

SAFETY DATA SHEET

TersOx™ Nutrients Sodium Phosphate



Creation Date: 6/7/2023
Revision Date: 6/7/2023
Version 1.0
SDS # 16D

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name: TersOx™ Nutrients Sodium Phosphate

Synonyms: Monosodium phosphate, Anhydrous Food Grade and Monosodium phosphate, Anhydrous Tech Grade

1.2 Recommended use of the chemical and restrictions on use

Recommended Use: Remediation of contaminated groundwater and soils.
Restrictions on Use: Use as recommended by the label

1.3 Details of the supplier and of the safety data sheet

Supplier: Tersus Environmental, LLC
1116 Colonial Club Rd
Wake Forest, NC 27587
Phone: +1-919-453-5577
Email: info@tersusenv.com

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:

+1-919-453-5577 (Tersus Office Hours, 8:00 AM to 5:00 PM Eastern)
+1-800-424-9300 (Chemtrec USA 24 Hour Service – Emergency Only)

2. HAZARD IDENTIFICATION

2.1 Relevant identified uses of the substance or mixture

EMERGENCY OVERVIEW: This product is a white powder with no odor.

Health Hazards: None anticipated.

Flammability Hazards: This product is not flammable.

Reactivity Hazards: None.

Environmental Hazards: This product is not expected to have adverse effects to the aquatic environment.

2.2 GHS Label element, including precautionary statements

This product meets the definition of a hazardous substance or preparation as defined by 29 CFR 1910.1200 and regulation EC 1272/2008 (CLP) and 1907/2006 (REACH)

Index Number:

EC# 231-449-2 is not listed in Annex VI

Substance is not listed either individually or in group entries must be self-classified.

Component(s) Contributing to Classification(s)

None applicable

2.3 Label Elements**GHS Hazard Symbol(s)**

None

Signal Word: None

GHS Hazard Classification(s)

None

Hazard Statement(s)

None

Prevention Statement(s)

None

Response Statement(s)

None

Storage Statement(s)

None

Disposal Statement(s)

None

2.4 Hazards not otherwise classified (HNOC) or not covered by GHS

None

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Chemical Formula**

Substance

| | |
|------------------|-----------------------------------|
| Synonyms | Sodium Phosphate |
| Formula | H ₂ NaO ₄ P |
| Molecular weight | 119.98 g/mol |
| CAS-no. | 7558-80-7 |
| EC-No. | 231-449-2 |

3.2 Hazardous components

| Chemical Name | Concentration (%) | CAS Number | EINICS Number |
|----------------------|-------------------|------------|---------------|
| Monosodium phosphate | ≤100 | 7558-80-7 | 231-449-2 |

For the full text of the H-Statements mentioned in this Section, see Section 16.

Synonyms are provided in Section 1.

Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

Eye Contact

If product enters the eyes, open eyes while under gentle running water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention.

Skin Contact

Wash skin thoroughly after handling. Seek medical attention if irritation develops and persists. Remove contaminated clothing. Launder before re-use.

Inhalation

If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

Ingestion

If large quantities of this product are swallowed, call physician or poison control center for most current information. If professional advice is not available, do not induce vomiting. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

Medical Condition Aggravated by Exposure

Pre-existing skin, respiratory system or eye problems may be aggravated by prolonged contact.

4.2 Symptoms and effects, Both Acute and Delayed

Exposure to skin and eyes may cause mechanical irritation.

4.3 Recommendation to Physicians

Treat symptoms and eliminate overexposure.

5. FIRE-FIGHTING MEASURES

5.1 Suitable Extinguishing Media

Use water spray, foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media

No data available

5.2 Specific Hazards Arising from the Chemical or Mixture

Oxides of phosphorus, Sodium oxides, Combustible. Development of hazardous combustion gases or vapors possible in the event of fire.

5.3 Special Fire Fighting Procedures

Wear full protective firefighting clothing including NIOSH approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products.

5.4 Further Information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental Precautions

Do not let product enter drains.

