

Product Data Sheet

Eastman™ Purified Terephthalic Acid (PTA)

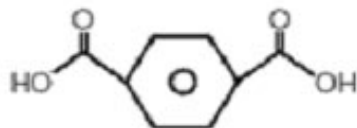
Application/Uses

- Automotive OEM
- Polyester polyols for polyurethanes
- Polyester powder coating resins
- Polyester-melamine baking enamels
- Unsaturated polyester resins for fiberglass-reinforced plastics
- Waterborne polyester resins

Key Attributes

- Excellent weathering
- Good chemical and stain resistance
- Good hardness/flexibility balance
- Ideal glass transition temperature range
- Outstanding powder flow and fluidization characteristics

Product Description



IUPAC: 1,4-benzenedicarboxylic acid

CAS: 100-21-0

Eastman™ Purified Terephthalic Acid (PTA) is used to manufacture polyester coatings resins for use in the formulation of general metal, appliance, automotive, industrial maintenance, and coil coatings. The primary application for PTA is in combination with Eastman NPG™ Glycol in polyester powder coating resins. It has also been used in unsaturated polyesters for fiberglass-reinforced plastics applications.

The aromatic ring of PTA imparts excellent hardness and corrosion and stain resistance to coatings resins and unsaturated polyesters. PTA has moderate solubility in molten glycols which can increase synthesis times, and it imparts moderate solubility to resins.

Eastman™ PTA is only available in the United States in bulk quantities. For more information or to request a sample, contact an [Eastman Technical Service Representative](#).

Typical Properties

Property	Test Method	Typical Value, Units
Molecular Weight		166.14
Empirical Formula		C ₈ H ₆ O ₄
Appearance		White Powder
Odor		Odorless
4-Carboxybenzaldehyde (4-CBA)		200 ppm max.
Volatiles		0.12 wt % max.

Cobalt	10 ppm max.
Melting Point ^a	>300°C (>572°F)
Acid Number (mg KOH/g)	675
Color CIE b*	5.3 max.
Solubility in Water	Negligible
Specific Gravity @ 15°C	1.51
Flash Point Cleveland Open Cup	271°C (519.8°F)
Autoignition Temperature	ASTM D 2155 496°C (924.8°F)
Chemical Inventory Listings	TSCA (USA), EINECS (JAPAN)

^a Sublimes

Eastman and its marketing affiliates shall not be responsible for the use of this information, or of any product, method, or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment, and for the health and safety of your employees and purchasers of your products. No warranty is made of the merchantability of fitness of any product, and nothing herein waives any of the Seller's conditions of sale.

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Material Safety Data Sheet

Product No. 19402 Phosphotungstic Acid, Reagent

Issue Date (02-12-07)

Review Date (06-01-12)

Section 1: Product and Company Identification

Product Name: Phosphotungstic Acid, Reagent

Synonym: Tungstophosphoric Acid, PTA

Company Name

Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477

Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m³	ACGIH TWA mg/m³	NTP	IARC	OSHA regulated
Phosphotungstic acid, hydrate (12501-23-4) hydrate (12067-99-1) anhydrous	100	ND	1 *	No	No	No

*Listed as Tungsten soluble compounds

Section 3: Hazard Identification

Emergency overview

Appearance: White or slightly yellow-green, slightly efflorescent crystals or crystal powder.

Immediate effects: Causes severe skin burns and eye damage.

Potential health effects

Primary Routes of entry: Ingestion, inhalation

Signs and Symptoms of Overexposure: ND

Eyes: Causes eye damaged.

Skin: Moderate irritation to skin burns. Harmful if absorbed through the skin.

Ingestion: Harmful if swallowed. Ingestion may cause burns to the gastrointestinal system

Inhalation: Harmful if inhaled. Inhalation may be fatal as a result of spasm, inflammation and edema of larynx and bronchi, chemical pneumonitis and pulmonary edema.

Symptoms of exposure may include burning sensation, coughing and wheezing,

laryngitis, shortness of breath, headache, nausea and vomiting. Lung Effects: Material is extremely destructive to mucous membranes and upper respiratory tract

Chronic Exposure: ND

Chemical Listed As Carcinogen Or Potential Carcinogen: None

See Toxicological Information (Section 11)

Potential environmental effects

See Ecological Information (Section 12)

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Flush with water for at least 15 minutes

Skin Contact: Flush with soap and water

Inhalation: Remove to fresh air. Get medical attention. If not breathing, give artificial respiration. If breathing is difficult, give oxygen, only qualified personnel should administer oxygen.

