

MATERIAL SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. PRODUCT IDENTIFIERS**

PRODUCT NAME	Lead bromide
CHEMICAL NAME	Lead bromide
CAS no.	10031-22-8
EC no.	n/a
INDEX no.	n/a
REACH REGISTRATION no.	not applicable

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

IDENTIFIED USES	Laboratory chemicals, Manufacture of substances
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1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

COMPANY IDENTIFICATION	Noctiluca S.A.
ADDRESS OF SUPPLIER	Noctiluca S.A. Jurija Gagarina 7/41B 87-100 TORUN POLAND
TELEPHONE	+48 56 646 19 63
E-MAIL	office@noctiluca.eu
OFFICE HOURS	8:00 – 16:00 (Warsaw time)

1.4. EMERGENCY TELEPHONE NUMBER

EUROPE	112 or 999
ASIA	110 (China, Japan, Taiwan), 119
NORTH AMERICA	911
SOUTH AMERICA	911
AFRICA	As appropriate for your country
AUSTRALIA	000 (Australia), 111 (New Zealand)

SECTION 2: HAZARDS IDENTIFICATION**2.1. CLASSIFICATION OF THE SUBSTANCE/MIXTURE**

Regulation (EC) No. 1272/2008 (CLP)	H302: Harmful if swallowed. H332: Harmful if inhaled. H360Df: 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.
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2.2. LABEL ELEMENTS

According to Regulation (EC) No. 1272/2008 (CLP)

PRODUCT NAME	Lead bromide
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HAZARD PICTOGRAMS



SIGNAL WORDS

HAZARD STATEMENTS

Danger

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

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P273 Avoid release to the environment.

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.

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.

2.4. ADDITIONAL INFORMATION

not applicable

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. SUBSTANCES

CHEMICAL NAME

Lead bromide

SYNONYMS

Plumbous bromide

CHEMICAL FORMULA

PbBr₂

MOLECULAR WEIGHT

367,01 g/mol

3.2. MIXTURES

not applicable

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

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GENERAL ADVICE

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

INHALATION

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

SKIN CONTACT

Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

EYE CONTACT

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

INGESTION

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 impacts are outlined in the labelling (see section 2.2) and/or in section 11.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

not applicable

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

Hydrogen iodide

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

Follow safe handling advice and personal protective equipment recommendations (as per section 8). Provide adequate ventilation.

6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not let product enter drains.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

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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 HYGIENE MEASURES

Work under hood. Do not inhale substance/mixture. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

FIRE PROTECTION

Normal measures for preventive fire protection.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

GENERAL

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

STORAGE TEMPERATURE STORAGE LIFE

Ambient

Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

INCOMPATIBLE MATERIALS

Not known

7.3. SPECIFIC END USE(S)

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS

8.1.1. OCCUPATIONAL EXPOSURE LIMITS

No Occupational Exposure Limit assigned.

8.2. EXPOSURE CONTROLS

8.2.1. APPROPRIATE ENGINEERING CONTROLS

Make certain that there is sufficient ventilation and/or exhaust. Ensure that there is a washing facility with water available to cleanse the eyes and skin.

8.2.2. PERSONAL PROTECTION 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

HAND 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

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BODY PROTECTION

RESPIRATORY PROTECTION

THERMAL HAZARDS

8.2.3. ENVIRONMENTAL EXPOSURE CONTROLS

Avoid release to the environment.

other substances and under conditions deviating from those stated in EN 16523-1.

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

Select appropriate body protection depending on the type, concentration, and quantity of hazardous substances and workplace conditions.

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 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.

Not known

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	solid
COLOUR	n/a
ODOUR	n/a
ODOUR THRESHOLD	n/a
MELTING POINT/FREEZING POINT	Melting point/range: 371 °C - lit
INITIAL BOILING POINT AND BOILING RANGE	892 °C - lit.
FLAMMABILITY	n/a
LOWER AND UPPER EXPLOSION LIMIT	n/a
FLASH POINT	n/a
AUTO-IGNITION TEMPERATURE (°C)	n/a
DECOMPOSITION TEMPERATURE	n/a
pH	n/a
KINEMATIC VISCOSITY	n/a
SOLUBILITY(IES)	n/a
PARTITION COEFFICIENT: N-OCTANOL/WATER (LOG VALUE)	n/a
VAPOUR PRESSURE	n/a
DENSITY	6,6 g/mL at 25 °C - lit.
RELATIVE DENSITY	n/a
RELATIVE VAPOUR DENSITY	n/a
PARTICLE CHARACTERISTICS	n/a

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9.2. OTHER INFORMATION

n/a

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

None anticipated.

10.2. CHEMICAL STABILITY

The product is chemically stable under recommended storage conditions.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

n/a

10.4. CONDITIONS TO AVOID

n/a

10.5. INCOMPATIBLE MATERIALS

Strong oxidizing agents

10.6. HAZARDOUS DECOMPOSITION PRODUCTS

In case of fire: see SECTION 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY - INGESTION

Oral: No data available
LD50 Oral - 500,1 mg/kg
LC50 Inhalation - 4 h - 1,5 mg/l - dust/mist
Dermal: No data available

ACUTE TOXICITY - SKIN CONTACT

n/a

ACUTE TOXICITY - INHALATION

n/a

SKIN CORROSION/IRRITATION

n/a

SERIOUS EYE DAMAGE/IRRITATION

n/a

SKIN SENSITIZATION DATA

n/a

RESPIRATORY SENSITIZATION DATA

n/a

GERM CELL MUTAGENICITY

n/a

CARCINOGENICITY

n/a

REPRODUCTIVE TOXICITY

May cause congenital malformation in the fetus.
Known human reproductive toxicant

LACTATION

n/a

STOT - SINGLE EXPOSURE

n/a

STOT - REPEATED EXPOSURE

May cause damage to organs through prolonged or repeated exposure.

