Material Safety Data Sheet

LEAD NITRATE (RXSOL-19-6604-815)

1. Product and Company Identifaction

Porduct Name	LEAD NITRATE
Part Number	RXSOL-19-6604-815

Company Details:

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

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2. Composition / informationon ingredients

Chemical Name	Cas No	EC No	Weight	Formula
Lead(II) nitrate for analysis EMSURE® ACS,Reag. Ph Eur	10099-74-8	233-245-9	331,2 g/mol	$Pb(NO_3)_2$

3. Hazards Identification

Signal Word	Danger
Hazard Statements	H272 May intensify fire; oxidizer. H302 + H332 Harmful if swallowed or if inhaled. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H351 Suspected of causing cancer. H360FD May damage fertility. May damage the unborn child. H372 Causes damage to organs (Blood, Central nervous system, Immune system, Kidney) through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313 IF exposed or concerned: Get medical advice/ attention
Classification of the substance or mixture	No data available
Supplemental Hazard Statements	No data available
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

4. 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
Eye Contact	Rinse out with plenty of water. Remove contact lenses
Swallowed	Make victim drink water (two glasses at most). Consult doctor if feeling unwell.
Skin Contact	In case of skin contact Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Inhalation	No data available

Ingestion	No data available
Most important symptoms and effects, both acute and delaye	The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
Indication of any immediate medical attention and special treatment needed	No data available

5. Fire-fighting Measures

Flammability	No data available
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	No data available
Special hazards arising from the substance or mixture	Nitrogen oxides (NOx) Lead oxides Not combustible. Fire may cause evolution of: nitrogen oxides Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.
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.
Hazardous combustion products	No data available
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
Protective Equipment	No data available
Specific Hazards Arising from the Chemical	No data available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Spillage	No data available
Personal Protection	Avoid dust formation. Avoid breathing vapors, mist or gas. For personal protection see section 8
Enviromental Precaution	Do not let product enter drains. Risk of explosion.
Methods and materials for containment and cleaning	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area
Reference to other sections	For disposal see section 13

7. Handling and Storage

Advice on protection against fire and explosion	Keep away from open flames, hot surfaces and sources of ignition.Take precautionary measures against static discharge.
Incompatible materials	No data available
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Advice on safe handling	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Conditions for safe storage, including any incompatibilities	No data available
Storage conditions	Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials. Recommended storage temperature see product label.
Storage class	Storage class (TRGS 510) 5.1B Oxidizing hazardous materials
Specific end use(s)	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated
Advice on general occupational hygiene	No data available

8. Exposure controls and personal protection

Exposure controls	Personal protective equipment
Engineering Control	No data available
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
Body Protection	Flame retardant antistatic protective clothing.
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 contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Viton® Minimum layer thickness: 0,7 mm Break through time: 480 min Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M) 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). Splash contact Material: butyl-rubber Minimum layer thickness: 0,7 mm Break through time: 30 min Material tested:Butoject® (KCL 898)
Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Other Protection Measure	No data available

9. Physical and chemical properties

Physical state	Solid
Colour	Colorless
Odour	Odorless
Odor Threshold	No data available
pH	3 - 4 at 50 g/l at 20 °C
Melting Point	458 - 459 °C at 1.023 hPa - OECD Test Guideline 102
Boiling Point	> 500 °C at 1.023 hPa - Regulation (EC) No. 440/2008, Annex, A.2
Flash Point	48,5 °C - closed cup - DIN 51755 Part 1
Evaporation Rate	No data available
Flammability (solid, gas)	Not flammable.
Explosive limits	No data available
Upper/lower flammability or explosive limits	No data available
Autoignition temperature	400 °C at 1.023 hPa - Relative self-ignition temperature for solids
Decomposition temperature	No data available
Vapour pressure	0,1 hPa at 20 °C - OECD Test Guideline 104 - low
Viscosity	Dynamic 1,15 mPa.s at 25 °C
Density	4,49 g/cm3 at 20 °C - OECD Test Guideline 109
Relative Density	4,77 at 23,6 °C - Regulation (EC) No. 440/2008, Annex, A.3
Specific Gravity	No data available
Partition coefficient	No data available
Explosive properties	No data available
Solubility	486 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6- completely soluble
Ignition temperature	No data available
Particle characteristics	No data available