6.3 Methods for Containment and Clean Up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Sweep up spilled material and collect for reuse or disposal. Dispose of material in accordance with local, state, province, and federal regulations. DO NOT flush material with water.

6.4 Reference to other sections

For disposal, refer to section 13.

7. HANDLING AND STORAGE**7.1 Precautions for Safe Handling**

See section 2.2. Avoid creating dust. Adequately ventilate when handling this product. Provide eyewash capability. Avoid contact with eyes. Avoid inhalation of vapors and spray/mist. Remove contaminated clothing immediately. Clean contaminated objects and areas thoroughly observing environmental regulations. Keep away from sources of ignition – No smoking. Handle in accordance with good industrial hygiene and safety procedures. Discharge into the environment must be avoided. Keep container tightly closed. Either local exhaust or general room ventilation is usually required. Do not eat, drink, take medication or smoke when direct contact is possible. Always thoroughly wash hands after leaving a work area where contact is possible or has occurred.

7.2 Hygiene Measures

Handle in accordance with good industrial hygiene and safety procedures. Use good personal hygiene practices.

7.3 Conditions for Safe Storage and Incompatibilities

Tightly Closed. Dry.

Storage class: (TRGS 510): 13: Non-Combustible Solids.

7.4 Specific End Use

Apart from the uses mentioned in section 1.2, no other specific uses are stipulated.

8. EXPOSURE CONTROL / PERSONAL PROTECTION**8.1 Control Parameters**

Exposure guidelines, ingredients with workplace control parameters.

| Name | CAS No | ACGH TLV | OSHA TWA | EH40- TWA |
|-----------------------------------|-----------|------------|--|------------|
| sodium salt (1:1) phosphoric acid | 7558-80-7 | Not listed | Not listed *5 mg/m ³ (particulates) **15 gm/m ³ (total dust) | Not listed |

8.2 Exposure Control

Appropriate Engineering Controls

Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above. The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132) or equivalent standard of Canada, or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

Face Protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Respiratory Protection

Not required for properly ventilated areas. Maintain airborne contaminant concentrations below guidelines listed above, if applicable. If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

Hand Protection

Gloves that are made up of either: neoprene, vinyl, or rubber / butyl rubber should always be worn even when skin contact isn't highly possible. These gloves should also be chemical-resistant, and impervious gloves that comply with any approved standard. PVC gloves should be worn specifically if a risk assessment indicates skin contact is highly possible.

Skin Protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full Contact:

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741 Dermatril® L

Body Protection

Protective Clothing

Hygiene Measures

Wash promptly if skin becomes contaminated. Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| a) Appearance | Form: solid Color: White |
| b) Odor | No odor |
| c) Odor threshold | Does Not Apply |
| d) pH | 4.0-4.5 at 50 g/l at 25 °C (77 °F) |
| e) Melting point / Freezing Point | Melting point/range: >450 °C (842 °F) |
| f) Initial Boiling point and boiling point range | No data available |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid; gas) | Not Flammable |
| j) Upper / lower flammability or explosive limits | No data available |
| k) Vapor pressure | No data available |
| l) Vapor density | No data available |
| m) Density | No data available |
| Relative density (bulk density) | 2.3620°C |
| n) Water solubility | ~48% Soluble; 50.1 g/L at 20 °C (68°F) |
| o) Partition coefficient: n-octanol/water | Not applicable for inorganic substances |
| p) Auto-ignition temperature | Information not available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive Properties | No data available |
| t) Oxidizing Properties | No data available |

9.2 Other safety information

Dissociation constant 6.75 at 20.3 °C (68.5 °F) - OECD Test Guideline 112

10. STABILITY AND REACTIVITY**10.1 Reactivity**

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2 Chemical stability

Product is chemically stable under normal ambient temperature and conditions while stored or used.

