



SAFETY DATA SHEET

1. Identification

Product identifier T746 GENERAL PURPOSE POLYSTYRENE

Other means of identification
SDS number 21622

Recommended use Industrial manufacture of packaging, construction materials, safety gear, and is also used in other miscellaneous applications.

Recommended restrictions Other uses are not recommended unless an assessment is completed, prior to commencement of that use, which demonstrates that the use will be controlled.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Epsilyte, LLC 501 Brunner
Street
Peru, IL
61354
United States

Supplier

Epsilyte, LLC 501 Brunner
Street
Peru, IL
61354
United States

Telephone numbers - 24 hour emergency assistance

Chemtrec (US) 800-424-9300

Telephone numbers - general assistance

8-5 (M-F, CST) Customer Service (316) 247-3904

8-5 (M-F, CST) MSDS Assistance (815) 224-5259

Email: sdsrequest@epsilyte.com

Product code(s) T746

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Combustible dust

Label elements

Hazard symbol None.
Signal word Warning
Hazard statement May form combustible dust concentrations in air if converted to small particles during further processing, handling, or by other means.

Precautionary statement

Prevention Not applicable.
Response Not applicable.
Storage Not applicable.
Disposal Not applicable.

Hazard(s) not otherwise classified (HNOC) Not classified.

Supplemental information**Precautionary statement(s)**

Hazard statement This material may accumulate electrostatic charge which may cause an electrical spark (ignition source) in some cases. When it is heated, this material may cause thermal burns. Spilled pellets present a slipping hazard on hard surfaces.

Prevention Prevent dust accumulation to minimize explosion hazard. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Clean up spilled material immediately. Wear protective gloves/eye protection/face protection.

3. Composition/information on ingredients**Mixtures**

Chemical name	Common name and synonyms	CAS number	%
POLYSTYRENE		9003-53-6	98 - 100
MODIFIERS - ADDITIVES		Mixture	≤ 2

Composition comments Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

This Safety Data Sheet is intended to communicate potential health hazards and potential physical hazards associated with the product(s) covered by this sheet, and is not intended to communicate product specification information.

4. First-aid measures**Inhalation**

If overcome from exposure to excessive levels of dust, mist, or fumes, remove affected individual from source of exposure to fresh air. Get medical attention.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Skin contact

If hot material gets on skin, immediately flush affected area with large amounts of cool water. Do not attempt to remove the material from the skin, or to remove contaminated clothing. Get immediate medical attention.

For cold material, immediately wash skin with plenty of soap and water after removing contaminated clothing and shoes. Get medical attention if irritation persists.

Eye contact

If hot material comes in contact with eyes hold the eyelids apart and flush the eye with a large amount of cool water for at least 15 minutes. Get immediate medical attention.

If eyes become irritated from contact with dust, flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Most important symptoms/effects, acute and delayed

INHALATION:
Dusts may be irritating to the nose, throat and lungs (respiratory tract). Fumes, mists, or vapors from the heated material may be irritating to the respiratory tract. See "Toxicological Information" (Section 11) for more information.

SKIN:
Dusts may cause irritation due to abrasion. Repeated or prolonged skin contact may cause reddening, itching and inflammation.

EYES:
Dusts may cause mechanical irritation including pain, tearing and redness. Effects may become more serious with repeated or prolonged contact.

INGESTION:
Ingestion of large amounts may cause gastrointestinal disturbances.

Indication of immediate medical attention and special treatment needed

SKIN: Hot material may cause skin burns. Immerse skin covered with hot material in cool water to limit tissue damage and prevent spread of liquid material.

EYES: Hot material may cause burns to the eyes. Early ophthalmologic evaluation is recommended.

5. Fire-fighting measures

Suitable extinguishing media

Use water spray, dry chemical, carbon dioxide, or fire-fighting foam for fires to extinguish fire.

Unsuitable extinguishing media

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

Specific hazards arising from the chemical

Combustion may produce hazardous combustion products and other decomposition products in the case of incomplete combustion. These may include simple hydrocarbons to toxic and irritating gases such as carbon, carbon monoxide, carbon dioxide, styrene, acids, ketones, and aldehydes.

Material will burn in a fire.

