

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : PhoSZ 12-39-0-6s-.5zn
Product type : Dry Fertilizer

1.2. Recommended use and restrictions on use

Recommended use : Agricultural Application

1.3. Supplier

Manufacturer

MacroSource LLC
5 Skidaway Village Walk
Savannah, GA 31411 - USA
T 1-912-598-8392
sds@macrosource.com - www.macrosource.com

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Monoammonium phosphate	CAS-No.: 7722-76-1	61 – 67
Diammonium sulfate	CAS-No.: 7783-20-2	23 – 28

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Name	Product identifier	%
Calcium sulfate dihydrate	CAS-No.: 10101-41-4	0.9 – 2.2
Zinc oxide (ZnO)	CAS-No.: 1314-13-2	0.5 – 0.8
Aqueous solution	Trade Secret	0.3 – 0.4

Comments : This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from the supplier.
All concentrations are in percent weight.

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If skin irritation occurs: Wash skin with plenty of water. Obtain medical attention if irritation persists.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause skin irritation. Repeated exposure may cause skin dryness or cracking.

Symptoms/effects after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/effects after ingestion : May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Symptoms may be delayed. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : Do not use water jet.

5.2. Specific hazards arising from the chemical

Fire hazard : Products of combustion may include, and are not limited to: oxides of carbon. Nitrogen oxides. Sulfur oxides. Ammonia.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Do not allow run-off from fire fighting to enter drains or water courses.

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain spill, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE). Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE). Minimize generation of dust.

Methods for cleaning up : Sweep or shovel spills into appropriate container for disposal. Provide ventilation. Avoid generating dust.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Avoid generating and breathing dust. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Protect from moisture. Do not store in unlabelled containers. Containers which are opened should be properly resealed and kept upright to prevent leakage. Store tightly closed in a dry, cool and well-ventilated place. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Monoammonium phosphate (7722-76-1)

No additional information available

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Diammonium sulfate (7783-20-2)	
No additional information available	
Aqueous solution (Trade Secret)	
No additional information available	
Zinc oxide (ZnO) (1314-13-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Zinc oxide
ACGIH OEL TWA	2 mg/m ³ (respirable particulate matter)
ACGIH OEL STEL	10 mg/m ³ (respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Metal fume fever
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Zinc oxide
OSHA PEL (TWA) [1]	5 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH	500 mg/m ³
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	5 mg/m ³ (dust and fume)
NIOSH REL (STEL)	10 mg/m ³ (fume)
NIOSH REL (Ceiling)	15 mg/m ³ (dust)
Calcium sulfate dihydrate (10101-41-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 mg/m ³ (inhalable particulate matter (Calcium sulfate))

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
Wear suitable gloves
Eye protection:
Safety glasses or goggles are recommended when using product.
Skin and body protection:
Wear suitable protective clothing

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Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: No data available
Color	: Light green
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Moisture. Incompatible materials. Avoid dust formation.

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10.5. Incompatible materials

Oxidizing agents. Alkalis. Acids. Halogens. Hydrogen peroxide. Chlorinated hydrocarbons. Fluorine. Nitric acid. Sulfuric acid.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Monoammonium phosphate (7722-76-1)

LD50 oral rat	5750 mg/kg
LD50 dermal rat	> 5000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 7940 mg/kg
LC50 inhalation rat	> 5 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity), Guideline: other:Japanese Ministry of Agriculture, Forestry and Fisheries (JMAFF), 12 Nousan, Notification No 8147, November 2000, including the most recent partial revisions.

Diammonium sulfate (7783-20-2)

LD50 oral rat	2840 mg/kg
LD50 dermal rat	> 2000 mg/kg

Zinc oxide (ZnO) (1314-13-2)

LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg body weight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Diammonium sulfate (7783-20-2)

NOAEL (chronic,oral,animal/male,2 years)	256 mg/kg body weight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information)
NOAEL (chronic,oral,animal/female,2 years)	284 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies), Remarks on results: other:Effect type: toxicity (migrated information)

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified

Zinc oxide (ZnO) (1314-13-2)

LOAEL (dermal, rat/rabbit, 90 days)	75 mg/kg body weight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
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Zinc oxide (ZnO) (1314-13-2)	
NOAEL (oral,rat,90 days)	31.52 mg/kg body weight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard	: Not classified
Viscosity, kinematic	: Not applicable
Symptoms/effects after inhalation	: May cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause skin irritation. Repeated exposure may cause skin dryness or cracking.
Symptoms/effects after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/effects after ingestion	: May be harmful if swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

Monoammonium phosphate (7722-76-1)	
LC50 - Fish [1]	> 85.9 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

Diammonium sulfate (7783-20-2)	
LC50 - Fish [1]	250 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 - Crustacea [1]	14 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 - Fish [2]	480 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [flow-through])
EC50 - Crustacea [2]	169 mg/l Test organisms (species): Daphnia magna

Zinc oxide (ZnO) (1314-13-2)	
LC50 - Fish [1]	1.55 mg/l (Exposure time: 96 h - Species: Danio rerio [static])

12.2. Persistence and degradability

PhoSZ 12-39-0-6s-.5zn	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

PhoSZ 12-39-0-6s-.5zn	
Bioaccumulative potential	Not established.

Monoammonium phosphate (7722-76-1)	
BCF - Fish [1]	(no bioaccumulation expected)

Diammonium sulfate (7783-20-2)	
Partition coefficient n-octanol/water	-5.1 (at 25 °C)

12.4. Mobility in soil

No additional information available

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according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

12.5. Other adverse effects

Other information : No other effects known.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Recycle empty containers where allowed.

SECTION 14: Transport information

In accordance with DOT

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

Special transport precautions : Do not handle until all safety precautions have been read and understood.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Monoammonium phosphate (7722-76-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Diammonium sulfate (7783-20-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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1,4-Dioxane (123-91-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb

Acetaldehyde (75-07-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	1000 lb

Zinc oxide (ZnO) (1314-13-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

Ethylene oxide (75-21-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	10 lb
Section 302 EPCRA Reportable Quantity (RQ)	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb

Calcium sulfate dihydrate (10101-41-4)*	
Excluded on the United States TSCA (Toxic Substances Control Act) inventory	
*The anhydrous form of the mixture (Calcium sulfate (7778-18-9) and Water (7732-18-5)) is Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

No additional information available

15.3. US State regulations

⚠ WARNING: This product can expose you to chemicals including 1,4-Dioxane, Acetaldehyde, and Ethylene oxide, which are known to the State of California to cause cancer, and Ethylene oxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

Issue date : 06/25/2021
Revision date : 07/16/2021
Other information : None.
Prepared by : Nexreg Compliance Inc.
www.Nexreg.com



NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

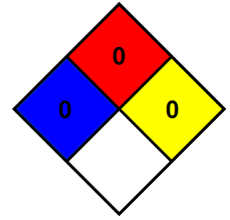
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NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Safety Data Sheet (SDS), USA

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