



Phosul - Safety Data Sheet


Section 1: Identification

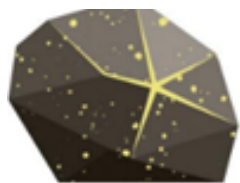
Product Name/ Identification	Phosul 0-8-0
Manufacturer	Phosul LLC
Address	453 Pro Peat Dr Sugar City ID 83448
Recommended Use	Agricultural / Horticulture Fertilizers
For other Information Call	208-372-7328
Prepared By	Phosul LLC
Email:	pat@phosul.com
Date	2024-12-09
Emergency phone number:	EPA National Response Center (800)424-8802

Section 1.1: Composition and Ingredients

Name	Product identifier	%	GHS-US classification
Fluorapatite	(CAS-No.) 1306-05-4	81.6	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
Sulfur	(CAS-No.) 7704-34-9	4.5	Comb. Dust Skin Irrit. 2, H315
Silica	(CAS-No.) 7631-86-9	7	Carc. 1A H350 STOT SE 3 H335 STOT RE 1 H372

Section 2: Hazards Identification

GHS Classification:	3
Signal Word:	Warning
	
Hazard Statements:	May cause respiratory irritation.
	<ul style="list-style-type: none"> • Avoid breathing dust. • Use only outdoors or in a well ventilated area.



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Precautionary Statements:	<ul style="list-style-type: none">• If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.• Call a Poison Control Center or physician if accidentally inhaled or ingested.• Dispose of contents in accordance with local, regional, national regulations.
Appearance:	This product is granular pellet, tan/light gray. (See also Section 9.)

Emergency Overview:

May cause skin or respiratory irritation based on prolonged or repeated overexposure to high concentrations. Irritation is believed to be mild to moderate and reversible.

This product is not expected to produce any unusual hazards during normal use. Exposure to high dust levels may irritate the skin, eyes, nose, throat, or upper respiratory tract. This product does not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding or machining which result in the generation of airborne particulate. This product contains quartz (crystalline silica) as a naturally occurring constituent.

Acute Effects of Exposure:

Inhalation: May cause minor to moderate irritation. Exposure to dust generated during the handling or use of the product may cause temporary irritation to eyes, skin, nose, throat, and upper respiratory tract. Persons subjected to large amounts of this dust will be forced to leave area because of nuisance conditions such as coughing, sneezing and nasal irritation. Labored breathing may occur after excessive inhalation. If respiratory symptoms persist, consult physician.

Ingestion: May cause irritation to the esophagus and stomach, abdominal spasms and pain. Contact Poison Control if swallowed.

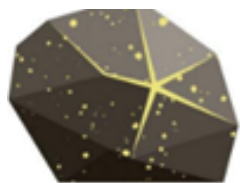
Skin Contact: May cause minor irritation.

Eye Contact: Dust can cause temporary mechanical irritation of eyes. If burning, redness, itching, pain or other symptoms persist or develop, consult physician. May cause minor irritation. Chronic Effects of Exposure:

Target organs: Eyes, skin and respiratory system.

Symptoms: Irritation of the eyes, skin, mucous membranes, upper respiratory system; cough, sneezing, rhinorrhea (discharge of thin nasal mucus).

Cancer: Product may contain crystalline silica as a normal environmental constituent. The amount present based on recent tests indicated less than the mandatory reporting level of 0.1% by weight. Exposures to respirable crystalline silica are not expected during the normal use of this product; however, actual levels can be determined by industrial hygiene exposure testing. Prolonged and repeated exposure



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to airborne free respirable crystalline silica can result in lung disease (i.e., silicosis) and/or lung cancer. The development of silicosis may increase the risks of additional health effects. The risk of developing silicosis is dependent upon the exposure intensity and duration. Note: Many soil types contain more than 0.1% crystalline silica. This product may add an insignificant level to the overall silica exposure.

