China Petroleum and Natural Gas Co., Ltd. Guangxi Petrochemical Branch

Chemical Safety Technical Specification

Date revised: 2025/09/15 SDS Number: PETROCHINA-GXSH/SDS-037
Product Name: Polystyrene Version: PETROCHINA-GXSH 1.0

Part 1 Chemicals and Enterprise Identification

Chemical name: Polystyrene

Chemical name: Polystyrene

Company name: China Petroleum and Natural Gas Co., Ltd. Guangxi Petrochemical Branch

Company address: Petroleum Avenue, Qinzhou Port Economic and Technological Development Zone, Guangxi

Zip code:535008 **Fax:**0777-3885139

Contact:0777-3885296

Email address:ganguangwei@petrochina.com.cn

Enterprise emergency phone:0777-3881995

Product recommendation and restricted use: For asphalt modification, manufacturing shoes, tires, etc.

Section 2 SUMMARY OF RISKS

Summary of Emergency:

Flammable liquids and vapors. Causes skin irritation. Causes severe eye irritation. Inhalation is harmful.

GHS Hazard Class:

Flammable liquids Category 3

Skin corrosion/irritation Category 2; Severe ocular injury/ocular irritation Category 2; Acute inhalation toxicity Category 4

Label Elements:

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figurative graph ：



Warning word: Warning

Risk Statement:

H226 Flammable liquids and vapors.

H315 causes skin irritation.

H319 causes severe eye irritation.

H332 Inhalation is harmful.

Protection Notice:

Preventive Measure ：

Keep away from heat sources, sparks, open flames, and hot surfaces. Do not smoke.

P233 Keep the container closed.

P240 container and loading equipment grounded/equilibrium connection.

P241 Use explosion-proof electrical/ventilation/illumination/equipment.

P242 Only use tools that do not produce sparks.

P243 Implement measures to prevent electrostatic discharge.

P280 Wear protective gloves/put on protective clothing/put on protective goggles/put on protective mask.

P264 Thorough cleaning after operation.

P261 Avoid inhalation of dust/smoke/gas/smoke/vapor/spray.

P271 should only be used outdoors or in a well-ventilated area.

Response to an Incident:

P303+P361+P353 In case of skin (or hair) exposure: Immediately remove all contaminated clothing. Wash skin with water/shower.

P370+P378 Fire: Use a fire extinguisher to put out the fire.

P302+P352 In case of skin contact: Rinse thoroughly with water.

P321 @-@ Specific therapy (see this label).

P332+P313 In case of skin irritation: Seek medical attention.

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P362+P364 Remove contaminated clothing and wash it before reuse

P305+P351+P338 If in eyes: Rinse carefully with water for several minutes. If wearing contact lenses and they can be easily removed, remove the contact lenses. Continue rinsing.

If P337+P313 still causes ocular irritation: Seek medical attention.

If P304+P340 is inhaled accidentally: Move the person to a fresh air area and maintain a comfortable breathing position.

P312 If you feel unwell, call the poison control center/doctor

Safe Storage ：

P403+P235 should be stored in a well-ventilated place and kept at a low temperature.

Disposal:

P501 Dispose of contents/containers in accordance with local regulations.

Physical and chemical hazards: Flammable liquids and vapors.

Health hazards: Skin irritation. Severe eye irritation. Inhaling is harmful.

Environmental hazards: No data available.

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Section 3 Ingredients/Composition Information

component	Concentration or concentration range%	CAS NO
polystyrene	>99.9	9003-53-6

Section 4 First Aid

Give First Aid Treatment ：

Inhalation: If inhaled, move the patient to fresh air.

Skin contact: Remove contaminated clothing and wash skin thoroughly with soap and water. Seek medical attention if discomfort occurs.

Eye contact: Open the eyelids and rinse with running water or saline solution. Seek medical attention immediately.

Ingestion: Rinse mouth, do not induce vomiting. Seek medical attention immediately.

Advice to protect the rescuer: Move the patient to a safe place. Consult a doctor. Show the SPT to the doctor on site.

