SAFETY DATA SHEET
Trisodium Phosphate Dodecahydrate

1. Identification

Product identifier
Product name Trisodium Phosphate Dodecahydrate
Synonyms; trade names TSP, trisodium orthophosphate, tertiary sodium phosphate, trisodium phosphate
CAS number 10101-89-0

Recommended use of the chemical and restrictions on use
Application Food Additive. Industrial use.
Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet
Supplier Wego Chemical Group LP
239 Great Neck Road
Great Neck NY 11021
+1 (516) 487 3510
Contact Person regulatory@wegochem.com

Emergency telephone number
Emergency telephone (ChemTel) +1-800 255-3924; INTL +1- 813 248-0585

2. Hazard(s) identification

Classification of the substance or mixture
OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.
Physical hazards Not Classified
Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 STOT SE 3 - H335
Environmental hazards Not Classified

Label elements
Hazard symbols
Signal word Warning
Trisodium Phosphate Dodecahydrate

Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements
P261 Avoid breathing dust.
P264 Wash contaminated skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 If on skin: Wash with plenty of water.
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a poison center/ doctor if you feel unwell.
P321 Specific treatment (see medical advice on this label).
P332+P313 If skin irritation occurs: Get medical advice/ attention.
P337+P313 If eye irritation persists: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container in accordance with national regulations.

Other hazards
This substance is not classified as PBT or vPvB according to current EU criteria.

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substances</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product name</strong></td>
<td>Trisodium Phosphate Dodecahydrate</td>
</tr>
<tr>
<td><strong>CAS number</strong></td>
<td>10101-89-0</td>
</tr>
<tr>
<td><strong>Chemical formula</strong></td>
<td>Na3PO4•12H2O</td>
</tr>
</tbody>
</table>

4. First-aid measures

Description of first aid measures

General information
Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.

Inhalation
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
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Ingestion

Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Give a few small glasses of water or milk to drink. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin Contact

Brush off loose particles from skin. Rinse with water.

Eye contact

Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.

Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

General information

See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation

A single exposure may cause the following adverse effects: Irritation of nose, throat and airway. Difficulty in breathing. Coughing.

Ingestion

May cause irritation.

Skin contact

Redness. Irritating to skin.

Eye contact

Irritating to eyes.

Indication of immediate medical attention and special treatment needed

Notes for the doctor

Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture
Trisodium Phosphate Dodecahydrate

Specific hazards

None known.

Hazardous combustion products

Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

Advice for firefighters

Avoid breathing fire gases or vapors. Evacuate area. Keep upwind to avoid inhalation of gases, vapors, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter’s clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Avoid inhalation of dust. Use suitable respiratory protection if ventilation is inadequate.

Environmental precautions

Stop leak if safe to do so. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

Methods and material for containment and cleaning up
Methods for cleaning up

Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Avoid generation and spreading of dust. Small Spillages: Remove spillage with vacuum cleaner or collect with a shovel and broom, or similar. Large Spillages: Collect spillage with a shovel and broom, or similar and reuse, if possible. Collect and place in suitable waste disposal containers and seal securely. Containers with collected spillage must be properly labeled with correct contents and hazard symbol. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Reference to other sections

For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Keep container tightly sealed when not in use. Avoid handling which leads to dust formation. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

Conditions for safe storage, including any incompatibilities

Storage precautions
Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Utilize retaining walls to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

Storage class
Chemical storage.

Specific end uses(s)
The identified uses for this product are detailed in Section 1.

8. Exposure controls/Personal protection

Control parameters
Trisodium Phosphate Dodecahydrate

Occupational exposure limits
Long-term exposure limit (8-hour TWA): OSHA 5 mg/m³
OSHA = Occupational Safety and Health Administration.

Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimize worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimize exposure.

Eye/face protection
Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with OSHA 1910.133. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection
Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with OSHA 1910.138 and be demonstrated to be impervious to the chemical and resist degradation. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection
Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
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Hygiene measures
Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m³. Wear a suitable dust mask. Ensure all respiratory protective equipment is suitable for its intended use and is NIOSH approved. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.

Environmental exposure controls
Keep container tightly sealed when not in use.

9. Physical and chemical properties
Information on basic physical and chemical properties

Appearance
Crystals. or Granules. or Powder.

Color
White/off-white.

Odor
Odorless.

Odor threshold
No information available.

pH
~ 12

Melting point
73.3 - 76.7°C/163.9 - 170.1°F

Initial boiling point and range
Not applicable.

Flash point
Not applicable.

Evaporation rate
No information available.

Flammability (solid, gas)
No information available.

Upper/lower flammability or explosive limits
No information available.

Vapor pressure
No information available.

Vapor density
No information available.
Trisodium Phosphate Dodecahydrate

Relative density 1.62
Solubility(ies) Soluble in water.
Partition coefficient No information available.
Auto-ignition temperature No information available.
Decomposition Temperature No information available.
Viscosity Not applicable.
Other information None.
Molecular weight 380.12 g/mol

10. Stability and reactivity

Reactivity See the other subsections of this section for further details.
Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Possibility of hazardous reactions No potentially hazardous reactions known.
Conditions to avoid There are no known conditions that are likely to result in a hazardous situation.
Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.
Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. Toxicological information

Information on toxicological effects
Acute toxicity - oral
Summary Based on available data the classification criteria are not met.

Acute toxicity - dermal
Summary Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Summary Based on available data the classification criteria are not met.

