 600 °C at ca.1.013 hPa - OECD Test Guideline 103 1.470 °C
Melting Point	Melting point/ range: 886 °C
Freezing Point	No Data Available
Solubility	Water solubility; 0,0702 g/l at 20 ° C
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No information available.
Evaporation Rate	No Data Available
Bulk Density	ca.3.500 - 3.700 kg/m3
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	9,530 g/cm3 at 20 °C
Specific Heat	No Data Available
Molecular Weight	223,19 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No Data Available
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	No information available.
Reactions That Release Gases or Vapours	No information available.
Release of Invisible Flammable Vapours and Gases	No information available. No information available.

10. STABILITY AND REACTIVITY

General Information

Possibility of hazardous reactions
Risk of explosion with:
Aluminum; Powdered metals ;performic acid; perchloric acid; glycerol
Violent reactions possible with:
Carbides; Sulfur oxides; hydrogen peroxide; halogens ;alkenes
Risk of ignition or formation of inflammable gases or vapours with:
Boron ;Alkali metals; hydrides; silanes; vegetable/animal oils; Fluorine

Chemical Stability The product is chemically stable under standard ambient conditions.

Conditions to Avoid No data available

Materials to Avoid No data available

Hazardous Decomposition Products In the event of fire:

Hazardous Polymerisation No data available

11. TOXICOLOGICAL INFORMATION

General Information

Carcinogenicity: Suspected of causing cancer.
Reproductive toxicity: May damage the unborn child. Positive evidence from human epidemiological studies. Studies indicating a hazard to babies during the lactation period
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure: Causes damage to organs through prolonged or repeated exposure. Central nervous system, Kidney, Blood

Acute

Acute toxicity

Acute toxicity estimate Oral - 1.100,1 mg/kg

(Expert judgment)

Oral: No data available

Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist

(Expert judgment)

LD50 Dermal - Rat - male and female - > 2.000 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish	static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,1 mg/l - 96 h	Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0,13 mg/l - 48 h	Remarks: (ECOTOX Database)
Toxicity to algae	static test EC10 - Skeletonema costatum (marine diatom) - 0,0294 mg/l - 96 h	Remarks: (ECHA)
Toxicity to fish(Chronic toxicity)	semi-static test NOEC - Pimephales promelas (fathead minnow) - 1,33 mg/l - 7 d	Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates(Chronic (US-EPA)	semi-static test NOEC - Ceriodaphnia dubia (water flea) - 0,0224 mg/l - 7 d	

Persistence/Degradability The methods for determining the biological degradability are not applicable to inorganic substances. Biodegradability Result: - According to the results of tests of biodegradability this product is not readily biodegradable.

Mobility No Data Available

Environmental Fate No Data Available

Bioaccumulation Potential No Data Available

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Waste material must be disposed of in accordance with the national and local regulations.

Special Precautions for Land Fill No Data Available

14. TRANSPORT INFORMATION

Land Transport

Proper Shipping Name	lead(II) oxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
EPG	No Data Available
UN Number	UN 3077
Hazchem	No Data Available
Pack Group	III
Special Provision	No Data Available

Sea Transport

Proper Shipping Name	lead(II) oxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	UN 3077
Hazchem	No Data Available
Pack Group	III
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	yes

Air Transport

Proper Shipping Name	lead(II) oxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	UN 3077
Hazchem	No Data Available
Pack Group	III
Special Provision	No Data Available

15. OTHER INFORMATION

Revision 3

Key/Legend

< Less Than
> Greater Than
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO2 Carbon Dioxide
COD Chemical Oxygen Demand
deg C (° C) Degrees Celcius
deg F (° F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH2O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or L Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH2O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Heath and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight