



SAFETY DATA SHEET

| SECTION 1 | PRODUCT AND COMPANY IDENTIFICATION |
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| Trade Name: | Biofos® |
| Chemical Name: | Monocalcium Phosphate |
| CAS Number: | 10031-30-8 |
| Chemical Family: | Inorganic Salt |
| Synonyms: | MCP Calcium Phosphate Monobasic Monocalcium Phosphate Monocalcium Diphosphate Monodicalcium Phosphate Calcium bis(dihydrogen phosphate) Calcium Phosphate Monobasic Monohydrate Biofos® Coarse |
| Primary Use: | Animal Feed ingredient. This product is not intended for direct consumption, but as part of a formulation. |
| Company Information: | The Mosaic Company 101 East Kennedy Blvd, Ste 2500 Tampa, FL 33602 www.mosaicco.com (800) 918-8270 or (813) 775-4200 8 AM to 5 PM Eastern Time USA |
| Emergency Telephone: | EMERGENCY OVERVIEW 24 Hour Emergency Telephone Number: For Chemical Emergencies: Spill, Leak, Fire or Accident Call CHEMTREC North America: (800) 424-9300 (reference CCN201871) Others: (703) 527-3887 (collect) |

| SECTION 2 | HAZARD IDENTIFICATION | |
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| GHS Classification: | Skin Irritant Category 2 Eye Irritant Category 2B STOT SE Category 3 | Hazard Statement H315 Hazard Statement H320 Hazard Statement H335 |
|  | Signal Word: WARNING Hazard Statement(s) H315: Causes skin irritation H320: Causes eye irritation H335: May cause respiratory irritation | |
| Label Elements: | | |
| Prevention: | P264: Wash hands thoroughly after handling. P280: Wear protective gloves P261: Avoid breathing dust P271: Use only outdoors or in a well-ventilated area. | |
| Response: | P302+ P352 P321 | IF ON SKIN: Wash with plenty of water. Specific Treatment, see supplemental first aid information. |



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| | P332+ P313 | If skin irritation occurs: Get medical advice/attention. |
| | P362+ P364 | Take off contaminated clothing and wash it before reused. |
| | P305+P351+ P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | P337+ P313 | If eye irritation persists: Get medical advice/attention. |
| | P304+ P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| Storage: | Not applicable | Not applicable |
| Disposal: | P501 | Disposal of content/containers to be in accordance with local/regional/national regulations. |

| SECTION 3 | | COMPOSITION INFORMATION ON INGREDIENTS | | | |
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| Formula: | H ₄ CaO ₈ P ₂ · H ₂ O | | | | |
| Composition: | Monocalcium Phosphate - Monohydrate | CAS 10031-30-8 | 70-75% | Skin Irritant Category 2 Eye Irritant Category 2B STOT SE 3 (Lungs, Inhalation) | |
| | Dicalcium Phosphate Dihydrate | CAS 7789-77-7 | 20-25% | | |
| | Iron Phosphate | CAS 31096-47-6 | 2-4% | | |
| | Calcium Sulfate Dihydrate | CAS 10101-41-4 | 0.5-1.0% | | |
| | Calcium Carbonates | CAS 1317-65-3 | 0.5-1.0% | | |

| SECTION 4 | | FIRST AID MEASURES | |
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| First Aid Procedures: | Eyes: | Move victim away from exposure and into fresh air. Flush eyes with plenty of clean water for at least 15 minutes. If symptoms persist, seek medical attention. | |
| | Skin: | Wash contaminated area thoroughly with mild soap and water. If chemical or solution soaks through clothing, remove clothing and wash contaminated skin. If irritation develops and persists after washing, seek medical attention. | |
| | Inhaled: | If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. | |
| | Ingestion: | If large amounts are swallowed, seek emergency medical attention. If possible, do not leave victim unattended and observe closely for adequacy of breathing. | |
| Note to Physician: | None known. | | |

| SECTION 5 | | FIRE FIGHTING MEASURES | |
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| Extinguishing Media: | Use extinguishing agent suitable for type of surrounding fire. Avoid excessive water to minimize runoff. | | |
| Protection of Firefighters: | Positive pressure, self-contained breathing apparatus is required for all firefighting activities involving hazardous materials. Full structural firefighting (bunker) gear is the minimum acceptable attire. The need for proximity, entry, flashover and/or special chemical protective clothing (see Section 8) needs to be determined for each incident by a competent firefighting safety professional. | | |
| | Water used for fire suppression and cooling may become contaminated. Discharge to sewer system(s) or the environment may be restricted, requiring containment and proper disposal of water. | | |



