1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING 1.1 **Product identifiers** Cholecalciferol (D3) Product name CAS-No. 67-97-0 1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses Laboratory chemicals, Manufacture of substances HAZARDS IDENTIFICATION 2. Classification of the substance or mixture 2.1 Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP] Acute toxicity, Inhalation (Category 2) Acute toxicity, Dermal (Category 3) Acute toxicity, Oral (Category 3) Specific target organ toxicity - repeated exposure (Category 1) Classification according to EU Directives 67/548/EEC or 1999/45/EC Very toxic by inhalation. Toxic in contact with skin and if swallowed. Toxic: danger of serious damage to health by prolonged exposure if swallowed. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 [CLP] Pictogram Signal word Danger Hazard statement(s) H301 Toxic if swallowed. H311 Toxic in contact with skin. H330 Fatal if inhaled. Causes damage to organs through prolonged or repeated exposure. H372 Precautionary statement(s) P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing. P280 Wear respiratory protection. P284 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ P301 + P310physician. P310 Immediately call a POISON CENTER or doctor/physician. Supplemental Hazard none Statements According to European Directive 67/548/EEC as amended. Hazard symbol(s) R-phrase(s) R24/25 Toxic in contact with skin and if swallowed. R26 Very toxic by inhalation. R48/25 Toxic: danger of serious damage to health by prolonged exposure if swallowed. S-phrase(s) After contact with skin, wash immediately with plenty of soap and water. S28 S36/37 Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately S45 (show the label where possible). 2.3 Other hazards - none 3. **COMPOSITION/INFORMATION ON INGREDIENTS** 3.1 Substances Activated 7-dehydrocholesterol Synonyms Cholecalciferol 7-Dehydrocholesterol activated Calciol (+)-Vitamin D3 Formula C27H44O Molecular Weight 384,64 g/mol Concentration Component Vitamin D3 CAS-No. 67-97-0 EC-No. 200-673-2 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 Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician. In case of eye contact Flush eyes with water as a precaution. If swallowed 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 Indication of any 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 5.3 Advice 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 Wear respiratory protection. 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. 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. 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. Recommended storage temperature: 2 - 8 °C 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** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. 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: white b) Odour no data available Odour Threshold no data available c) рН no data available d) Melting point/range: 83 - 86 °C - lit. Melting point/freezing e) point no data available Initial boiling point and boiling range Flash point no data available no data available Evaporation rate h) Flammability (solid, gas) no data available 1) Upper/lower <u>j</u>) no data available flammability or explosive limits no data available Vapour pressure Vapour density no data available m) Relative density no data available 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 t) 9.2 Other safety information no data available STABILITY AND REACTIVITY **10.** 10.1 Reactivity no data available 10.2 **Chemical stability** no data available Possibility of hazardous reactions 10.3 no data available Conditions to avoid 10.4 Air Light. 10.5 **Incompatible materials** Strong oxidizing agents, Acid chlorides, Acid anhydrides Hazardous decomposition products 10.6 Other decomposition products - no data available 11. TOXICOLOGICAL INFORMATION 11.1 **Information on toxicological effects Acute toxicity** LD50 Oral - rat - 35 - 47 mg/kg LD50 Oral - rat - 42 mg/kg LC50 Inhalation - rat - 4 h - 130 - 380 ppm LD50 Dermal - rat - 61 mg/kg 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 Possible risk of congenital malformation in the fetus. May cause reproductive disorders. Developmental Toxicity - rat - Subcutaneous Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific target organ toxicity - single exposure no data available Specific target organ toxicity - repeated exposure Ingestion - Causes damage to organs through prolonged or repeated exposure. Aspiration hazard no data available Potential health effects Inhalation Toxic if inhaled. May cause respiratory tract irritation. May be fatal if swallowed. Ingestion Skin May be fatal if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation. **Additional Information** RTECS: VS2900000 **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 no data available 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. **14.** TRANSPORT INFORMATION 14.1 UN number IMDG: 2811 IATA: 2811 ADR/RID: 2811 14.2 UN proper shipping name ADR/RID: TOXIC SOLID, ORGANIC, N.O.S. (Vitamin D3) TOXIC SOLID, ORGANIC, N.O.S. (Vitamin D3) IMDG: IATA: Toxic solid, organic, n.o.s. (Vitamin D3) 14.3 **Transport hazard class(es)** ADR/RID: 6.1 IMDG: 6.1 IATA: 6.1 14.4 Packaging group ADR/RID: II IATA: II IMDG: II 14.5 **Environmental hazards** ADR/RID: no IATA: no IMDG Marine pollutant: no Special precautions for user 14.6 no data available **15. REGULATORY INFORMATION** This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture no data available 15.2 **Chemical Safety Assessment** no data available **16.** OTHER INFORMATION **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. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Lookchem shall not be held liable www.lookchem.com for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.