

# Avocado Research Chemicals Ltd - Material Safety Data Sheet 21095

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| 1. IDENTIFICATION OF SUBSTANCE AND SUPPLIER                                                                           |                                                                                                                                                                                                                                                      |            |            |
| Name On Label                                                                                                         | S-(-)-1,2-Bis(diphenylphosphino)propane                                                                                                                                                                                                              |            |            |
| Product Number                                                                                                        | 21095                                                                                                                                                                                                                                                |            |            |
| Supplier                                                                                                              | Johnson Matthey Catalog Company Inc.<br>30 Bond Street, Ward Hill, Massachusetts, 01835-8099<br>Emergency Telephone Number: (978) 521-6300; CHEMTREC: (800) 424-9300                                                                                 |            |            |
| Alternative Names                                                                                                     | S-(-)-Prophos                                                                                                                                                                                                                                        |            |            |
| 2. COMPOSITION AND INFORMATION ON COMPONENTS                                                                          |                                                                                                                                                                                                                                                      |            |            |
| Name                                                                                                                  | S-(-)-1,2-Bis(diphenylphosphino)propane                                                                                                                                                                                                              |            |            |
| Minor Impurities                                                                                                      | Not determined                                                                                                                                                                                                                                       |            |            |
| CAS No.                                                                                                               | 67884-33-7                                                                                                                                                                                                                                           | EINECS No. | Not listed |
|                                                                                                                       |                                                                                                                                                                                                                                                      | EEC No.    |            |
| 3. HAZARDS IDENTIFICATION                                                                                             |                                                                                                                                                                                                                                                      |            |            |
| Designation                                                                                                           | No specific hazard                                                                                                                                                                                                                                   |            |            |
| Risk Phrases                                                                                                          | None specified - Exercise all due care in use                                                                                                                                                                                                        |            |            |
| 4. FIRST AID MEASURES                                                                                                 |                                                                                                                                                                                                                                                      |            |            |
| Inhalation                                                                                                            | Remove to fresh air. Seek medical advice if symptoms persist.                                                                                                                                                                                        |            |            |
| Eye Contact                                                                                                           | Flush with copious amounts of water for at least 15 minutes.                                                                                                                                                                                         |            |            |
| Skin Contact                                                                                                          | Wash affected area with soap and water. Rinse thoroughly.                                                                                                                                                                                            |            |            |
| Ingestion                                                                                                             | Rinse out mouth and drink lots of water. If unusual symptoms are observed, seek medical advice.                                                                                                                                                      |            |            |
| 5. FIRE FIGHTING MEASURES                                                                                             |                                                                                                                                                                                                                                                      |            |            |
| Extinguishing Medium                                                                                                  | Use fire fighting measures which suit the environment and take into account other materials which may be involved. In general, water-based extinguishers should not be used for fires involving organic materials. Use carbon dioxide or dry powder. |            |            |
| Protective Equipment                                                                                                  | Wear self-contained breathing apparatus and protective clothing.                                                                                                                                                                                     |            |            |
| Hazardous Products of Combustion may include: carbon monoxide, carbon dioxide, phosphorus pentoxide, phosphoric acid. |                                                                                                                                                                                                                                                      |            |            |
| 6. ACCIDENTAL RELEASE MEASURES                                                                                        |                                                                                                                                                                                                                                                      |            |            |
| Personal Protection                                                                                                   | Wear protective equipment including rubber gloves, and eye protection. Keep unprotected persons away.                                                                                                                                                |            |            |
| Environmental Protection                                                                                              | Take precautions to ensure product does not enter the drainage system.                                                                                                                                                                               |            |            |
| Collection                                                                                                            | Mix with vermiculite or proprietary absorbent material and transfer to sealed containers for disposal.                                                                                                                                               |            |            |
| 7. HANDLING AND STORAGE                                                                                               |                                                                                                                                                                                                                                                      |            |            |
| Handling                                                                                                              | Chemicals should be used only by those trained in handling potentially hazardous materials. Rubber gloves, eye protection and protective clothing should be worn. Operations should be carried out in an efficient fume hood or equivalent system.   |            |            |
| Storage                                                                                                               | Store in tightly sealed containers in a cool place.<br>Protect from moisture.<br>Material is sensitive to aerial oxidation.                                                                                                                          |            |            |
| 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION                                                                          |                                                                                                                                                                                                                                                      |            |            |
| Respiratory                                                                                                           | Avoid inhalation of product. Handle in an efficient fume hood or equivalent system.                                                                                                                                                                  |            |            |
| Eye                                                                                                                   | Avoid eye contact. Wear safety spectacles or goggles.                                                                                                                                                                                                |            |            |
| Hands and Body                                                                                                        | Avoid skin contact. Wear rubber gloves and protective clothing.                                                                                                                                                                                      |            |            |