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| SECTION 6 | ACCIDENTAL RELEASE MEASURES |
| Response Techniques: | Stay upwind and away from spill (dust hazard). Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Notify appropriate federal, state, and local agencies as may be required (see Section 15). Minimize dust generation. Sweep up and package appropriately for disposal. |

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| SECTION 7 | HANDLING AND STORAGE |
| Handling: | The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 3 and 8). Wash thoroughly after handling. Wash contaminated clothing or shoes. Use good personal hygiene practices. |
| Storage: | Keep container(s) tightly closed. Use and store this material in dry, well ventilated areas. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. |

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| SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION | |
| Engineering Controls: | If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required. | |
| Personal Protective Equipment (PPE): | Eye/Face: | Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. |
| | Skin: | The use of cloth or leather work gloves is advised to prevent skin contact; possible irritation and absorption (see glove manufacturing literature for information on permeability). |
| | Respiratory: | A NIOSH approved air purifying respirator with a type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator. |
| | Other: | A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed. |
| General Hygiene Considerations: | Wash thoroughly after handling Wash contaminated clothing Use adequate ventilation Use good personal hygiene practice | |



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| Exposure Guidelines: | OSHA Permissible Exposure Limits (PEL): | Particulates Not Otherwise Regulated: 5 mg/m ³ TWA (respirable); 15 mg/m ³ TWA (total) |
| | ACGIH Threshold Limit Value (TLV): | Particulates Not Otherwise Specified: 3 mg/m ³ TWA (respirable); 10 mg/m ³ TWA (inhalable) |

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| SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES |
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Note: Unless otherwise stated, values in this section are determined at 20°C (68°F) and 760 mm Hg (1 atm).

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| Appearance: | Light gray granules | Vapor Pressure (mm Hg): | Not applicable |
| Odor: | Slight | Vapor Density (air=1): | Not applicable |
| Odor Threshold: | No data available | Specific Gravity or Relative Density: | Not applicable |
| Physical state: | Solid granules | Bulk Density: | Loose 57–59 lbs/ft ³ (913–945 kg/m ³) |
| pH: | 3.6 (in a 1% solution) | Solubility in Water: | 60-70% soluble in a 1% solution |
| Melting Point/ Freezing Point: | Not applicable | Partition coefficient: | No data available |
| Boiling Point: | Not applicable | Auto-Ignition Temperature: | Not applicable |
| Flash Point: | Not applicable | Decomposition Temperature: | No data available |
| Evaporation Rate: | No data available | Viscosity: | No data available |
| Flammability: | Not applicable | Volatility: | Not applicable |
| Upper/lower Flammability or explosive limits | Not applicable | | |

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| SECTION 10 | STABILITY AND REACTIVITY |
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| Chemical Stability: | Stable under normal conditions of storage and handling; decomposes at approx. 200° C. |
| Conditions to Avoid: | None known. |
| Incompatible Materials: | None known. |
| Hazardous Decomposition Products: | Combustion can yield phosphorus oxides when heated at very high temperatures. |
| Corrosiveness: | No data. |
| Hazardous Polymerization: | Will not occur. |

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| SECTION 11 | TOXICOLOGICAL INFORMATION |
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| Substance: | Monocalcium Phosphate Monohydrate |
| Acute Oral Toxicity: | See Section 15 under Food and Drug Administration (FDA) notes LD ₅₀ (rat, oral) = 17500 mg/kg LD ₅₀ (mouse, oral) = 15250 mg/kg |
| Acute Inhalation Toxicity: | No data available |
| Acute Dermal Toxicity: | LD ₅₀ (rabbit, dermal) > 300 mg/kg See TOXNET |
| Substance: | Dicalcium Phosphate Dihydrate |



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| Acute Oral Toxicity: | No data available | | |
| Acute Inhalation Toxicity: | No data available | | |
| Acute Dermal Toxicity: | No data available | | |
| Mutagenesis: | No data available | Target Organ | STOT SE 3 (Lungs, Inhalation) |
| Developmental Toxicity: | No data available | Carcinogenicity | The ingredients of this product are not classified as carcinogenic by NTP (National Toxicology Program), IARC, or OSHA |