Section 3: Physical Data

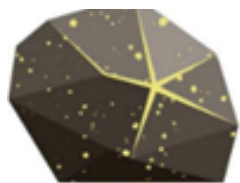
Boiling Point (°F)	N/A	Specific Gravity (H ₂ O=1)	1.6
Vapor Pressure (mm Hg)	N/A	Percent Volatile (vol %)	N/A
Vapor Density (Air=1)	N/A	Evaporation Rate	N/A
Solubility in Water	Not soluble in water		
Appearance and Odor	Brown to black granular with slight molasses odor		

Section 4: Health-Hazard Data

Inhalation:	Prolonged inhalation of respirable silica may cause scarring of the lungs with cough and shortness of breath. (silicosis) Remove to fresh air. If not breathing, give artificial respiration. If breathing difficulty or coughing persists, seek medical attention.
Ingestion:	May cause gastric irritation, nausea, vomiting, abdominal burning and cramp like pain. Chronic exposure to excessive levels of fluoride containing dusts may cause excessive calcification of the bone and ligaments of the ribs, pelvis and spinal column. Give large amounts of water. If symptoms are severe or persistent seek medical assistance.
Skin Contact:	Prolonged contact may be slightly irritating due to drying of the skin. Wash thoroughly with neutral soap and water. Seek medical attention if skin irritation persists or if skin rashes or dermatitis develop.
Eye Contact:	Dust may be irritating to eyes. If the material gets into the eye, flush the eye under running water for at least 15 minutes. If easy to do, remove contact lenses and continue to flush with water.

Potential Symptoms: Irritation of the eyes, skin, mucous membranes, upper respiratory system, cough, sneezing, rhinorrhea (discharge of thin nasal mucous), nosebleed.

Acute Ingestion: GI blockage if material hardens.



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Section 5: Fire and Explosion Hazard

Flash Point (°F)	None	
Flammability Limits (vol %)	LEL: N/A	UEL: N/A
Extinguisher Media	As needed for material causing the fire	
Special Fire Fighting Procedures	As needed for material causing the fire	
Explosion Hazards	None	

Section 6: Accidental Medical Release Measures

Personal precautions:	Avoid breathing dust. Stand upwind when loading/unloading and broadcasting.
Protective equipment:	Use personal protective equipment as recommended in Section 8. (dust mask/particulate filter)
Emergency procedures:	Contain spill area and protect from pedestrian or vehicle traffic.
Methods and materials for containment and cleaning up:	Avoid generating dust. Shovel or sweep up spilled material and place in suitable container. Dispose in accordance with federal, state/provincial and local requirements.

Section 7: Handling and Storage

Precautions for safe handling:

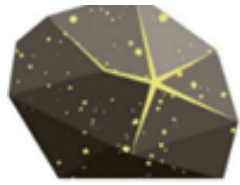
- Keep container closed when not in use.
- Store in dry place.
- Minimize dust generation and accumulation.

Section 8: Exposure Controls and Personal Protection

Chemical Name	Weight%	ACGIH TLV (mg/m ³)
Fluorapatite – Ca ₁₀ F ₂ (PO ₄) ₆	75-80	2.5 mg/m ³ (F)
Quartz –SiO ₂	6-8	0.1 mg/m ³

Notes :

1. "OSHA" means Occupational Safety and Health Administration.
2. "PEL" means (OSHA) permissible exposure limit.



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3. "ACGIH" means American Conference of Governmental Industrial Hygienists.

4. "TLV" means Threshold Limit Value.

5. "TWA" means time-weighted average.

Appropriate engineering controls

No specific controls needed. Ventilate to keep airborne concentrations below exposure limits. Use of an enclosed tractor cab with particulate air filtration can reduce the risk of inhaling dusts and soils during application.

Personal Protection Equipment (PPE)

Skin Protection: Direct skin contact should be avoided by wearing long sleeved shirts and long trousers and gloves (leather or equivalent). Disposable particulate coveralls may be used when conditions warrant.

Eye Protection: Safety spectacles or goggles.

Respiratory Protection: Occupational Safety and Health Administration (OSHA) Regulations (29 CFR 1910.134 - Respiratory Protection) must be followed whenever work conditions require a respirator. A

National Institute for Occupational Safety and Health (NIOSH) approved particulate respirator is recommended when engineering controls are not feasible, or while engineering controls are being instituted, and if an OSHA PEL or ACGIH TLV is exceeded.

Personal Hygiene: Work clothing should be washed regularly. Wash hands before eating, drinking, or using tobacco products. Wash exposed skin with soap and water.

- Use only with adequate ventilation/personal protection.



