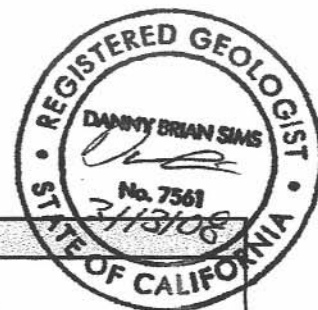


# MATERIAL SAFETY DATA SHEET

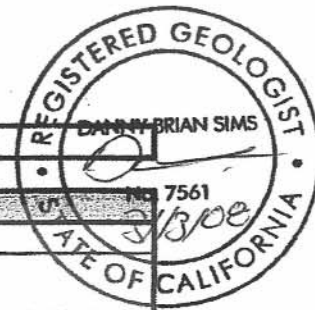


Section I. Chemical Product and Company Identification	
<b>Product Name/ Trade Name</b>	Archipelago Bat Guano Natural Organic Phosphate Fertilizer
<b>Synonyms</b>	Fossilized Bat Guano,
<b>Chemical Name</b>	Carbonate Apatite, Crandallite, Calcite (10 wt.%), Quartz (2 wt.%)
<b>Chemical Family</b>	Ore from fossilized bat guano containing predominately phosphorous and calcium hydroxides, with 10 wt.% calcium carbonate, 2 wt.% silica dioxide, and trace iron oxide
<b>Chemical Formula</b>	Carbonate Apatite - $\text{Ca}_5(\text{PO}_4, \text{CO}_3)_3(\text{OH})$ ; Crandallite - $\text{Ca}_2\text{Al}_2(\text{PO}_4)_3\text{OH}\cdot 3\text{H}_2\text{O}$ ; Calcite - $\text{CaCO}_3$ (10 wt.%); Quartz - $\text{SiO}_2$ (2 wt.%)
<b>Material Uses</b>	Used as natural phosphate fertilizer without alteration
<b>Manufacturer</b>	Archipelago Bat Guano, LLC. P.O. Box 64328 Tucson, Arizona 85728-4328 Telephone: (520) 292-9319

Section II. Hazardous Ingredients								
Name	CAS #	Exposure Limits (ACGIH)						% by Weight
		TLV - TWA mg/m <sup>3</sup>	TLV - TWA ppm	STEL mg/m <sup>3</sup>	STEL ppm	CEIL mg/m <sup>3</sup>	CEIL ppm	
Silica	14808-60-7	0.1						
<b>Toxicological Data on Ingredients:</b>				No adverse effects expected				

Section III. Hazards Identification	
<b>Potential Acute Health Effects</b>	Material contains fine grained particles. Dust may irritate eyes, nose, throat, and skin upon prolonged contact.
<b>Potential Chronic Health Effects</b>	Contains quartz. Prolonged or repeated overexposure without protective equipment may cause progressive and permanent respiratory disorder, including, but not limited to, silicosis.

Section IV. First Aid Measures	
<b>Eye Contact</b>	May cause irritation owing to abrasive nature of dust. Wash eyes with water to remove dust.
<b>Minor Skin Contact</b>	May cause dryness of skin. Wash with soap and water. Apply moisturizing cream if dryness occurs.
<b>Extensive Skin Contact</b>	No additional information
<b>Minor Inhalation</b>	Inhalation of dust may produce irritation of the respiratory tract, sneezing and coughing. Move to well-ventelated area and allow to rest. If symptoms continue, seek professional medical attention.
<b>Severe Inhalation</b>	No additional information
<b>Slight Ingestion</b>	Non toxic on ingestion. No specific treatment is required.
<b>Extensive Ingestion</b>	Contains less than 1% fluoride. Seek immediate professional medical attention for potential acute floridosis if ingestion approaches or exceeds 1 ounce of material per 10 pounds of body weight.



<b>Section V. Fire and Explosion Data</b>	
THE PRODUCT IS	Non-flammable.
AUTO-IGNITION TEMPERATURE	Not applicable.
FLASH POINT	Not applicable.
FLAMMABILITY LIMITS	Not applicable.
PRODUCTS OF COMBUSTION	Not applicable.
FIRE HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES	Not applicable.
EXPLOSION HAZARD IN THE PRESENCE OF VARIOUS SUBSTANCES	Not explosive.
FIRE FIGHTING MEDIA AND INSTRUCTIONS	Not Combustible.
SPECIAL REMARKS ON FIRE HAZARDS	No additional information.
SPECIAL REMARKS ON EXPLOSION HAZARDS	No additional information.