Ingestion: Get medical attention. Rinse mouth out with water. Give a large amount of milk or magnesia. Never give anything by mouth to an unconscious individual.

Note to physician

Treatment: ND

Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures

Flash Point: Non-flammable.

Flammable Limits: NA

Auto-ignition point: NA

Fire Extinguishing Media: Use extinguishing media most suitable to surrounding fire conditions.

Special Fire Fighting Procedures: Wear SCBA

Unusual Fire and Explosion Hazards: NA

Hazardous combustion products: Oxides of phosphorus and tungsten.

DOT Class: Corrosive

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Avoid dusting, sweep or scoop up and place in suitable container for proper disposal. Always wear personal protective equipment.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage

Precautions to be Taken in Handling and Storage: Wash thoroughly after handling. Keep tightly closed.

Storage temperature: Store in a cool, dry place.

Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Always maintain exposure below permissible exposure limits. Use only in chemical hood.

Personal Protection Equipment

Respiratory protection: Use only NIOSH/MESA approved equipment.

Protective gloves: Neoprene, Natural rubber, impervious gloves.

Skin protection: Protective clothing and gloves.

Eye protection: Goggles or face shield.

Additional clothing and/or equipment: Emergency eyewash and safety shower.

Exposure Guidelines

See Composition/Information on Ingredients (Section2)

Section 9 Physical and Chemical Properties

Appearance and Physical State: White or slightly yellow-green, slightly efflorescent crystals or crystal powder

Odor (threshold): None

Specific Gravity (H₂O=1): ND

Vapor Pressure (mm Hg): ND

Vapor Density (air=1): ND

Percent Volatile by volume: ND

Evaporation Rate (butyl acetate=1): ND

Boiling Point: ND

Freezing point / melting point: 89 ° C

pH: ND

Solubility in Water: 200 g / 100 ml

Molecular Weight: 2880.20 (anhydrous)

Section 10: Stability and Reactivity

Stability: Stable.

Conditions to Avoid: Heat. Contact with incompatibles.

Materials to Avoid (Incompatibility): Strong bases, strong oxidizers, reducing agents.

Hazardous Decomposition Products: Oxides of phosphorus and tungsten.

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed: Oral, Rat LD50: 3300mg/Kg.

Human experience: ND

This product **does or does** not contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information: ND

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: ND

Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information

US DOT Information: Proper shipping name: Corrosive, solid, acidic, inorganic, n.o.s. (Phosphotungstic acid, hydrate)

Hazard Class: 8

Packaging group: II

UN Number: UN3260

IATA: Proper shipping name: Corrosive, solid, acidic, inorganic, n.o.s. (Phosphotungstic acid, hydrate)

Hazard Class: 8

Packing group: II

UN Number: UN3260

IMO: Proper shipping name: Corrosive, solid, acidic, inorganic, n.o.s. (Phosphotungstic acid, hydrate)

Class: 8

UN Number: UN3260

Marine Pollutant: No

Canadian TDG: Proper shipping name: Corrosive, solid, acidic, inorganic, n.o.s. (Phosphotungstic acid, hydrate)

Section 15: Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

SARA: None

SARA Title III: Section 302: None. Section 313: None

RCRA: ND

TSCA: CAS# 12501-23-4 is not on the TSCA Inventory because it is a hydrate. It is considered listed if the CAS number for the anhydrous form (12067-99-1) is on the inventory (40CFR720.3 (u) (2)). Section 12 B: None are listed.

CERCLA: None

State Regulations

California Proposition 65: None

International Regulations

Canada WHMIS: Classification e. None listed on the DSL or NDSL

Europe EINECS Numbers:

Section 16: Other Information

Label Information: Corrosive

European Risk and Safety Phrases: Causes burns. In case of contact with eyes, rinse immediately with plenty of water and seek medical help. Wear suitable protective

clothing, gloves and eye /face protection. In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

European symbols needed: Corrosive

Canadian WHMIS Symbols: Corrosive

HMIS® Hazard Rating (Estimated): Health: **3**; Flammability: **0**; Physical: **0**

NFPA Hazard Rating (Estimated): Health: **3**; Flammability: **0**; Instability: **0**

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Abbreviations used in this document

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

Disclaimer

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