Safety Data Sheet · OSHA HCS 2024

Trisodium Phosphate Dodecahydrate - ACS Reagent Grade

ACS Reagent

Standard	Revised	Emergency
OSHA HCS 2024 · GHS Rev. 7	2026-11-12	Chemtel 1-800-255-3924 (24/7)

1 Identification

Product Identifier	Trisodium Phosphate Dodecahydrate - ACS Reagent Grade
Grade	ACS Reagent
CAS Number	10101-89-0
Chemical Formula	Na3P04 · 12H20
Molecular Weight	380.12 g/mol
Manufacturer	Alliance Chemical 204 South Edmond Street, Taylor, TX 76574
Emergency Phone	Chemtel 1-800-255-3924 (24/7)
Recommended Use	Industrial / laboratory chemical. See Section 7.
Restrictions on Use	No restrictions identified beyond the conditions of safe use in Sections 7 and 8.

2 Hazard Identification



Irritant / harmful

Classification

Skin corrosion/irritation, Category 2

Serious eye damage/eye irritation, Category 2A

Specific target organ toxicity, single exposure, Category 3 (respiratory tract irritation)

Signal Word

Warning

Hazard Statements

H315 Causes skin irritation

H319 Causes serious eye irritation

H335 May cause respiratory irritation

Precautionary Statements

P260 Do not breathe dust, fume, gas, mist, vapors or spray.

P261 Avoid breathing dust, fume, gas, mist, vapors or spray.

P264 Wash hands and face thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves, protective clothing, and eye/face protection.

P302+P352 IF ON SKIN: Wash with plenty of water and soap.

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 or doctor if you feel unwell.

P321 Specific treatment (see first-aid information on this label).

P332+P313 If skin irritation occurs: Get medical advice or attention.

P337+P313 If eye irritation persists: Get medical advice or attention.

P362 Take off contaminated clothing and wash before reuse.

P363 Wash contaminated clothing before reuse.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents and container in accordance with local, regional, national, and international regulations.

Classification, hazard (H) and precautionary (P) statements and pictograms per OSHA HCS 2024 (29 CFR 1910.1200, Appendices A–C), aligned with GHS Rev. 7.

3 Composition / Information on Ingredients

Component	CAS No.	Formula	Concentration
Trisodium Phosphate Dodecahydrate	10101-89-0	H24Na3O16P	98-100% (w/w)

Concentrations are nominal; lot-specific values appear on the Certificate of Analysis. Components not contributing to classification are omitted.

4 First-Aid Measures

Eyes

Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.

Skin

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.

Inhalation

Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Ingestion

Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

Most Important Symptoms and Effects

Eye contact causes irritation: redness, pain and tearing.

Skin contact causes irritation: redness, itching and pain; repeated contact may dry and crack the skin.

Inhalation may irritate the nose, throat and respiratory tract (coughing, sore throat).

Immediate Medical Attention and Special Treatment

Treat symptomatically. Get medical attention if symptoms develop or persist.

5 Fire-Fighting Measures

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical, or CO2. Use measures appropriate to local circumstances.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical	Containers may rupture when heated.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Hazardous Combustion Products	Phosphorus oxides and sodium oxides.

6 Accidental Release Measures

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental Precautions	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Sweep or vacuum up, avoiding dust. Collect in appropriate waste container. Dispose per applicable regulations.

7 Handling and Storage

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.
Specific Storage Precautions	Keep containers tightly closed in a dry, cool, well-ventilated place away from incompatible materials, food and animal feed. Hygroscopic; keep sealed to avoid moisture pickup and caking.

8 Exposure Controls / Personal Protection

Occupational Exposure Limits

No established occupational exposure limits.

Engineering Controls	Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.
Eye/Face Protection	Wear chemical safety goggles or face shield.
Skin Protection	Wear chemical-resistant gloves and protective clothing.
Respiratory Protection	Use a NIOSH-approved respirator (N95/P100 for particulate, organic vapor or acid gas cartridge as appropriate to the substance) when exposure limits may be exceeded or visible mist or dust is generated.