10.3 Possibility of hazardous reactions

Will not occur

Risk of ignition or formation of inflammable gases or vapors with**Violent reactions possible with****10.4 Conditions to Avoid**

Dusting conditions. Moisture

10.5 Incompatible Materials

No data available

10.6 Hazardous Decomposition Products

Oxides of phosphorous, Oxides of Sodium. In the event of fire: see section 5.

11. TOXICOLOGICAL INFORMATION**11.1 Acute Toxicity**

Oral LD50 Rat male and female: >2,500 mg/kg
(OECD Test Guideline 420)

LC50 inhalation – Rat – male and female – 4 hours - > 0.83 mg/L dust/mist

(OECD test guideline 403)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: sodium dihydrogen phosphate

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

HEALTH EFFECTS**Skin Contact**

Irritating to skin

Remarks: (ECHA)

Eye Contact - Acute Exposure

Eyes - Rabbit

Result: Causes serious eye irritation

Remarks: (ECHA)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 490

Result: negative

Test Type: Micronucleus test

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 487

Result: negative

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

RTECS: WA1900000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

| | |
|--|---|
| Toxicity to fish | semi-static test LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - > 100 mg/l - 96 h (OECD Test Guideline 203) |
| Toxicity to daphnia and other aquatic invertebrates | Static test EC50 - <i>Ceriodaphnia</i> (water flea) - 100 mg/l - 48 h (US-EPA) |
| Toxicity to algae | static test ErC50 - <i>Chlorella vulgaris</i> (Fresh water algae) - 100 mg/l - 72 h (OECD Test Guideline 201) |

Toxicity to Bacteria static test EC50 - activated sludge - 1,000 mg/l – 3 hours (OECD Test Guideline 209)
 Remarks: (in analogy to similar products)
 The value is given in analogy to the following substances:
 dipotassium hydrogen phosphate

12.2 Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available

Other adverse effects

Depending on the concentration, phosphates may contribute to the eutrophication of water supplies. Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Disposal Methods Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

RCRA Hazardous Waste Not listed.

Neutralization No neutralization required.

14. TRANSPORTATION INFORMATION

14.1 UN Number Mixture not classified as Hazardous according to Regulation (EC) 1272/2008.

14.2 UN Proper Shipping Name N/A

14.3 Transport Hazard Class N/A

| | |
|---|--|
| <u>14.4 Packing Group (if applicable)</u> | N/A |
| <u>14.5 Environmental Hazards</u> | N/A |
| <u>14.6 Special Precautions for User</u> | N/A |
| <u>14.7 Transport in Bulk According to Annex II of the MARPOL 73/78 and the IBC Code</u> | N/A |
| <u>14.8 DOT Proper Shipping Name</u> | Chemicals not otherwise indexed (NOI) non-hazardous. |

15. REGULATORY INFORMATION

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ

SARA 313 Toxic Chemical Listing

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Categories:

Acute health hazard

Massachusetts Right To Know Components

Sodium Dihydrogen Phosphate Cas-no. 7558-80-7 Revision date: 2007/03/21

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Sodium Dihydrogen Phosphate Cas-no. 7558-80-7 Revision date: 2007/03/21

16. OTHER INFORMATION

Disclaimer: The information contained in this Safety Data Sheet (SDS), as of the issue date, is believed to be true and correct. However, the accuracy or completeness of this information and any recommendations or suggestions are made without warranty, express or implied, or guarantee. Tersus Environmental, LLC urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. Since we cannot control the application, use or processing of the product, we do not accept responsibility. Therefore, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product and ensure that the intended use of the product will not infringe any party's intellectual property right. The information presented here pertains only to the product as shipped.

All recommendations for the use of our products, whether given by us, orally or to be implied from data or lab tests results by us, are based on the current state of our knowledge at the time those recommendations are made. When additional information is obtained, these recommendations may be updated. They may also be influenced by circumstances outside our control. Notwithstanding such recommendation the user is responsible for ensuring that the product supplied by us is suitable for the process or purpose he/she intends to use it.

Due to the proliferation of sources for information such as manufacturer specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.



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End of Safety Data Sheet