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| SECTION 12 | ECOLOGICAL INFORMATION |
| Ecotoxicology: | May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen (primarily fresh and coastal water systems). At extremely high concentrations, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effects downstream. |

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| SECTION 13 | DISPOSAL CONSIDERATIONS |
| | Properly characterize all waste materials. Consult federal, state/provincial and local regulations regarding the proper disposal of this material. Prevent material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. |

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| SECTION 14 | TRANSPORT INFO |
| Regulatory Status: | Not regulated |
| Identification Number: | HTS 2835.26.0000 |
| Hazard Class: | Not applicable |
| Proper Shipping Name | Not applicable |
| Packing Group | Not applicable |
| DOT Emergency Response Guide Number: | Not applicable |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: | Not applicable |
| MARPOL Annex V: | Non-HME |
| IMO/IMDG: | Not applicable |

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| SECTION 15 | REGULATORY INFORMATION |
| FDA: | FDA Code of Federal Regulations (CFR) Title 21, Food Substances Generally Recognized as Safe, 582.1217 (Calcium Phosphate (mono-, di-, tribasic)) when used as an animal feed ingredient. |
| CERCLA: | Not listed |
| RCRA 261.33: | Not listed |



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| SARA TITLE III: (Exemptions at 40 CFR, Part 370 may apply for agricultural use, or for quantities of less than 10,000 pounds on-site.) | Section 302/304: Not listed | | RQ: No | | TPQ: No |
| | Section 311/312: | | | | |
| | Acute: Yes | Chronic: No | Fire: No | Pressure: No | Reactivity: No |
| | Section 313: Not listed | | | | |
| NTP, IARC, OSHA: | This material has not been identified as a carcinogen by NTP, IARC, or OSHA. | | | | |
| Canada DSL and NDSL: | DSL: Yes NDSL: Not listed This product is registered in Canada under the Feeds Act and is thus exempt from the New Substances Notification Requirements in the Canadian Environmental Protection Act (CEPA) per subsection 26(3). | | | | |
| TSCA: | Listed on the TSCA Inventory | | | | |
| CA Proposition 65: (Health & Safety Code Section 25249.5) |  WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov | | | | |
| WHMIS: | WHMIS 2015 This SDS has been prepared according to the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all of the information required by the HPR. | | | | |
| CBSA: | This product does not contain any bovine, ruminant or other animal by-products. | | | | |

| SECTION 16 | OTHER INFORMATION |
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| Disclaimer: | The information in this document is believed to be correct as of the date issued. HOWEVER, MOSAIC MAKES NO GUARANTEE, REPRESENTATION, OR WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO THE USE OF THIS PRODUCT. User is responsible for determining whether this product is fit for a particular purpose and suitable for user's method of use or application and assumes the risk of use thereof. The conditions and use of this product are beyond the control of Mosaic, and Mosaic disclaims any liability for loss or damage incurred in connection with the use or misuse of this product. Each user should review the recommended industrial hygiene and safe handling procedures in the specific context of the intended use and determine whether they are appropriate. |
| Preparation: | The preparation of this SDS was in accordance with ANSI Z400.1-2010. |
| Revision Date: | March 24, 2020 |
| Sections Revised: | 1 |
| SDS Number: | MOS 100068 |
| References: | Globally Harmonized System of Classification and Labelling of Chemicals (GHS) – 4th Edition 2011 OSHA Hazard Communication Standard, 2012 MARPOL Annex V; TOXNET |



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| Other Hazard Classifications: | NFPA HAZARD CLASS | | HMIS HAZARD CLASS | |
| | Health: | 2 | Health: | 2 |
| | Flammability: | 0 | Flammability: | 0 |
| | Instability: | 0 | Physical Hazard: | 0 |
| | Special Hazard: | None | PPE: | Section 8 |
| | WHMIS 2015 (HPR) HAZARD CLASS | | | |
| | Signal Word | Warning | | |
| | Symbol |  | | |
| | Classification | Skin Irritant Category 2 Eye Irritant Category 2B STOT SE Category 3 | | |
| | Hazard Statements | H315: Causes skin irritation H320: Causes eye irritation H335: May cause respiratory irritation | | |