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Special note to physicians: No data available.

Section 5 Fire Protection Measures

Annihilator ：

Extinguish with water mist, dry powder, foam, or carbon dioxide extinguishing agents. Avoid using direct water flow for fire suppression, as it may cause splashing of flammable liquids and lead to fire spread.

High Risk:

Combustible. Releases irritating or toxic smoke (or gas) in flames.

Fire Prevention Precautions and Protective Measures:

dry powder, mist water, foam, carbon dioxide.

Section 6: Leak Emergency Response

Protective Measures, Protective Equipment, and Emergency Response Procedures for Personnel:

Ventilation. Transfer all ignition sources. Clean up the spill into a marked and suitable container. Personal protective equipment: P1 respirator for inert particulate matter.

Environmental protection measures:contain the spill to avoid environmental pollution. Prevent the spill from entering the sewer, surface water and groundwater.

Methods of Containment, Decontamination and Disposal Materials Used for the Release of Chemicals:

Minor leaks: Collect the leaking liquid in a hermetically sealed container whenever possible. Absorb with sand, activated carbon, or other inert materials, and transfer to a safe location. Do not flush down the drain.

Massive leakage: Construct dikes or dig pits for containment. Seal drainage pipes. Cover with foam to suppress evaporation. Use explosion-proof pumps to transfer to tankers or dedicated collectors for recovery or transport to waste disposal sites.

Section 7 Operations, Disposal, and Storage

Operation Notes:

No open flames.

Operators should be specially trained and strictly comply with operating procedur-

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The operation should be performed in a location equipped with local ventilation or comprehensive ventilation facilities.

Avoid eye and skin contact and avoid inhalation of vapors.

For individual protective measures, see section 8.

Keep away from fire and heat sources.

For canning, the flow rate should be controlled, and an earthing device must be installed to prevent static electricity accumulation.

Avoid contact with incompatible substances such as oxidizers (see Section 10 for incompatible substances).

Handle with care to avoid damage to packaging and containers.

Empty containers may contain residual hazardous substances.

Wash hands after use and do not eat or drink in the workplace.

The corresponding variety and quantity of fire fighting equipment and leakage emergency treatment equipment should be provided.

Storage Precautions:

Store in a cool and well-ventilated warehouse.
The temperature should not exceed 37 ° C.

It should be stored separately from oxidizers and food chemicals, and must not be mixed (for prohibited combinations, refer to Section 10). Keep containers sealed.

Keep away from fire and heat sources.

Lightning protection equipment must be installed in the warehouse.

The exhaust system should be equipped with a grounding device to eliminate static electricity.

Explosion-proof lighting and ventilation are adopted.

The use of spark-producing equipment and tools is prohibited.

The storage area should be equipped with leakage emergency treatment equipment and appropriate containment materials.

Section 8 Exposure Control and Personal Protection

Occupational Exposure Limits:

Component name	CAS	Standard source	Limit	Remarks

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Polystyrene	9003-53-6	GBZ 2.1——2007	MAC: PC-TWA: PC-STEL:	

Biological Limitations:

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non-avaible

Monitoring Method:

GBZ/T 160.1 ~ GBZ/T 160.81-2004 Determination of toxic substances in workplace air (series of standards), EN 14042 Workplace air-Guidelines for procedures to assess exposure to chemical or biological agents

Engineering Control ：

Prevent dust dispersion!

Workplace recommendations should be separated from other workplaces.

Perform under closed operation to prevent leakage.

Enhance ventilation.

Set up automatic alarm device and accident ventilation facilities.

Establish emergency evacuation routes and necessary flood discharge areas.

Red zone warning lines, warning signs, and Chinese warning instructions shall be installed, along with a communication alarm system. Safety shower and eye-wash facilities shall be provided.

Personal Protective Equipment:

Respiratory protection: Avoid inhalation of dust.

Hand protection: Wear rubber oil-resistant gloves.

Eye protection: Use safety goggles. For powder, combine eye protection with respiratory protection.

Skin and body protection: Wear protective clothing that is resistant to penetration of toxic substances.

