



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Lead oxide (Pb3O4)
Identification number 082-001-00-6 (Index number)
Synonyms Lead Tetroxide
Document number L-MSDS0056
Materion Code L-MSDS0056
Issue date 07-December-2017
Version number 01

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

Identified uses Not available.
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Noreen Atkinson

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Acute toxicity, oral	Category 4	H302 - Harmful if swallowed.
Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
Carcinogenicity	Category 1B	H350 - May cause cancer.
Reproductive toxicity (fertility, the unborn child)	Category 1A	H360FD - May damage fertility. May damage the unborn child.
Specific target organ toxicity - repeated exposure	Category 2	H373 - May cause damage to organs through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment, acute aquatic hazard	Category 1	H400 - Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term aquatic hazard	Category 1	H410 - Very toxic to aquatic life with long lasting effects.

Hazard summary May cause reproductive effects. May cause damage to organs through prolonged or repeated exposure. Prolonged exposure may cause chronic effects. Dangerous for the environment if discharged into watercourses.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Lead oxide (Pb3O4)

Hazard pictograms



Signal word

Danger

Hazard statements

H302	Harmful if swallowed.
H332	Harmful if inhaled.
H350	May cause cancer.
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.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing dust/fume.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.

Response

P301 + P312	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.

Storage

P405	Store locked up.
------	------------------

Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
------	---

Supplemental label information

Not applicable.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Lead oxide (Pb3O4)	100	1314-41-6 215-235-6	-	082-001-00-6	#
Classification:	Acute Tox. 4;H302, Acute Tox. 4;H332, Carc. 1B;H350, Repr. 1A;H360FD, STOT RE 2;H373, Aquatic Acute 1;H400, Aquatic Chronic 1;H410				1,A

List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Community workplace exposure limit(s).

Composition comments

The full text for all R- and H-phrases is displayed in section 16.

SECTION 4: First aid measures

General information

IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTRE or doctor/physician if you feel unwell.
Skin contact	Rinse with water. Get medical attention if irritation develops and persists.
Eye contact	Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical advice/attention if you feel unwell. IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.

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

Prolonged exposure may cause chronic effects.

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

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear suitable protective equipment.

Special firefighting procedures Use water spray to cool unopened containers. Water runoff can cause environmental damage.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. Avoid inhalation of dust. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Stop the flow of material, if this is without risk. Collect spillage.

Large Spills: Wet down with water and dike for later disposal. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimise dust generation and accumulation. Do not taste or swallow. Avoid breathing dust. Avoid contact during pregnancy/while nursing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits****Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001**

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	MAK	0,1 mg/m ³	Inhalable fraction.
	STEL	0,4 mg/m ³	Inhalable fraction.

Belgium. Exposure Limit Values.

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m ³	Dust and fume.

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,05 mg/m ³

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	MAC	0,15 mg/m ³

Czech Republic. OELs. Government Decree 361

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	Ceiling	0,2 mg/m ³
	TWA	0,05 mg/m ³

Denmark. Exposure Limit Values

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TLV	0,05 mg/m ³

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,1 mg/m ³	Total dust.
		0,05 mg/m ³	Respirable dust.

Finland. Workplace Exposure Limits

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,1 mg/m ³

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	VME	0,1 mg/m ³

Greece. OELs (Decree No. 90/1999, as amended)

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m ³

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,05 mg/m3	Dust and fume.

Ireland. Occupational Exposure Limits

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Italy. Occupational Exposure Limits

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3	Inhalable fraction.
		0,07 mg/m3	Respirable fraction.

Luxembourg. Binding Occupational exposure limit values (Annex I), Memorial A

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Malta. OELs. Occupational Exposure Limit Values (L.N. 227. of Occupational Health and Safety Authority Act (CAP. 424), Schedules I and V)

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Netherlands. OELs (binding)

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TLV	0,05 mg/m3	Dust and fume.

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,05 mg/m3

Portugal. Decree-Law No. 24/2012, Binding Occupational Exposure Limit Values, Annex I (Diário da República - I.a série - No. 26)

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,05 mg/m3

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m3

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,5 mg/m3	Inhalable fraction.
		0,15 mg/m3	Respirable fraction.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,1 mg/m ³	Inhalable fraction.