Section 9: Physical and Chemical Properties

Property	Value	Property	Value
Appearance (physical state, color, etc.):	Granular; light gray	Upper/lower flammability or explosive limits:	Not Applicable
Odor:	None	Vapor Pressure:	Not Applicable
Odor Threshold	Not Applicable	Vapor Density:	Not Applicable
pH:	≤ 9 but may be as low as 4 in sodium.	Specific gravity or relative density:	2.19 g/cc
Melting point/freezing point:	NA	Solubility(ies):	Soluble in water
Initial boiling point and range:	Not Applicable	Partition coefficient: n- octane/water:	Not Applicable
Flash point:	Not Applicable	Auto ignition temperature:	Not Applicable
Evaporation rate:	Not Applicable	Decomposition Temperature:	1450°C
Flammability (solid, gas):	Not Applicable	Viscosity:	Not Applicable
Physical State:	Solid	Corrosivity towards steel:	0.56 millimeters per year

Section 10: Stability and Reactivity

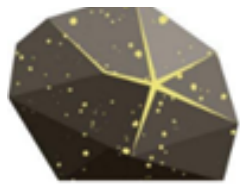
Stability	Stable
Conditions to Avoid	None
Incompatibility (materials to avoid) Strong Acids	
Hazardous Decomposition Products Silicon Tetrafluoride, Hydrogen Fluoride and Hydrogen Sulfide	
Hazardous Polymerization	Will Not Occur
Conditions to Avoid	None

Section 11: Toxicological Information

Note: No specific data are available for the product, so this information pertains to calcium sulfate dihydrate.

Human Data (Calcium Sulfate Dihydrate)

Likely routes of exposure: inhalation, ingestion, skin and eye contact.



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Symptoms: Irritation of the eyes, skin, mucous membrane, upper respiratory system; cough, sneezing, rhinorrhea (discharge of thin nasal mucus), nosebleed.

Acute ingestion: Irritation to the esophagus and stomach, abdominal spasms and pain. GI blockage if material hardens.

Health Effects: Nuisance particulate (accumulation in lungs).

Delayed and immediate effects: None known.

Chronic effects from short and long-term exposure: None known.

Animal Data (Calcium Sulfate Dihydrate)

Acute Oral Toxicity

Species: Rat (Sprague-Dawley)

Route of Administration: Oral (gavage)

Method: OECD Test Guideline 420 (Acute Oral Toxicity-Fixed dose procedure)

2,000 mg/kg body weight of test substance was administered to 4 female rats during main study (50, 300 and 2,000 mg/kg body weight administered during sighting study).

No mortality, no specific clinical signs observed during test period.

LD50 (Lethal Dose): > 2,000 mg/kg body weight (category 5 under Harmonized Integrated Classification System for Human Health and Environmental Hazards of Chemical Substances and Mixtures).

Skin Irritation

Species: Rabbit (New

Zealand White) Test

Type: In vivo

Method: OECD TG 404 (1991) "Acute Dermal

Irritation/Corrosion" Exposure Period: 4 hours

500 mg/site/rabbit

No erythema, no eschar and no oedema (score of zero under OECD method: grading of skin reaction) was observed at the skin on the backs of three rabbits during test period.

Result: Not irritating

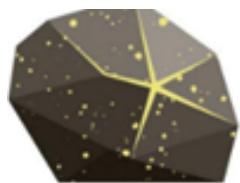
Skin Sensitization

Species: Guinea

pig (Hartley)

Test Type:

Buehler test



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Method: OECD TG 406 (1991) “Skin Sensitization” Exposure Period:

hours/week for 3 consecutive weeks

0.4 grams/site/guinea pig was applied topically with an occluded patch to the backs of 40 male guinea

pigs. After 6 hours, the material was removed and the skin was examined using the sensitization grading system.

Result: Not sensitizing

No acute inhalation toxicity, acute dermal toxicity, acute toxicity (other routes of administration), corrosiveness/irritation, or eye irritation corrosion studies are available.

Studies of Mutagenicity and Reproduction/Developmental Toxicity Screening Tests were negative.

Carcinogenicity

None of the components are listed as a carcinogen or suspected carcinogen in the U.S. National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions), or by OSHA. Note: This product may contain small quantities of crystalline silica (<0.1%), which has been identified as a carcinogen by the IARC and U.S. NTP.