9 Physical & Chemical Properties

Appearance	White crystalline powder, hygroscopic
Odor	No data available
Odor Threshold	No data available
pH	11.5 - 12.5
Melting Point / Freezing Point	Melting point equals 164 to 170 ° F
Boiling Point	100 °C
Flash Point	N/A
Evaporation Rate	No data available
Flammability (solid, gas)	No data available

Upper/Lower Flammability or Explosive Limits	No data available
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	No data available
Solubility	Soluble in water
Partition Coefficient (n-octanol/water)	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Particle Characteristics	No data available
Form	Solid

Values shown reflect product-specific canonical data. Lot-specific ranges may vary; see the Certificate of Analysis for the shipped lot.

10 Stability and Reactivity

Reactivity	Not reactive under normal conditions of use and storage.
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Dust formation; moisture (hygroscopic, causes caking); heat (loses water of crystallization from about 75 °C / 167 °F); mixing with acids.
Incompatible Materials	Strong acids (strong exothermic reaction); strong oxidizing agents; magnesium; metals in solution (flammable hydrogen gas).
Hazardous Decomposition Products	Phosphorus oxides and sodium oxides.

11 Toxicological Information

See Section 2 for GHS hazard classification.

Likely Routes of Exposure	Inhalation, skin contact, eye contact, ingestion.
Symptoms	Eye contact causes irritation: redness, pain and tearing. Skin contact causes irritation: redness, itching and pain; repeated contact may dry and crack the skin. Inhalation may irritate the nose, throat and respiratory tract (coughing, sore throat).
Delayed and Chronic Effects	Repeated skin contact may cause dermatitis (dry, cracked skin).
Numerical Measures of Toxicity	No data available

Carcinogen Classification

Agency	Status
IARC	Not listed as carcinogen.
NTP	Not listed as carcinogen.
OSHA	Not listed as carcinogen.

12 Ecological Information

Ecotoxicity	Fish LC50: 28.5 mg/L (96 h, Gambusia affinis — pH-driven; data for ANHYDROUS TSP (7601-54-9), bridged (24-h 88.3 mg/L; pH 7.4–10.3))
Persistence & Degradability	Toxicity pH-driven (strongly alkaline in water); endpoints reported under anhydrous TSP (CAS 7601-54-9)
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available

13 Disposal Considerations

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14 Transport Information

Not regulated for transport under US DOT 49 CFR Subchapter C, IMDG, or IATA DGR in packages holding less than the reportable quantity below.

Hazardous substance (49 CFR 171.8)	A single package holding 5,000 lb (2,270 kg) or more of this product contains the reportable quantity (RQ) of a hazardous substance and is regulated as a hazardous material.
Reportable quantity (49 CFR 172.101 Appendix A)	Sodium phosphate, tribasic — RQ 5,000 lb (2,270 kg)
Shipping description (package at or above the RQ)	UN3077, Environmentally hazardous substance, solid, n.o.s. (Sodium phosphate, tribasic), 9, III, RQ

15 Regulatory Information

Inventory / List	Status
California Proposition 65	Not listed
US EPA TSCA Active Inventory	Listed
EPCRA SARA 313 (TRI)	Not listed
CERCLA Reportable Quantity (RQ)	Sodium phosphate, tribasic (CAS 10101-89-0) — RQ 5,000 lb (2,270 kg)

SARA 311/312 hazard categories correspond to the GHS classification in Section 2. Data retrieved as of: California Proposition 65 2026-11-02; US EPA TSCA Active Inventory 2026-11-02; EPCRA SARA 313 (TRI) 2026-11-02.

16 Other Information

Revision Date	2026-11-12
Format	16-section format per OSHA HCS 2024 (29 CFR 1910.1200, Appendix D), aligned with GHS Rev. 7.

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