Part 9 Physical and Chemical Properties

Appearance and characteristics: Colorless solid of various forms.

Odor: No data available

pH: No data

Melting point / freezing point (°C):240℃ **Self-ignition temperature (°C):**427℃ **Decomposition temperature (°C):** No data

Boiling point, initial boiling point and boiling range (°C): No data **Flash point (°C):**345 ~ 360℃

evaporation rate [acetobutyl as 1]:no data

Explosion limit [% (volume fraction)]: No

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data **Saturated vapor pressure (kPa):**No data

Relative density (water as 1):1.04～1.13

Flammability (solid, gas): No data

Vapor density (air at 1): No data

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Olfactory threshold (mg/m3): No data **n-octanol/water partition coefficient (lg P):**No data

Solubility: No data **Viscosity:**No data

Section 10 Stability and Reactivity

Stability: The product is stable when stored and used at normal ambient temperature.

Hazardous reaction: When heated above 300℃, the substance decomposes to produce toxic fumes containing styrene. When burned, the substance decomposes to produce irritating fumes. Reacts with strong oxidizers.

Conditions to avoid contact with:static discharge, heat, humidity, etc.

Contraindications: No data

Hazardous decomposition products: No data available.

Section 11 TOXICOLOGICAL INFORMATION

Acute Toxicity ：

Oral: No data available

Inhalation: No data available

percutaneous: no data

Skin Irritation or Corrosion: No Data Available.

Eye Irritation or Corrosion: No Data Available.

Respiratory or Skin Allergy: No Data Available.

Mutability of Germ Cells: No Data Available.

Carcinogenicity: No Data Available.

Genotoxicity: No Data Available.

Specific Target Organ System Toxicity-One Exposure: May Cause Mechanical Irritation.

Specific Target Organ System Toxicity-Repeated Exposure: No Data Available.

Inhalation Hazard: It Can Reach the Concentration of Particulate Matter Pollution in the Air Quickly When Diffusing, Especially Powder.

Part 12: Ecological Information

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Ecotoxicity:

Acute toxicity test in fish: No data available

Acute activity inhibition test in daphnia: No data available

Algal growth inhibition test: No data available

Toxicity to microorganisms: No data available

Persistence and Degradability:

non-avaible 。

Bioaccumulation or Bioconcentration:

non-avaible 。

Soil Mobility:

non-avaible 。

Section 13 Disposal of Waste

Waste Chemicals:

Recycle as much as possible.

If recycling is not feasible, incineration shall be employed for disposal. This product must not be disposed of by discharge into sewers.

Packaging Materials Contaminated:

Return the container to the manufacturer or dispose of it in accordance with national and local regulations.

Precautions for Disposal:

Before disposal, refer to the relevant national and local regulations.

For safety precautions for personnel handling the material, see section 8.

Section 14 TRANSPORT INFORMATION

UN dangerous goods code (UN number):non-hazardous goods

UN Transport Name: Non-Hazardous Goods

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UN classification of hazard:non-hazardous goods

Packing category: Non-hazardous goods

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Packaging method: Pack according to the manufacturer's recommended method, e.g.: open steel barrel. ordinary wooden box outside ampoule bottle. threaded glass bottle, iron cap pressed glass bottle, plastic bottle or metal barrel (can) outside ordinary wooden box.

Marine pollutants (yes/no):no

Transportation Precautions:

Transport vehicles should be equipped with appropriate types and quantities of fire-fighting equipment and leakage emergency treatment equipment.

It is strictly prohibited to mix and transport with oxidizers, food chemicals, etc.

The exhaust pipe of the vehicle transporting the goods must be equipped with a flame arrestor.

When transporting by tankers, grounding chains must be used, and perforated partitions may be installed in the tank to reduce static electricity generated by vibrations. The use of machinery and tools prone to generating sparks is prohibited during loading and unloading.

Summer is the best time for morning and evening transportation.

During transportation, protect from direct sunlight, rain, and high temperatures.

During the stopover, stay away from fire, heat source and high temperature area.

