1.1 **Product identifiers** Product name Lead tetraacetate CAS-No. 546-67-8 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses Laboratory chemicals, Manufacture of substances 2. HAZARDS IDENTIFICATION 2.1 Classification of the substance or mixture Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP] Acute toxicity, Oral (Category 4) Acute toxicity, Inhalation (Category 4) Reproductive toxicity (Category 1A) Specific target organ toxicity - repeated exposure (Category 2) Acute aquatic toxicity (Category 1) Chronic aquatic toxicity (Category 4) Chronic aquatic toxicity (Category 1) Classification according to EU Directives 67/548/EEC or 1999/45/EC May cause harm to the unborn child. Harmful by inhalation and if swallowed. Possible risk of impaired fertility. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Danger of cumulative effects. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 [CLP] Pictogram Signal word Danger Hazard statement(s) H302 Harmful if swallowed. H332 Harmful if inhaled. H360 May damage fertility or the unborn child. H373 May cause damage to organs through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects. H413 May cause long lasting harmful effects to aquatic life. Precautionary statement(s) P201 Obtain special instructions before use. Avoid release to the environment. P273 P308 + P313IF exposed or concerned: Get medical advice/ attention. P501 Dispose of contents/ container to an approved waste disposal plant. Supplemental Hazard none Statements Restricted to professional users. According to European Directive 67/548/EEC as amended. Hazard symbol(s) R-phrase(s) May cause harm to the unborn child. R61 Also harmful by inhalation and if swallowed. R20/22Danger of cumulative effects. R33 R50/53Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility. R62 S-phrase(s) S53 Avoid exposure - obtain special instructions before use. Wear suitable protective clothing and gloves. S36/37 In case of accident or if you feel unwell, seek medical advice immediately S45 (show the label where possible). S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets. Restricted to professional users. 2.3 Other hazards - none 3. **COMPOSITION/INFORMATION ON INGREDIENTS** 3.2 **Mixtures** Synonyms : Lead(IV) acetate C8H12O8Pb Formula Component Classification Concentration Lead tetraacetate CAS-No. 546-67-8 95 % Repr. 1A; Acute Tox. 4; STOT RE 2; Aquatic Acute 1; Aquatic EC-No. 208-908-0 Chronic 1; H302, H332, H360, H373, H410 T, N, Repr.Cat.1, Repr.Cat.3, R61 - R20/22 - R33 - R62 -R50/53Acetic acid CAS-No. 64-19-7 Flam. Liq. 3; Skin Corr. 1A; 5% H314, H226 EC-No. 200-580-7 C, R10 - R35 For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16 4. FIRST AID MEASURES 4.1 **Description of first aid measures** General advice Consult a physician. Show this safety data sheet to the doctor in attendance. If inhale d If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. In case of skin contact Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician. In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. If swallowed Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. 4.2 Most important symptoms and effects, both acute and delayed 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. 4.3 Indication of immediate medical attention and special treatment needed no data available **5.** FIRE-FIGHTING MEASURES 5.1 Extinguishing media Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. **5.2** Special hazards arising from the substance or mixture Carbon oxides, Lead oxides 5.3 **Precautions for fire-fighters** Wear self contained breathing apparatus for fire fighting if necessary. **5.4 Further information** no data available **6.** ACCIDENTAL RELEASE MEASURES 6.1 Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. **6.2 Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. 6.3 Methods and materials for containment and cleaning up Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. **6.4** Reference to other sections For disposal see section 13. 7. HANDLING AND STORAGE 7.1 **Precautions for safe handling** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. 7.2 Conditions for safe storage, including any incompatibilities Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. Moisture sensitive. Air and moisture sensitive. 7.3 Specific end uses no data available 8. EXPOSURE CONTROLS/PERSONAL PROTECTION 8.1 **Control parameters** Components with workplace control parameters 8.2 **Exposure controls** Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Personal protective equipment Eye/face protection Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. **Body Protection** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. **Respiratory protection** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (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). 