Section 12: Ecological Information

Ecotoxicity (Calcium Sulfate, Dihydrate) Algae

Method: OECD TG 201, “Alga, Growth Inhibition Test” Test Species: *Selenastrum capricornutum*

Exposure

Period: 72

hours

Endpoint:

Growth Rate

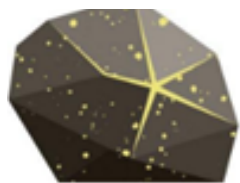
EgC50 (Effective growth concentration):

> 100 mg/L EbC50(Effective biomass concentration) : > 100 mg/L

NOECr (No Observed Effect Concentration – Reproduction):

< 100 mg/L NOECb (No Observed Effect Concentration - Biomass): < 100 mg/L

No significant difference in growth curve between test and control group.



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Fish

Method: OECD TG 203 “Fish, Acute

Toxicity Test” Test Species: *Oryzias*

latipes

Type: Static

Exposure Period: 96 hours

LC50(Lethal Concentration): >100 mg/L

No mortality or visible abnormality occurred at the test limit of 100 mg/L.

Invertebrates

Method: OECD TG 202, “Daphnia sp., Acute Immobilisation Test and

Reproduction Test” Test Species: *Daphnia magna*

Type: Static

Exposure Period: 48 hours

EC50 (Effective Concentration) : >100 mg/L

No immobilization or mortality occurred at the test limit of 100 mg/L.

Persistence and degradability

Not relevant for an inorganic compound.

Bioaccumulative potential

Bioaccumulation is not expected.

Mobility in soil

Soluble in water and mobile in soil.

Data regarding terrestrial organisms or other environmental effects were not identified.

Section 13: Disposal Considerations

See Sections 7 and 8 above for safe handling and use, including appropriate hygienic practices.

Recover or recycle if possible. Disposal should be in accordance with applicable local, regional, and national laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.



Section 14: Transport Considerations

UN number: Not classified as a hazardous material by USDOT regulations. UN proper shipping name: Not applicable.

Transport hazard class(es): Not applicable. Packing group, if applicable: Not applicable.

Section 15: Regulatory Information

Regulatory information: United States. None of the contained ingredients are listed on the California Prop 65 hazardous materials list or are known to cause cancer or birth defects.

Section 16: Other Information

Date of Preparation Jan 9, 2024.

Sources:

- American Conference of Governmental Industrial Hygienists, 2012. TLVs and BEIs Based on The Documentation of The Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, Cincinnati, Ohio.
- American National Standard for Hazardous Workplace Chemicals, ANSI Z400.1/Z129.1- 2010, 2010.Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation.
- International Agency for Research on Cancer (IARC), 2012. Monographs on the Evaluation of Carcinogenic Risks to Humans. Agents Classified by the IARC Monographs, Volumes 1-106. Updated November 7, 2012. Online version retrieved from <http://monographs.iarc.fr/ENG/Classification/index.php>, March 2013.
- National Toxicology Program (NTP), 2011, Report on Carcinogens, Twelfth Edition; U.S. Department of Health and Human Services, Public Health Service. Online version retrieved from <http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf>, March 2013.
- NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control Prevention. National Institute for Occupational Safety and Health. Online version retrieved from <http://www.cdc.gov/niosh/npg>, March 2013.
- Occupational Safety & Health Administration (OSHA), 2012. Hazard Communication Standard (HCS). 1910.1200. Online version retrieved from http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10099, accessed March 2013.
- Organization for Economic Cooperation and Development (OECD), 2003. Screening



Information Data Set (SIDS) Initial Assessment Report. Calcium Sulfate, Dihydrate. Online version retrieved from <http://www.chem.unep.ch/irptc/sids/OECDSEIDS/10101414.pdf>, accessed March 2013.

- United Nations Economic Commission for Europe (UNECE), 2011. Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Fourth Revised Edition. Online version retrieved from http://www.unece.org/trans/danger/publi/ghs/ghs_rev04/04files_e.html, accessed March 2013.

DISCLAIMER

The information contained herein is intended as a guide to the handling of the material and it has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling by the end user may result in additional exposure considerations that cannot be foreseen by the manufacturer. The information contained herein is derived from sources we believe to be reliable. No warranty of any kind is given or implied and the manufacturer will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.