This material, as produced and not in its finely divided form as dust, is not explosive as defined by established regulatory criteria.

This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air.

This material may accumulate static charge which can cause an electrical spark (ignition source) in some cases. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

Hazardous melting and dripping may occur at elevated temperatures. May burn at or above flash point, and airborne dust may explode if ignited.

For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.

Special protective equipment and precautions for firefighters

Evacuate area and fight fire from a safe distance.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow, if possible.

Firefighters must wear NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary people away; isolate hazard area and deny entry. For spills in confined areas, ensure adequate ventilation. For spills outdoors, stay upwind. Spilled pellets present a slipping hazard on hard surfaces. IF TANK, RAILCAR OR TANK TRUCK IS INVOLVED IN A FIRE, isolate for 800 meters (1/2 mile) in all directions. Evacuate area endangered by release as required. Wear appropriate personal protective equipment. See Exposure Controls/Personal Protection (Section 8).

Methods and materials for containment and cleaning up

Keep unnecessary people away. Isolate area for at least 25 meters (75 feet) in all directions to preserve public safety. For large spills, if downwind consider initial evacuation for at least 100 meters (300 feet).

This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air.

Keep ignition sources out of area and shut off all ignition sources. Use non-sparking tools and grounded equipment for clean-up. Avoid dust formation. Small Spills: Shovel into a container for later disposal. Avoid cleanup procedures that may result in water pollution. Large spills: Wet down with water and dike for later disposal.

Do not touch or walk through spilled material. Stop spill when safe to do so.

See Exposure Controls/Personal Protection (Section 8).

For large spills and releases follow the handling and storage recommendations as detailed in NFPA 654, NFPA 499 and NFPA 77. Grounding, bonding, and intrinsic safety of equipment used should be considered.

Environmental precautions

Prevent entry into water ways, sewers, basements or confined areas. Notify local, provincial and/or federal authorities, if required.

7. Handling and storage

Precautions for safe handling

Minimize dust generation during handling and contact.

This material, as produced and not in its finely divided form as dust, is not explosive as defined by established regulatory criteria.

This material, in its finely divided form, presents an explosion hazard when dispersed in a confined area and ignited in air.

Dusts may become explosive when dispersed in a confined space such as a building or vessel and in the presence of oxygen and heat (spark).

This material may accumulate electrostatic charge which may cause an electrical spark (ignition source) in some cases.

Ground and bond lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. When airborne dust or a dust cloud is present, do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards. Use non-sparking tools. Do not use electronic devices while handling, unless the device is certified as intrinsically safe as they could present ignition sources.

Facilities using this material should assess their potential for combustible dust and static spark hazards and follow applicable federal, state and local laws and regulations and accepted codes and standards.

Avoid accumulation of dust on surfaces and hidden areas where dust may collect in the interior of buildings. Clean up dust using approved methods that do not generate dust clouds if ignition sources are present.

Combustible dust properties are dependent on the moisture content and particle size distribution of the tested material as received. Customers are encouraged to perform testing for explosibility potential for dust accumulated at their site. This data is provided in section 9 as an indicator of potential explosivity hazard.

Avoid contact with strong oxidizers. Prevent small spills to minimize slip hazard or release to the environment. Materials should be handled, stored and shipped in a manner to prevent dust evolution. Heated material can cause thermal burns. Do not cut, grind, drill, weld (or introduce any other ignition source) on empty containers or reuse containers unless adequate precautions are taken. Avoid extreme temperatures to minimize product degradation.

Avoid personal contact with this material. Always observe good personal hygiene measures, such as removing contaminated clothing and protective equipment, washing after handling the material and before entering public areas. Restrict eating, drinking and smoking to designated areas to prevent personal chemical contamination. Routinely wash work clothing and protective equipment to remove contaminants. Do not breathe dust. See Section 8 of the SDS for Personal Protective Equipment.

For additional safety information, consult the current editions of the National Fire Protection Association (NFPA) 654 Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, NFPA 499, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas, NFPA 77, Recommended Practice on Static Electricity, and NFPA 68, Standard on Explosion Protection by Deflagration Venting.

Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers. Empty containers may contain material residue. Do not reuse without adequate precautions.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
POLYSTYRENE (CAS 9003-53-6)	TWA	5 mg/m3	PNOR (Particles not otherwise regulated) - RESPIRABLE FRACTION (8-Hr)

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
		15 mg/m3	PNOR (Particles not otherwise regulated) - TOTAL DUST (8-Hr)

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
POLYSTYRENE (CAS 9003-53-6)	TWA	3 mg/m3	PNOS (Particles not otherwise specified) - RESPIRABLE PARTICULATES
		10 mg/m3	PNOS (Particles not otherwise specified) - INHALABLE PARTICULATES

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

NOTE: The preceding components are the only components of the material which have a PEL, TLV, or other recommended exposure limit. At this time, the other components have no known exposure limit.

Appropriate engineering controls

Use explosion-proof equipment if high dust/air concentrations are possible. Use only appropriately classified electrical equipment and powered industrial trucks. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Individual protection measures, such as personal protective equipment**Eye/face protection**

Keep away from eyes. Eye contact can be avoided by using chemical safety glasses, goggles and/or face shield. Have eye washing facilities readily available where eye contact can occur.

Skin protection**Hand protection**

Avoid skin contact with this material. Use chemical resistant gloves when handling this material. Contact the glove manufacturer for specific advice on glove selection regarding permeability and breakthrough times for your use conditions. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. When handling hot material, use heat resistant gloves.

Other

Avoid skin contact with this material. Additional protective clothing may be necessary, such as antistatic clothing and conductive footwear.

Respiratory protection

A NIOSH approved dust respirator may be appropriate under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. See OSHA 29 CFR 1910.134 for more information regarding respiratory protection and Assigned Protection Factors (APFs).

Thermal hazards

Wear appropriate thermal protective clothing, when necessary. Contact with hot material can cause thermal burns which may result in permanent damage.

9. Physical and chemical properties**Appearance****Physical state**

Solid.

Form

Pellet

Color

White; Varies in color with formulation

Odor

Odorless

Odor threshold

Not available.

pH

Not available

Melting point/freezing point	Softens @ 93.3-101.7 °C (200-215 °F)
Initial boiling point and boiling range	Not available
Flash point	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 100 mmHg @77 °F (25 °C)
Vapor density	Not available
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Chemical family	Polystyrene Thermoplastic Polymer
Density	1.02 g/ml @77 °F (25 °C)
Molecular formula	(C8H8) _x
Specific gravity	1.02 - 1.05 (Water = 1)

10. Stability and reactivity

Reactivity	See statements below.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Not anticipated under normal conditions.
Conditions to avoid	Avoid unventilated areas, heat, open flames, sparks and ungrounded electrical equipment.
Incompatible materials	Incompatible with strong oxidizers. See precautions under Handling & Storage (Section 7).
Hazardous decomposition products	Not anticipated under normal conditions.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Likely route of exposure
Skin contact	Likely route of exposure
Eye contact	Likely route of exposure
Ingestion	Likely route of exposure

Symptoms related to the physical, chemical and toxicological characteristics

INHALATION:
Dusts may be irritating to the nose, throat and lungs (respiratory tract). Fumes, mists, or vapors from the heated material may be irritating to the respiratory tract.

SKIN:
Dusts may cause irritation due to abrasion. Repeated or prolonged skin contact may cause reddening, itching and inflammation.

EYES:
Dusts may cause mechanical irritation including pain, tearing and redness. Effects may become more serious with repeated or prolonged contact.

INGESTION:
Ingestion of large amounts may cause gastrointestinal disturbances.

Information on toxicological effects

Acute toxicity Polymers are considered to have low toxicity by all routes of exposure.

Components	Species	Test Results
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POLYSTYRENE (CAS 9003-53-6)

Acute

Oral

LD50	Rat	> 5 g/kg
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Skin corrosion/irritation Not classified.

Serious eye damage/eye irritation Not classified.

Respiratory or skin sensitization

Respiratory sensitization Not classified.

Skin sensitization Not classified.