Skin corrosion/irritation
Trisodium Phosphate Dodecahydrate

Summary
Causes skin irritation.

Serious eye damage/irritation
Summary
Causes serious eye irritation.

Respiratory sensitization
Summary
Based on available data the classification criteria are not met.

Skin sensitization
Summary
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Summary
Based on available data the classification criteria are not met.

Carcinogenicity
Summary
Based on available data the classification criteria are not met.

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
Summary
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure
Summary
May cause respiratory irritation.

Target organs
Respiratory system, lungs

Specific target organ toxicity - repeated exposure
Summary
Based on available data the classification criteria are not met.

Aspiration hazard
Summary
Not relevant. Solid.

General information
Dust may irritate the eyes and the respiratory system. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
A single exposure may cause the following adverse effects: Irritation of nose, throat and airway. Difficulty in breathing. Coughing.

Ingestion
May cause irritation.

Skin Contact
Redness. Irritating to skin.

Eye contact
Irritating to eyes.

Route of exposure
Ingestion Inhalation Skin and/or eye contact

Target Organs
Respiratory system, lungs
Trisodium Phosphate Dodecahydrate

12. Ecological information

Ecotoxicity
Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

Acute aquatic toxicity
Summary
Based on available data the classification criteria are not met.

Chronic aquatic toxicity
Summary
Based on available data the classification criteria are not met.

Persistence and degradability
Persistence and degradability
The degradability of the product is not known.

Bioaccumulative potential
Bio-Accumulative Potential
No data available on bioaccumulation.

Partition coefficient
No information available.

Mobility in soil
Mobility
The product is water-soluble and may spread in water systems.

Other adverse effects
Other adverse effects
None known.

13. Disposal considerations

Waste treatment methods

General information
The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible.
### 14. Transport information

**General**
The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

#### UN Number

UN No. (International) Not applicable.
UN No. (DOT) Not applicable.

#### UN proper shipping name

Proper shipping name (International) Not applicable.
Proper shipping name (DOT) Not applicable.

#### Transport hazard class(es)

Transport Labels (International) No transport warning sign required.
DOT transport labels
No transport warning sign required.

#### Packing group

Packing group (International) Not applicable.
DOT packing group Not applicable.

#### Environmental hazards

Environmentally Hazardous Substance No.

#### Special precautions for user

Not applicable.

DOT reportable quantity RQ: Sodium phosphate, tribasic (5000 lbs)

DOT TIH Zone Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

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**15. Regulatory information**

US Federal Regulations
Trisodium Phosphate Dodecahydrate

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed.

CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
Final CERCLA RQ: 5000 (2267.962) pounds (Kilograms)

SARA Extremely Hazardous Substances EPCRA Reportable Quantities
None of the ingredients are listed.

SARA 313 Emission Reporting
None of the ingredients are listed.

CAA Accidental Release Prevention
None of the ingredients are listed.

SARA (311/312) Hazard Categories
Serious eye damage or eye irritation
Skin corrosion or irritation
Specific target organ toxicity (single or repeated exposure)

OSHA Highly Hazardous Chemicals
None of the ingredients are listed.

US State Regulations
California Proposition 65 Carcinogens and Reproductive Toxins
None of the ingredients are listed or exempt.

California Air Toxics "Hot Spots" (A-I)
Not listed.

California Air Toxics "Hot Spots" (A-II)
Not listed.

California Directors List of Hazardous Substances
Present.

Massachusetts "Right To Know" List
Present.

Rhode Island "Right To Know" List
Not listed.

Minnesota "Right To Know" List
Listed as anhydrous form:
CAS# 7601-54-9

New Jersey "Right To Know" List
Listed as anhydrous form:
CAS# 7601-54-9
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Pennsylvania "Right To Know" List
Present.

Inventories
EU - EINECS/ELINCS
Listed as anhydrous form:
CAS# 7601-54-9

Canada - DSL/NDSL
Listed as anhydrous form:
CAS# 7601-54-9
DSL

US - TSCA
Listed as anhydrous form:
CAS# 7601-54-9

US - TSCA 12(b) Export Notification
Not listed.

Australia - AICS
Present.

Japan - ENCS
Present.

Korea - KECI
Listed as anhydrous form:
CAS# 7601-54-9

China - IECSC
Present.

Philippines - PICCS
Present.

New Zealand - NZIOC
Present.

Taiwan - TCSI
Present.

16. Other information
Trisodium Phosphate Dodecahydrate


Abbreviations and acronyms used in the safety data sheet

TDG: The transport of dangerous goods act

IATA: International air transport association.
ICAO: Technical instructions for the safe transport of dangerous goods by air.
IMDG: International maritime dangerous goods.
CAS: Chemical abstracts service.
ATE: Acute toxicity estimate.
LC₅₀: Lethal concentration to 50% of a test population.
LD₅₀: Lethal dose to 50% of a test population (median lethal dose).
EC₅₀: 50% of maximal effective concentration.
PBT: Persistent, bioaccumulative and toxic substance.
vPvB: Very persistent and very bioaccumulative.

Classification abbreviations and acronyms

Eye Irrit. = Eye irritation
Skin Irrit. = Skin irritation
STOT SE = Specific target organ toxicity-single exposure

Training advice

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Revision date

6/29/2022

SDS No.

463

Hazard statements in full

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

End of Safety Data Sheet

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.