Spain. Occupational Exposure Limits

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m ³

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,1 mg/m ³	Inhalable dust.
		0,05 mg/m ³	Respirable dust.

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Material	Type	Value	Form
Lead oxide (Pb3O4) (CAS 1314-41-6)	STEL	0,8 mg/m ³	Inhalable dust.
	TWA	0,1 mg/m ³	Inhalable dust.

UK. EH40 Workplace Exposure Limits (WELs)

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m ³

EU. Directive 98/24/EC: on the protection of workers from the risks related to chemical agents at work, Annex I List of Binding Occupational Exposure Limit Values

Material	Type	Value
Lead oxide (Pb3O4) (CAS 1314-41-6)	TWA	0,15 mg/m ³

Biological limit values

Croatia. BLV. Dangerous Substance Exposure Limit Values at Workplace, Annexes 4 (as amended)

Material	Value	Determinant	Specimen	Sampling time
Lead oxide (Pb3O4) (CAS 1314-41-6)	80 µg/g	Lead	Creatinine in urine	*
	1,5 mg/l	Protoporphyrin	Red blood cells (erythrocytes)	*
	0,7 mg/l	Lead	Blood	*
	15 u/l	Dehydratase δ-aminolevulinic acid	Blood	*
	2,67 umol/l	Protoporphyrin	Red blood cells (erythrocytes)	*
	43,68 umol/mol	Lead	Creatinine in urine	*

* - For sampling details, please see the source document.

Finland. HTP-arvot, App 2., Biological Limit Values, (BRA/BGV) , Social Affairs and Ministry of Health

Material	Value	Determinant	Specimen	Sampling time
Lead oxide (Pb3O4) (CAS 1314-41-6)	1,4 umol/l	Lead	Blood	*

* - For sampling details, please see the source document.

Germany. TRGS 903, BAT List (Biological Limit Values)

Material	Value	Determinant	Specimen	Sampling time
Lead oxide (Pb3O4) (CAS 1314-41-6)	300 µg/l	Blei	Blood	*

* - For sampling details, please see the source document.

Hungary. Chemical Safety at Workplace Ordinance Joint Decree No. 25/2000 (Annex 2): Permissible limit values of biological exposure (effect) indices

Material	Value	Determinant	Specimen	Sampling time
Lead oxide (Pb3O4) (CAS 1314-41-6)	300 µg/l	lead	Blood	*
	1,5 µmol/l	lead	Blood	*
	100 µmol/mol hb	zinc protoporphyrin (for pre-screening)	Hemoglobin in blood	

* - For sampling details, please see the source document.

Luxembourg. Biological limit values (Annex II), Memorial A, n. 96, p. 1948

Material	Value	Determinant	Specimen
Lead oxide (Pb3O4) (CAS 1314-41-6)	70 ug/ml	Pb	Blood

Portugal. Decree-Law No. 24/2012, Binding Biological Limit Values, Annex II (Diário da República - I.a série - No. 26)

Material	Value	Determinant	Specimen
Lead oxide (Pb3O4) (CAS 1314-41-6)	70 µg/100 ml	Chumbo	Blood

Slovakia. BLVs (Biological Limit Value). Regulation no. 355/2006 concerning protection of workers exposed to chemical agents, Annex 2

Material	Value	Determinant	Specimen	Sampling time
Lead oxide (Pb3O4) (CAS 1314-41-6)	100 µg/l	Lead	Blood	*
	4,03 mg/g	δ-Aminolevulinic acid	Creatinine in urine	
	0,2 mg/g	Coproporphyrin	Creatinine in urine	*
	6 mg/l	δ-Aminolevulinic acid		
	0,3 mg/l	Coproporphyrin	Urine	*

* - For sampling details, please see the source document.

Spain. Biological Limit Values (VLBs), Occupational Exposure Limits for Chemical Agents, Table 4

Material	Value	Determinant	Specimen	Sampling time
Lead oxide (Pb3O4) (CAS 1314-41-6)	70 µg/dl	Plomo	Blood	*

* - For sampling details, please see the source document.