10. Stability and reactivity

Reactivity	No data available
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature)

Possibilityof hazardous reactions	Risk of explosion with organic combustible substances ammonium compounds Millipore- 1.07398 Page 8 of 14 The life science business of Merck operates as MilliporeSigma in the US and Canada acetates Alcohols Esters
Conditions to avoid	Avoid temperatures below recommended storage temperature. Heating.
Incompatible materials	No data available
Hazardous product dicomposition	No data available

11. Toxicological information

Acute toxicity	Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist (Expert judgment) Symptoms: Possible damages:, mucosal irritations LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402) Remarks: (in analogy to similar products) The value is given in analogy to the following substances: Lead(II) oxide red
Skin corrosion/irritation	Skin - In vitro study Result non-corrosive (OECD Test Guideline 431) Skin - In vitro study Result: No skin irritation - 42 min (OECD Test Guideline 439)
Serious eye damage/irritation	Eyes - Bovine cornea Result Causes serious eye damage. - 4 h (OECD Test Guideline 437)
Respiratory or skin sensitization	Local lymph node assay (LLNA) - Mouse Result positive (OECD Test Guideline 429)
Carcinogenicity	Suspected of causing cancer
Germ cell mutagenicity	Test Type Ames test Test system Salmonella typhimurium Metabolic activation: with and without metabolic activation Result negative (in analogy to similar products) (ECHA) Millipore- 1.07398 Page 9 of 14 The life science business of Merck operates as MilliporeSigma in the US and Canada Test Type Micronucleus test Species Rat Cell type Red blood cells (erythrocytes) Application Route Oral Result: positive Remarks (in analogy to similar products) (ECHA) The value is given in analogy to the following substances lead(II) acetate Test Type Chromosome aberration test Species Monkey Cell type lymphocyte Application Route Oral Result positive Remarks (in analogy to similar products) (ECHA) Test Type comet assay Species Mouse Cell type Liver cells Application Route: Inhalation Result negative Remarks(in analogy to similar products) (ECHA)
Reproductive toxicity	May damage the unborn child. Positive evidence from human epidemiological studies. May damage fertility. Positive evidence from human epidemiological studies.
Specific target organ toxicity-single exposure	No data available
Additional Information	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) Millipore- 1.07398 Page 10 of 14 The life science business of Merck operates as MilliporeSigma in the US and Canada 2018/605 at levels of 0.1% or higher. Lead salts have been reported to cross the placenta and to induce embryo- and fetomortality. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: After absorption After a latency period Salivation Vomiting drop in blood pressure A lethal effect is possible after the uptake of large quantities. 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). The following applies to nitrites/nitrates in general methaemoglobinaemia after the uptake of large quantities. Other dangerous properties can not be excluded. This substance should be handled with particular care.

12. Ecological information

Persistence and degradability	The methods for determining biodegradability are not applicable to inorganic substances
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) - 1,8 mg/l - 48 h (ECOTOX Database)
Toxicity	No data available
Toxicity to bacteria	No data available
Toxicity to algae	EC50 - algae - 0,024 - 0,029 mg/l - 28 h (Lit.)
Mobility in soil	No data available
Results of PBT av PvB 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.

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.
Other adverse effects	Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies. Discharge into the environment must be avoided. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. Disposal considerations

Product	No data available
Contaminated packaging	No data available
Waste treatment Method	No data available

14. Transport information

UN number	ADR/RID:1469	IMDG:1469	IATA:1469
UN proper shipping name	ADR/RID:LEAD NITRATE	IMDG:LEAD NITRATE	IATA:LEAD NITRATE
Transport hazard classess	ADR/RID:5.1 (6.1)	IMDG:5.1 (6.1)	IATA:5.1 (6.1)
Packaging group	ADR/RID:II	IMDG:II	IATA:II
Environmental hazards	ADR/RID:Yes	IMDG Marine pollutant: Yes	IATA: No
Special precautions for user	Tunnel restriction code (E)		
Further information	No data available		

15. Regulatory information

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

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.