<b>Section VI. Accidental Release Measures</b>	
SMALL SPILL	Sweep and re-use if not contaminated. If contaminated, dispose of in accordance with Federal, State and Local regulations.
LARGE SPILL	No additional information.

<b>Section VII. Handling and Storage</b>	
PRECAUTIONS	If user generates dust, use ventilation to keep exposure levels below the stated TLV. Due to silica content of dust, respirators should be used that conform to OSHA 29 CFR 1910.134 requirements.
STORAGE	Prevent exposure to high temperatures and flames, and store in a dry clean area.

<b>Section VIII. Exposure Controls / Personal Protection</b>	
ENGINEERING CONTROLS	Use process enclosures or local exhaust ventilation to keep airborne levels below TLV.
PERSONAL PROTECTION	A filtering facepiece dust mask that meets OSHA 29 CFR 1910.134 requirements should be worn for respiratory protection. If conditions are dusty, long sleeved clothing, coveralls and tight duty gloves are recommended to protect the skin. If conditions are dusty, tight fitting goggles are required to protect the eyes from the abrasive dust.

<b>Section IX. Physical and Chemical Properties</b>					
PHYSICAL STATE	Solid Powder	BOILING POINT	N/A	TASTE	Not Available
		MELTING POINT	N/A	DISPERSION	Not dispersed in water.
COLOR	Light Yellowish Brown	VOLATILITY	N/A	WATER / OIL DISTRIBUTION	Not Applicable
		SOLUBILITY IN WATER	Insoluble		
ODOR	Earthy	SPECIFIC GRAVITY OF POWDER	1.76	VAPOR PRESSURE	Not Applicable
ODOR THRESHOLD	Not Applicable			VAPOR DENSITY	Not Applicable
pH	N/A	BULK DENSITY OF POWDER (lbs/ft <sup>3</sup> )	109.8		

**Section X. Stability and Reactivity**

STABILITY	The product is stable.
INSTABILITY TEMPERATURE	Not available.
CONDITIONS OF INSTABILITY	No additional information.
INCOMPATIBILITY (materials to avoid)	No additional information.
CORROSIVITY	Low hazard for typical handling.

**Section XI. Toxicological Information**

ROUTES OF EXPOSURE	Inhalation, Ingestion, Eyes, Skin
MEDICAL CONDITIONS AGGRAVATED	Exposure without protective breathing equipment may aggravate certain pre-existing upper respiratory disorders, such as bronchitis or asthma.
ACCUTE EFFECTS	
INHALATION	Temporary discomfort or mechanical irritation to upper respiratory tract, if protective breathing equipment is not used.
INGESTION	No adverse effects expected.
Eye	No adverse effects expected. High dust concentrations may cause mechanical irritation.
SKIN	No adverse effects expected.
CHRONIC EFFECTS	
INHALATION	Long term inhalation of product without protective breathing equipment may lead to the development of silicosis.
INGESTION	No adverse effects expected.
Eye	No adverse effects expected. High dust concentrations may cause mechanical irritation.
SKIN	No adverse effects expected.

**Section XII. Disposal Considerations**

WASTE DISPOSAL OR RECYCLING	Recover and place material in a suitable container for intended use or disposal. Consult Federal, State and Local regulations on the appropriate disposal of the product.
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**Section XIII. Other Information**

Other Special Considerations	This is a natural occurring substance. Other than mechanical grinding, this product has not been altered from its natural state.
<b>NOTICE TO READER</b>	<b><i>The buyer assumes all risk in connection with the use of this product. The buyer assumes all responsibility for ensuring that the product is used in a safe manner in compliance with applicable health and safety law; environmental laws; and policies and guidelines. Archipelago Bat Guano, LLC. assumes no responsibility or liability for the information supplied on this sheet, including any damages or injury caused thereby. No warranty expressed or implied is intended. The information contained in this sheet is developed from what Archipelago Bat Guano, LLC. believes to be accurate and reliable sources, and is based on the opinions and facts available on the date of preparation. The information is provided solely for your information and consideration.</i></b>