EU. Directive 98/24/EC: on the protection of workers from the risks related to chemical agents at work, Annex II Binding Biological Limit Values and Health Surveillance Measures

Material	Value	Determinant	Specimen
Lead oxide (Pb3O4) (CAS 1314-41-6)	70 µg/100 ml	Lead	Blood

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Skin protection

- Hand protection	For prolonged or repeated skin contact use suitable protective gloves.
- Other	Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.
Environmental exposure controls	Contain spills and prevent releases and observe national regulations on emissions. Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Colour	Not available.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure Not available.

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Explosive properties Not available.

Oxidising properties Not available.

9.2. Other information

Density 9,10 g/cm³

Molecular formula O₄-Pb₃

Molecular weight 685,6 g/mol

Specific gravity 9,1

SECTION 10: Stability and reactivity

10.1. Reactivity Not available.

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Contact with incompatible materials.

10.5. Incompatible materials None known.

10.6. Hazardous decomposition products No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation Harmful if inhaled.
Skin contact Due to lack of data the classification is not possible.
Eye contact Due to lack of data the classification is not possible.
Ingestion Harmful if swallowed.

Symptoms Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed.
Skin corrosion/irritation Due to partial or complete lack of data the classification is not possible.
Serious eye damage/eye irritation Due to partial or complete lack of data the classification is not possible.
Respiratory sensitisation Due to partial or complete lack of data the classification is not possible.
Skin sensitisation Due to partial or complete lack of data the classification is not possible.
Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible.
Carcinogenicity May cause cancer.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

IARC Monographs. Overall Evaluation of Carcinogenicity

Lead oxide (Pb3O4) (CAS 1314-41-6) 2A Probably carcinogenic to humans.

Reproductive toxicity May damage the unborn child. May damage fertility.

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Lead oxide (Pb3O4) (CAS 1314-41-6) Toxic for reproduction - category 2.

Specific target organ toxicity - single exposure Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

Mixture versus substance information No information available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not available.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

12.7. Additional information

Estonia Dangerous substances in groundwater Data

Lead oxide (Pb3O4) (CAS 1314-41-6) Lead (Pb) 10 UG/L
Lead (Pb) 200 UG/L

Estonia Dangerous substances in soil Data

Lead oxide (Pb3O4) (CAS 1314-41-6)

Lead (Pb) 300 mg/kg

Lead (Pb) 50 mg/kg

Lead (Pb) 600 mg/kg

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. - 14.6.: Not regulated as dangerous goods.

RID

14.1. - 14.6.: Not regulated as dangerous goods.

ADN

14.1. - 14.6.: Not regulated as dangerous goods.

IATA

14.1. - 14.6.: Not regulated as dangerous goods.

IMDG

14.1. UN number UN2291

14.2. UN proper shipping name LEAD COMPOUND, SOLUBLE, N.O.S., MARINE POLLUTANT

14.3. Transport hazard class(es)

Class 6.1(PGIII)

Subsidiary risk -

14.4. Packing group III

14.5. Environmental hazards

Marine pollutant Yes

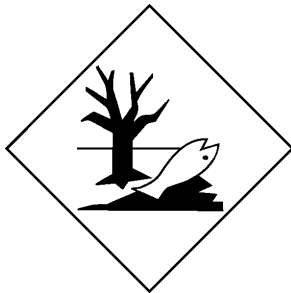
EmS F-A, S-A

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG



Marine pollutant



SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Lead oxide (Pb3O4) (CAS 1314-41-6)

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Lead oxide (Pb3O4) (CAS 1314-41-6)

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Lead oxide (Pb3O4) (CAS 1314-41-6)

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Lead oxide (Pb3O4) (CAS 1314-41-6)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Lead oxide (Pb3O4) (CAS 1314-41-6)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. This product is not in compliance with Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronics equipment (RoHS). Pregnant women should not work with the product, if there is the least risk of exposure.

National regulations

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

Information on evaluation method leading to the classification of mixture

Disclaimer

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.

The information in the sheet was written based on the best knowledge and experience currently available.