## MSDS for Alternariol

|                        | Section 1. Product and Company Information   |
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|                        |  |
| Name:                  | Alternariol  |
| CAS Number:            | 641-38-3   |
| Catalog Code:          | AL   |
| Synonyms               | <ul> <li>AOH</li> <li>Systematic Name: 3,4,4'-Trihydroxy-6'-methyl-2-biphenylcarboxylic acid, gamma lactone</li> </ul>   |
| Company Identification | Fermentek ltd, Website: www.fermentek.co.il 4 Yatziv st, Atarot industrial zone POB 47120 Jerusalem 97800, Israel Tel: +972 2 585395 Fax: +972 2 5853943 eMail Fermentek@Fermentek.com |
|                        | Section 2. Composition/Information on Ingredients  |
| Chemical Formula:      | C14H10O5   |
| Chemical Class:        | Pyrrolidinone mycotoxin  |
| RTECS                  | HP8757000  |
| TSCA                   | not listed   |
|                        | Section 3. Hazards Identification  |
| Emergency overview     | OSHA hazards:  Highly toxic by inhalation.  Highly toxic in contact with skin.  Highly toxic if swallowed.  Teratogen. May cause harm to the unborn child.                             |
| Hazard statements      | H300 - Fatal if swallowed.<br>H310 - Fatal in contact with skin.<br>H330 - Fatal if inhaled.<br>H360 - May damage fertility or the unborn child  |

| Precaution statements | P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust P262 - Do not get in eyes, on skin, or on clothing. P270 - Do not eat, drink or smoke when using this product. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P281 - Use personal protective equipment as required. P284 - Wear respiratory protection. P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or physician. P302+P350 - IF ON SKIN: Gently wash with plenty of soap and water. P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P308+P313 - IF exposed or concerned: Get medical advice/attention. P310 - Immediately call a POISON CENTER or physician. P330 - Rinse mouth. P361 - Remove immediately all contaminated clothing. P363 - Wash contaminated clothing before reuse. P403+P233 - Store in a well-ventilated place. Keep container tightly closed. P405 - Store locked up. |
|-----------------------|--|
| HMIS rating           | Health: 4; Flamability: 0; Reactivity: 0   |
| NFPA rating           | Health: 4; Flamability: 0; Reactivity: 0   |
| Inhalation            | Potentially fatal. May irritate respiratory system   |
| Skin contact          | Potentially fatal. May irritate skin.  |
| Eyes                  | May irritate eyes.   |
| Ingestion             | Potentially fatal.   |
|                       | Section 4. First Aid Measures  |
| Eye Contact           | Check for and remove contact lenses. Flush eyes with running water for at least 15 minutes separating eyelids. Seek medical attention immediately.   |
| Skin Contact          | Wash with soap and water for 15 minutes. Remove contaminated clothing and shoes. Seek medical attention immediately  |
| Inhalation            | Remove from exposure. If breathing is difficult, administer oxygen. If breathing stops, administer artificial respiration. Seek medical  |

|                                   | attention immediately. Provide chemical label and MSDS if possible.  |
|-----------------------------------|--|
| Ingestion                         | Remove dentures and clear mouth. If person is conscious, rinse mouth with water Call physician or poison control immediately. Provide chemical label and MSDS information if possible.   |
| General advice                    | There are sources in the literature that advice giving slurry of activated carbon, 3 tablespoons in a glass of water, or more, to drink in cases of ingestion.   |
|                                   | Section 5. Fire and Explosion Data   |
| Flammability                      | Not Available  |
| Flash Point                       | Not Available  |
| Combustion Products               | CO, CO2,   |
| Extinguishing Media               | Foam, Carbon Dioxide, Dry chemical powder, polymer foam, water spray   |
|                                   | Use self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  |
| Unusual Fire/Explosion<br>Hazards | None known   |
|                                   | Section 6 - Accidental Release Measures  |
| Cleanup Procedures                | Evacuate area. Wear appropriate protective gear as outlined under "Protective equipment" wipe up spill and place in sealed container and hold for disposal. Avoid raising dust. Ventilate the area and wash spill site after material has been removed |
| Waste Disposal Method             | Observe all Federal, State and Local regulations concerning the disposal of this product.  Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete              |
|                                   | Section 7 - Handling and Storage   |
| Protective Equipment              | For spill cleanup, wear suitable protective clothing, chemical resistant rubber gloves, rubber boots, and chemical safety goggles. Self-contained breathing apparatus or NIOSH/MSHA approved respirator is recommended.                                |
| Storage and Handling              | It should be kept in a tightly closed container. This product should<br>be handled only by qualified experienced professionals. Wash<br>thoroughly after handling this material.<br>Do not store above 8°C   |

|                             | Section 8 - Exposure Controls / Personal protection   |
|-----------------------------|---|
| General                     | Use only in a chemical fume hood. Safety shower and eye bath. Use adequate ventilation to keep airborne concentrations low          |
| ·                           | Respiratory: Government approved respirator. Hand: Compatible chemical-resistant gloves. Eye: Chemical safety goggles.              |
|                             | Section 9. Physical Data  |
| Appearance                  | white to off-white powder   |
| Molecular Weight            | 258.2   |
| Solubility                  | Ethanol, Dichloromethane  |
|                             | Section 10. Stability and Reactivity Data   |
| Stability                   | This material is stable if stored as directed   |
| Conditions to Avoid         | Excess heat, strong oxidizers   |
| Incompatibles               | Reactive with oxidizing agents, acids, alkalis.   |
| Hazardous<br>polymerization | Will not occur  |
|                             | Section 11 - Toxicological Information  |
| RTECS#:                     | HP8757000   |
| Route of exposure           | Multiple Routes: May cause irritation of skin, eyes, respiratory system. May be fatal by inhalation, ingestion, or skin absorption. |
|                             | The toxicological properties have not been thoroughly investigated.   |
| Mutagenicity data           | Shown as mutagen in mammal cell cultures: Toxicol Lett. 2006 Jul 14;164(3):221-30; PMID: 16464542                                   |
| Toxity data                 | Mouse; intra peritoneal; LDLo= 100 mg/kg.<br>Source: EHP, Environmental Health Perspectives. Vol. 4, Pg. 87,<br>1973.               |
|                             | Section 12 - Ecological Data  |
| Ecotoxicological            | None Available  |

| Information:                  |  |
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|                               | Section 13 - Disposal Considerations   |
| disposal of substance or      | Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 <> CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification. |
|                               | Section 14 - Transport Information   |
| IATA                          | UN-Number: UN-3462 Class: 6.1 Proper shipping name: Toxins, extracted from living sources, solid, n.o.s. (Alternariol)   |
| US DOT                        | <ul> <li>UN-Number: UN-3462 Class: 6.1 Packing group: II</li> <li>Proper shipping name: Toxins, extracted from living sources, solid, n.o.s. (Alternariol)</li> <li>Marine pollutant: No</li> <li>Poison Inhalation Hazard: No</li> </ul>  |
|                               | Section 15-Regulatory Information  |
| OSHA hazards                  | Highly toxic by inhalation, Highly toxic by ingestion, Highly toxic by skin absorption, Teratogen, Mutagen   |
| USA regulatory<br>information | SARA not listed  |
|                               | Section 16 -Other Information  |
| Warranty                      | For R&D use only. Not for drug, household or other uses .  For use only by trained personnel.  |
| Disclaimer                    | 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. The burden of safe use of this material rests entirely with the user. Fermentek shall not be held liable or any damage resulting from handling or from contact with the above product.   |