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| 9. PHYSICAL AND CHEMICAL PROPERTIES                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                          |                |                     |                      |
| Appearance                                                                                                                                                                                                                                                                                                                                                                                                           | Crystalline solid                                                                                                        |                |                     |                      |
| Physical Constants                                                                                                                                                                                                                                                                                                                                                                                                   | Not available                                                                                                            |                |                     |                      |
| Molecular formula                                                                                                                                                                                                                                                                                                                                                                                                    | C <sub>27</sub> H <sub>26</sub> P <sub>2</sub>                                                                           | Formula Wt.    | Not available       |                      |
| Water solubility                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                          | Density        | Not available       |                      |
| Flash Point                                                                                                                                                                                                                                                                                                                                                                                                          | Not available                                                                                                            |                |                     |                      |
| 10. STABILITY AND REACTIVITY                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                          |                |                     |                      |
| Specific Hazard                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                          |                |                     |                      |
| Incompatibilities                                                                                                                                                                                                                                                                                                                                                                                                    | Strong oxidising agents.                                                                                                 |                |                     |                      |
| Decomposition                                                                                                                                                                                                                                                                                                                                                                                                        | Hazardous products of decomposition may include: carbon monoxide, carbon dioxide, phosphorus pentoxide, phosphoric acid. |                |                     |                      |
| 11. TOXICOLOGICAL INFORMATION                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                          |                |                     |                      |
| RTECS No.                                                                                                                                                                                                                                                                                                                                                                                                            | Not listed                                                                                                               |                |                     |                      |
| Acute Toxicity                                                                                                                                                                                                                                                                                                                                                                                                       | LD <sub>50</sub> : No data reported                                                                                      |                |                     |                      |
| 12. ECOLOGICAL EFFECTS                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                          |                |                     |                      |
| General                                                                                                                                                                                                                                                                                                                                                                                                              | Take care to prevent chemicals from entering the ground, water courses or drainage systems.                              |                |                     |                      |
| 13. DISPOSAL CONSIDERATIONS                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                          |                |                     |                      |
| Disposal                                                                                                                                                                                                                                                                                                                                                                                                             | Disposal should be via an approved contractor and should take full account of local regulations.                         |                |                     |                      |
| 14. TRANSPORT INFORMATION                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                          |                |                     |                      |
| UN Number                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                          |                |                     |                      |
| Land Transport                                                                                                                                                                                                                                                                                                                                                                                                       | ADR/RIC Code/Class                                                                                                       | Not Restricted |                     |                      |
| Maritime Transport                                                                                                                                                                                                                                                                                                                                                                                                   | IMDG Code/Class                                                                                                          | Not Restricted |                     |                      |
| Air Transport                                                                                                                                                                                                                                                                                                                                                                                                        | IATA Code/Class                                                                                                          | Not Restricted |                     |                      |
| 15. REGULATORY INFORMATION                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                          |                |                     |                      |
| CAS No. 67884-33-7                                                                                                                                                                                                                                                                                                                                                                                                   | EINECS No. Not listed                                                                                                    | EEC No.        | UN No. None         | RTECS No. Not listed |
| Hazard Indication                                                                                                                                                                                                                                                                                                                                                                                                    | No specific hazard                                                                                                       |                |                     |                      |
| Risk & Safety Phrases                                                                                                                                                                                                                                                                                                                                                                                                | None specified - Exercise all due care in use                                                                            |                |                     |                      |
| TSCA                                                                                                                                                                                                                                                                                                                                                                                                                 | Not listed. For research and development use only.                                                                       |                |                     |                      |
| 16. OTHER INFORMATION                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                          |                |                     |                      |
| It must be recognised that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. |                                                                                                                          |                |                     |                      |
| Date of Last Review:                                                                                                                                                                                                                                                                                                                                                                                                 | 3rd August 1998                                                                                                          | Date Printed:  | 18th September 1998 |                      |