ASPIRATION HAZARD

n/a

11.2. INFORMATION ON OTHER HAZARDS

n/a

11.2.1. ENDOCRINE DISRUPTING PROPERTIES

n/a

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11.2.2. INFORMATION ON OTHER HAZARDS

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. anemia, Prolonged exposure to iodides may produce iodism in sensitive individuals. Symptoms of exposure include: skin rash, running nose, headache and irritation of the mucous membrane. For severe cases the skin may show pimples, boils, hives, blisters and black and blue spots. Iodides are readily diffused across the placenta. Neonatal deaths from respiratory distress secondary to goiter have been reported. Iodides have been known to cause drug-induced fevers, which are usually of short duration., Lead salts have been reported to cross the placenta and to induce embryo- and feto- mortality. They also have teratogenic effect in some animal species. No teratogenic effects have been reported with exposure to organometallic lead compounds. Adverse effects of lead on human reproduction, embryonic and fetal development, and postnatal (e.g., mental) development have been reported. Excessive exposure can affect blood, nervous, and digestive systems. The synthesis of hemoglobin is inhibited and results in anemia. If left untreated, neuromuscular dysfunction, possible paralysis, and encephalopathy can result. Additional symptoms of overexposure include: joint and muscle pain, weakness of the extensor muscles (frequently the hand and wrist), headache, dizziness, abdominal pain, diarrhea, constipation, nausea, vomiting, blue line on the gums, insomnia, and metallic taste. High body levels produce increased cerebrospinal pressure, brain damage, and stupor leading to coma and often death

SECTION 12: ECOLOGICAL INFORMATION

12.1. TOXICITY

TOXICITY – AQUATIC INVERTEBRATES	n/a
TOXICITY - FISH	n/a
TOXICITY - ALGAE	n/a
TOXICITY – SEDIMENT COMPARTMENT	not classified
TOXICITY – TERRESTRIAL COMPARTMENT	not classified

12.2. PERSISTENCE AND DEGRADATION

n/a

12.3. BIOACCUMULATIVE POTENTIAL

n/a

12.4. MOBILITY IN SOIL

n/a

12.5. RESULTS OF PBT AND VPVB ASSESMENT

This substance/mixture contains no components considered 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

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

n/a

SECTION 13: DISPOSAL CONSIDERATIONS

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13.1. WASTE TREATMENT METHODS

Dispose of the product in accordance with the regulations of the local, state or national authorities. Recycling should be carried out only for fully emptied packaging. The recommended method for disposal is through incineration managed by a licensed disposal contractor. Alternatively, send the product to a licensed recycler, reclaimer or incinerator.

13.2. ADDITIONAL INFORMATION

Disposal should be in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

14.1. UN NUMBER

ADR/RID	3077	IMDG	3077	IATA	3077
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14.2. UN PROPER SHIPPING NAME

ADR/RID	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead dibromide)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Lead dibromide)
IATA	Environmentally hazardous substance, solid, n.o.s. (Lead dibromide)

14.3. TRANSPORT HAZARD CLASS(ES)

ADR/RID	9	IMDG	9	IATA	9
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14.4 PACKAGING GROUP

ADR/RID	III	IMDG	III	IATA	III
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14.5 ENVIRONMENTAL HAZARDS

ADR/RID	yes	IMDG	yes	IATA	yes
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14.6 SPECIAL PRECAUTIONS FOR USER

Tunnel restriction code : (E)

Further information : No data available

FURTHER INFORMATION

This substance does not meet the criteria for classification as hazardous according to transportation regulations.

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.

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15.2. CHEMICAL SAFETY ASSESSMENT

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

SECTION 16: OTHER INFORMATION**THE FOLLOWING SECTIONS CONTAIN REVISIONS OR NEW STATEMENTS:**

H302 Harmful if swallowed.

H332 Harmful if inhaled.

H360FD May damage fertility. May damage the unborn child.

H361f Suspected of damaging fertility.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life

LEGEND**ACRONYMS**

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived No Effect Level
EC	European Community
EINECS	European Inventory of Existing Commercial Chemical Substances
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LTEL	Long term exposure limit
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STEL	Short term exposure limit
STOT	Specific Target Organ Toxicity
UN	United Nations
vPvB	very Persistent and very Bioaccumulative

DISCLAIMERS

This MSDS has been prepared to the best of Noctiluca S.A. ability using currently available information. However, Noctiluca S.A. cannot guarantee the accuracy of the data and hazard assessments provided. Before using the product, it is important to thoroughly research and understand the relevant laws, regulations, and potential hazards. It is recommended to use the product as soon as possible after purchase with safety in mind. Any updates or changes will be added as necessary. The listed precautions are for normal handling, but if special handling is required, additional safety measures should be taken. Chemical products should be considered potentially hazardous and toxic, with the degree of risk dependent on various factors. Only those with specialised knowledge and experience or under the guidance of such individuals should handle the product from opening to storage and disposal. Each user is responsible for establishing safe usage conditions and obtaining any necessary intellectual property permission related to the use of product, compliance with all applicable regulatory requirements and generally accepted industry standards, and conducting all necessary testing and verification, including for fitness for the intended purpose.

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