When traveling by road, follow the designated routes and avoid stopping in residential areas or densely populated zones.

The shunting is forbidden in railway transportation.

It is strictly prohibited to use wooden or cement boats for bulk transportation.

The transport vehicle shall be affixed with dangerous signs and notices according to the relevant transport requirements.

Section 15 Regulatory Information

The following laws, regulations, rules, and standards provide corresponding provisions for the management of this chemical:

Component Polystyrene CAS:9003-53-6

Occupational Disease Prevention and Control Law of the People's Republic of China:

Occupational Hazard Factors Classification Catalog (2015): Not Listed

Regulations on the Safety Management of Hazardous Chemicals:

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List of Hazardous Chemicals (2015): Not listed

List of Explosive-Prone Hazardous Chemicals (2017): Not Included

List of Hazardous Chemicals Subject to Key Supervision:

List of the first and second batches of key regulated hazardous chemicals: not included

Measures for the Registration of Environmental Management of Hazardous Chemicals (Trial):

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Catalogue of hazardous chemicals under priority environmental management: not included

Regulations on the Administration of Narcotic Drugs and Psychotropic Substances:

List of Narcotic Drugs: Not Listed

List of Psychotropic Substances: Not Listed

New Environmental Management Measures for Chemical Substances:

China's current list of chemical substances (2013): Included

Section 16 Other Information

Write and Revise Information:

This version is the 1.0 edition, developed in accordance with the classification standards GB/T 16483-2008, GB/T 17519-2013, and the GB 30000 series.

Last updated: September 15,2025

Writing and Data Audit Department: Quality, Health, Safety and Environmental Protection Department

Note: This SDS follows the "Content and Item Sequence of Chemical Safety Data Sheets"

(GB/T16483-2008) standard development; As China has not yet issued the national GHS classification catalog for chemicals, the GHS classification of chemicals in this SDS is self-classified by enterprises based on the series of standards for chemical classification, warning labels, and precautionary statements (GB 20576-2006～GB 20602-2006). The classification will be adjusted accordingly after the national GHS classification catalog for chemicals is promulgated.

References ：

【1】 International Programme on Chemical Safety: International Chemical Safety Card (ICSC), web site:http://www.ilo.org/dyn/icsc/showcard.home.

【2】 International Agency for Research on Cancer, website:http://www.iarc.fr/.

【3】 OECD Global Chemicals Information Platform, http://www.echemportal.org/echemportal/index?pageID=0&request_local http://www.echemportal.org/echemportal/index?pageID=0&request_local e=en.

【4】 CAMEO Chemical Substance Database, USA,

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http://cameochemicals.noaa.gov/search/simple.

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【5】 American Medical Library: Chemical Identification Database, URL:http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp.

【6】 U.S. Environmental Protection Agency: Integrated Hazard Information System, http://cfpub.epa.gov/iris/

【7】 U.S. Department of Transportation: Emergency Response Guide, URL:http://www.phmsa.dot.gov/hazmat/library/erg.

【8】 German GESTIS database of hazardous substances, URL:http://gestis-en.itrust.de/.

Abbreviations and Acronyms:

MAC: Maximum Allowable Concentration, the level of toxic chemicals that should not be exceeded at any time during a working day at a workplace.

PC-TWA: Time-weighted average permissible concentration (TWA-PC), which is the time-weighted average of the permissible exposure concentration over 8 working days and 40 working weeks.

PC-STEL (Permissible Concentration-Short Term Exposure Limit) is the concentration level that permits short-term exposure (15 minutes) while complying with PC-TWA (Permissible Concentration-Total Weekly Average).

disclaimer ：

China Petroleum Guangxi Petrochemical Company has provided all relevant information in this SDS in a comprehensive and truthful manner, but we cannot guarantee its absolute comprehensiveness and accuracy. This SDS only provides safety precautions for those personnel who have received appropriate professional training and are using the product. Individual users who obtain this SDS must independently assess its applicability under special usage conditions. In special usage scenarios, China Petroleum Guangxi Petrochemical Company shall not be liable for any injuries caused by the use of this SDS.

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