1- Identification of the substance/preparation and of the company/undertaking

- **PRODUCT NAME:** Rubiginone D2 from microbial source
- **PRODUCT NUMBER:** CL0521
- **CAS #:** 274913-71-2
- **SYNONYMS:** 2,4-Dihydroxy-8-methoxy-3-methyl-3,4-dihydro-1,7,12(2H)-tetraphenetrione
- **MOLECULAR FORMULA**: C20H16O6
- **MOLECULAR WEIGHT**: 352 g/mol
- **DETAILS OF THE MANIFACTURER:**

BIOMAR MICROBIAL TECHNOLOGIES
PARQUE TECNOLÓGICO DE LEÓN PARCELA M10.4
24009 ARMUNIA (LEÓN) SPAIN
TELF: +34987849200 FAX: +34987849203
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2- Composition/information on ingredients

· **Chemical characterization:** Substance

- · **CAS No. Description:** 274913-71-2 Rubiginone D2
- · **Identification number(s):** Not applicable

3- Hazards identification

- **PHYSICAL/CHEMICAL HAZARDS:** Not available
- **HUMAN HEALTH HAZARDS:** The toxicological properties of this material have not been investigated. No classification data on carcinogenic properties of this material is available from the EPA, IARC,NTP,OSHA or ACGIH

4- First-aid measures

Description of first aid measures

· **General information:** Consult a physician. Show this safety data sheet to the doctor in attendance.

- **AFTER INHALATION:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- **AFTER INGESTION:** Never give anything by mouth to an unconscious person. Rinse mouth with water. DO NOT INDUCE VOMITING. Consult a physician.
- **AFTER SKIN CONTACT:** Wash off with soap and plenty of water. Remove contaminated clothing Consult a physician.
- **AFTER EYE CONTACT:** Rinse opened eye for several minutes under running water. Check for and remove contact lenses. If symptoms persist, consult a physician.
- **AFTER AGGRAVATING CONDITIONS:**

Indication of any immediate medical attention and special treatment needed.
No further relevant information available

5- Fire-fighting measures

- **FLAMMABILITY OF THE PRODUCT:** Not available
- **EXTINGUISHING MEDIA:** Water, dry chemical, Carbon dioxide.
- **HAZARDOUS THERMAL (de) COMPOSITION PRODUCTS:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition.
- **SPECIAL FIRE-FIGHTING PROCEDURES:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- **PROTECTION OF FIRE-FIGHTERS:** Wear self-contained respiratory protective device. Do not inhale explosion gases or combustion gases. Wear fully protective suit.

6- Accidental release measures

- **PERSONAL PRECAUTIONS PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Wear appropriate respirator, rubber boot and heavy rubber gloves. Scoop up and place in an appropriate container. Ventilate area and wash spill site after pickup is complete. Wash skin immediately with plenty of water.
- **ENVIRONMENTAL PRECAUTIONS:** Do not allow product to enter drains.
- **METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:** Absorb on sand or vermiculite and place in closed containers for disposal. Clean spillage area thoroughly with plenty of water.

7- Handling and storage

- **HANDLING PRECAUTIONS FOR SAFE HANDLING:** Use caution when handling. Exposure to any chemical should limited. Avoid prolonged exposure. Avoid all direct contact with product. Wear protective safety goggles. Wear chemical-resistant gloves. Wear protective clothing and boots. Ensure ventilation during use.

- **STORAGE CONDITIONS FOR SAFE STORAGE, INCLUIDING ANY INCOMPATIBILITIES:**
  Store in cool place. Keep container tightly closed in a dry and well-ventilated place. For long term storage, keep the container closed and dry at -20º C.

8- Exposures controls / personal protection

- **ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL FACILITIES:** No further data.
- **CONTROL PARAMETERS INGREDIENTS WITH LIMIT VALUES THAT REQUIRE MONITORING AT THE WORKPLACE:** Not required.
- **EXPOSURE CONTROLS:**
- **PERSONAL PROTECTIVE EQUIPMENT:**
  Skin and body: Protective gloves and clothing. The glove material has to be impermeable and resistant to the product.
  Due to missing tests no recommendation to the glove material can be given for the product.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
  Eyes: Safety glasses
- **RESPIRATORY PROTECTIONS:** Work in a fume hood.
- **GENERAL HIGIENIC MEASURES:** The usual precautionary measures when handling chemicals.

9- Physical and chemical properties

- **INFORMATION ABOUT BASIC PHYSICAL AND CHEMICAL PROPERTIES:**
- **APPEARANCE:** Solid
- **COLOR:** Brown
- **MOLECULAR WEIGHT:** 352
- **SOLUBILITY:** Soluble in acetone, methanol, dichloromethane or DMSO.
- **FLASH POINT**:
- **EXPLOSIVE PROPERTIES:** Not determined.

10-Stability and reactivity

- **REACTIVITY:** Not determined
- **CHEMICAL STABILITY:** Stable under normal conditions
- **THERMAL DECOMPOSITION:** Not determined
- **CONDITIONS TO AVOID:** Heat, flames and sparks.
- **HAZARDOUS DECOMPOSITION PRODUCTS:** Not determined.
- **INCOMPATIBLE MATERIALS:** Not determined.

11-Toxycological information

- **RTECS#:** Xn R21/22-40; Xi R36
- **LOCAL EFFECTS:** Harmful if swallowed. Irritating to eyes.
- **SKIN IRRITATION:** Harmful in contact with skin. May cause dermatitis.
- **ACUTE TOXICITY:** Not determined
- **CHRONIC TOXICITY:** Not determined
- **OTHER TOXIC EFFECTS ON HUMANS:** Not determined
- **CARCINOGENIC EFFECTS:** Limited evidence of a carcinogenic effect.
- **MUTAGENIC EFFECTS:** Not determined
- **REPRODUCTION TOXICITY:** Not determined
- **TERATOGENIC EFFECTS:** Not determined

12-Ecological information

- **ECOTOXICITY:** No further relevant information available.
- **TOXICITY OF THE PRODUCTS OF:** No further relevant information available.
- **BIODEGRADATION: (Persistence and degradability)** No further relevant information available.

13-Disposal considerations:

- **METHODS OF DISPOSAL: WASTE OF RESIDUES:** Dissolve in or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- **CONTAMINATED PACKAGING:** Disposal must be made according to official regulations.

14-Transport information

· **UN-Number**
· **UN proper shipping name** ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods·
-Transport hazard class(es) Not applicable
· **Packing group** Not applicable
· **Environmental hazards:** Not determined
· **Marine pollutant:** Not determined
· **Special precautions for user:** Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable

15-Regulatory information

· **Chemical safety assessment:** Xn R21/22-40; Xi R36

16-Other information

It is the user`s responsibility to determine the suitability of this information for adoption of necessary safety precautions. ***This product is intended for research use only*** and should be handled and used only by experienced personnel. Biomar Microbial Technologies shall not be held liable for any damage resulting from the use of this product.