Germ cell mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

POLYSTYRENE (CAS 9003-53-6) 3 Not classifiable as to carcinogenicity to humans.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Toxicological data

POLYSTYRENE BASED POLYMERS: Dust may be irritating to the respiratory system. Prolonged and repeated inhalation of dust may cause impaired lung function and lung changes. Irritating vapors and fumes from the blowing agent or component additives or modifiers may be emitted from thermal processing or from storage in confined spaces. In addition, trace amounts of unreacted monomer may be present in the final polymer.

12. Ecological information

Ecotoxicity Material not classified as harmful to aquatic organisms.

Persistence and degradability Not readily biodegradable.

Bioaccumulative potential Not likely to bioaccumulate in aquatic organisms.

Mobility in soil Material is insoluble in water. Due to physical properties, the mobility of this material is expected to be negligible.

Other adverse effects No other adverse effects expected.

13. Disposal considerations

Disposal instructions This material, as supplied, when discarded or disposed of, is not a hazardous waste according to Federal Regulations (40 CFR 261). The transportation, storage, treatment and disposal of waste material must be conducted in compliance with federal, state, and local regulations. Under RCRA it is the responsibility of the user of the material to determine, at the time of disposal, whether this material meets RCRA criteria for hazardous waste.

For additional handling information and protection of employees, see Section 7 (Handling and Storage) and Section 8 (Exposure Controls/Personal Protection).

Hazardous waste code The proper waste code must be evaluated at the time of disposal and should be determined by the user and waste disposal company.

Waste from residues / unused products Dispose of this material in accordance with all applicable local and national regulations.

Contaminated packaging Empty containers should be recycled or disposed of at an approved waste handling site.

14. Transport information

General information

BILL OF LADING - BULK (U. S. DOT): Non-regulated by DOT

BILL OF LADING - NON-BULK (U. S. DOT): Non-regulated by DOT

See Bill of Lading for proper shipping description.

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

Not classified for MARPOL. Please contact the Transportation Compliance CSO if transportation mode is ship or vessel to determine the need for a MARPOL classification.

15. Regulatory information

US federal regulations

All ingredients are on the TSCA inventory, or are not required to be listed on the TSCA inventory.

This material does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

Check local, regional or state/provincial regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to comply may result in substantial civil and criminal penalties.

This material is intended for use in the manufacture of articles and goods as appropriate. It is the responsibility of the manufacturer to determine that it is safe, lawful and technically suitable for the intended use. This material is not intended for use in the manufacture of any form of implanted medical or surgical device.

US EPCRA (SARA Title III) Section 304 - Extremely Hazardous Spill: Reportable quantity

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Other federal regulations

Please see Section 2 for OSHA hazard classification(s) for EPCRA Tier I/Tier II reporting.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations

This material, as sold, meets the requirements of the Model Toxics Legislation of the Coalition of Northeastern Governors (CONEG). Any alteration of this material may affect its compliance with this law.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer. Proposition 65, CAL. HSC. §25249.5.

This material may contain low levels of ethylbenzene and styrene which are regulated under California Proposition 65.

16. Other information, including date of preparation or last revision

Issue date

10-November-2020

Revision date

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Version

01

HMIS® ratings

Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings

Health: 0
Flammability: 2
Instability: 0

Disclaimer

THIS SDS HAS BEEN PREPARED TO COMPLY WITH FEDERAL REGULATIONS THAT ARE INTENDED TO QUICKLY PROVIDE USEFUL INFORMATION TO THE USER(S) OF THIS MATERIAL OR PRODUCT - IT IS NOT INTENDED TO SERVE AS A COMPREHENSIVE DISCUSSION OF ALL POSSIBLE RISKS OF HAZARDS, BUT RATHER PROVIDES INFORMATION GENERALLY ACCEPTED IN THE SCIENTIFIC COMMUNITY AS RELEVANT REGARDING THE POTENTIAL HAZARDS OF THIS PRODUCT. ADEQUATE TRAINING, INSTRUCTION, WARNINGS AND SAFE HANDLING PROCEDURES SHOULD BE PROVIDED TO HANDLERS AND USERS. USERS SHOULD REVIEW THE INFORMATION IN THE SDS, AND SATISFY THEMSELVES AS TO ITS SUITABILITY AND COMPLETENESS, INCLUDING ENSURING THAT THIS IS THE MOST CURRENT SDS.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.

Completed by

Flint Hills Resources, LP - Operations EH&S