9. PHYSICAL AND CHEMICAL PROPERTIES 9.1 Information on basic physical and chemical properties Form: crystalline Appearance a) Colour: off-white Odour no data available b) Odour Threshold no data available c) no data available d) pН Melting/freezing point Melting point/range: 180 - 190 °C Initial boiling point and no data available f) boiling range no data available Flash point no data available Evaporation rate h) Flammability (solid, gas) no data available i) Upper/lower no data available j) flammability or explosive limits no data available Vapour pressure k) no data available 1) Vapour density m) Relative density 2,230 g/cm³ Water solubility no data available Partition coefficient: nno data available octanol/water Autoignition no data available temperature Decomposition no data available temperature no data available Viscosity r) Explosive properties no data available s) Oxidizing properties no data available 9.2 Other safety information no data available **10.** STABILITY AND REACTIVITY 10.1 Reactivity no data available 10.2 **Chemical stability** no data available Contains the following stabiliser(s): Acetic acid (5 %) Possibility of hazardous reactions 10.3 no data available 10.4 Conditions to avoid Air 10.5 **Incompatible materials** Soluble carbonates and phosphates, Strong oxidizing agents, Strong reducing agents 10.6 Hazardous decomposition products Other decomposition products - no data available 11. TOXICOLOGICAL INFORMATION 11.1 **Information on toxicological effects Acute toxicity** Skin corrosion/irritation no data available Serious eye damage/eye irritation no data available Respiratory or skin sensitization no data available Germ cell mutagenicity no data available Carcinogenicity IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. Reproductive toxicity no data available Specific target organ toxicity - single exposure no data available Specific target organ toxicity - repeated exposure no data available Aspiration hazard no data available Potential health effects Harmful if inhaled. Material is extremely destructive to the tissue of the Inhalation mucous membranes and upper respiratory tract. Harmful if swallowed. Causes burns. Ingestion Skin Harmful if absorbed through skin. Causes skin burns. Eyes Causes eye burns. Signs and Symptoms of Exposure 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. **Additional Information** RTECS: Not available **12. ECOLOGICAL INFORMATION** 12.1 **Toxicity** no data available 12.2 Persistence and degradability no data available 12.3 **Bioaccumulative potential** no data available 12.4 Mobility in soil no data available 12.5 Results of PBT and vPvB assessment no data available **12.6** Other adverse effects Very toxic to aquatic life. 13. **DISPOSAL CONSIDERATIONS** 13.1 Waste treatment methods **Product** Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Contaminated packaging Dispose of as unused product. TRANSPORT INFORMATION **14. UN-Number** 14.1 ADR/RID: 2923 IMDG: 2923 IATA: 2923 14.2 **UN** proper shipping name ADR/RID: CORROSIVE SOLID, TOXIC, N.O.S. IMDG: CORROSIVE SOLID, TOXIC, N.O.S. IATA: Corrosive solid, toxic, n.o.s. 14.3 Transport hazard class(es) ADR/RID: 8 (6.1) IMDG: 8 (6.1) IATA: 8 (6.1) 14.4 Packaging group ADR/RID: II IMDG: II IATA: II 14.5 **Environmental hazards** IMDG Marine pollutant: no IATA: no ADR/RID: no Special precautions for users 14.6 no data available **15. REGULATORY INFORMATION** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. Safety, health and environmental regulations/legislation specific for the substance or mixture 15.1 no data available 15.2 **Chemical Safety Assessment** no data available **16.** OTHER INFORMATION Text of H-code(s) and R-phrase(s) mentioned in Section 3 Acute Tox. Acute toxicity Acute aquatic toxicity Aquatic Acute Chronic aquatic toxicity Aquatic Chronic Flammable liquids Flam. Liq. Flammable liquid and vapour. H226 H302 Harmful if swallowed. H314 Causes severe skin burns and eye damage. H332 Harmful if inhaled. May damage fertility or the unborn child. H360 May cause damage to organs through prolonged or repeated exposure. H373 Very toxic to aquatic life with long lasting effects. H410 Reproductive toxicity Repr. Skin Corr. Skin corrosion STOT RE Specific target organ toxicity - repeated exposure Corrosive C N Dangerous for the environment R10 Flammable. Harmful by inhalation and if swallowed. R20/22R33 Danger of cumulative effects. R35 Causes severe burns. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic R50/53environment. R61 May cause harm to the unborn child. R62 Possible risk of impaired fertility. Repr.Cat.1 Toxic to Reproduction Category 1 Toxic to Reproduction Category 3 Repr.Cat.3 T Toxic **Further information** For R&D use only. Not for drug, household or other uses. WARRANTY: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. 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