

Safety data sheet

Product name: Di-tert-butyl Polysulfide

SDS Number:D-SDS-05



Safety data sheet

GUANGDA Safety data sheet
Date / Revised: 21.05.2016/08.04.2024
Product: **Di-tert-butyl Polysulfide**

Version: 2.0

(D-SDS-05)

Date of print: 12.05.2025

1. Substance/preparation and manufacturer/supplier identification

Product name:
Di-tert-Butyl Polysulfide

Recommended Use: Vulcanizing agent for petroleum refining

Manufacturer/supplier:

Shenyang Guangda Chemical Co., Ltd.
No. 4A, Xihe Liu North Street, Shenyang Economic & Technological Development Zone
Shenyang 110141, Liaoning, P.R CHINA
Telephone: +86 24 25798338
Fax: +86 24 25798332

Emergency information:

Emergency Advice Number: +86 24 25798341

2. Hazard Identification

Emergency Overview:

Appearance	: liquid
Colour	: colorless to light-yellow
Odour	: No data available

Causes mild skin irritation. May cause an allergic skin reaction. Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

GHS Classification:

Skin corrosion/irritation	: Category 3
Skin sensitization	: Sub-category 1B
Short-term (acute) aquatic hazard	: Category 1
long-term (chronic) aquatic hazard	: Category 1

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GHS Label elements:

Hazard pictograms

:



Signal word

:

Warning

Hazard statements

:

H316 Causes mild skin irritation.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

:

Prevention:

P261 Avoid breathing mist or vapours.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P317 If skin irritation or rash occurs: Get medical help.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Disposal:

P501 Dispose of contents/ container should be in accordance with local, regional, national and international regulation.

Physical and chemical hazards

Not classified based on available information.

Health hazards

Causes mild skin irritation. May cause an allergic skin reaction.

Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification

None known.

3. Composition/information on ingredients

Substance / Mixture

:

Substance

Components

Chemical name	CAS-No.	Concentration (% w/w)
Di-tert-butyl Polysulfide	68937-96-2	>= 90 -<= 100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

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4. First-Aid Measures

Description of first aid measures:

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Get medical attention immediately.
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If unconscious, place in recovery position and get medical attention immediately.
Maintain open airway.
If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- In case of skin contact : Wash off immediately with plenty of water.
Continue to rinse for at least 10 minutes.
Remove contaminated clothing and shoes.
Wash contaminated clothing before reuse.
In the case of skin irritation or allergic reactions see a physician.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Get medical attention if symptoms appear.
- On ingestion : Rinse mouth with water.
Do not induce vomiting unless directed to do by medical personnel.
Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed

- Symptoms : Skin: Causes irritation with symptoms of reddening, itching, and swelling.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Risks : Causes mild skin irritation.
May cause an allergic skin reaction.
- Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician : Treat symptomatically.

Seek immediate medical attention:

Determine based on actual conditions

5. Firefighting Measures

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Combustible liquid.
In a fire or if heated, a pressure increase will occur and the container may burst.

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		Do not allow run-off from firefighting to enter drains or water courses.
Hazardous combustion products	:	Carbon dioxide (CO ₂) Carbon monoxide Sulphur oxides
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers. Move containers from fire if this can be done without risk. Fight fire remotely due to the risk of explosion. If this is impossible, withdraw from area and allow fire to burn. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Hazardous decomposition products	:	Carbon oxides. Sulfur oxides.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	:	No action shall be taken involving any personal risk or without suitable training. Put on appropriate personal protection equipment. Do not touch or walk through spilt material. Evacuate unnecessary personnel. Keep unnecessary and unprotected personnel from entering. Provide adequate ventilation. Do not breathe vapours, aerosols. Remove all sources of ignition.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Move containers from spill area. Wash spillages into an effluent treatment plant or proceed as follows. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Dispose of wastes in an approved waste disposal facility. Do not allow into the sewerage system, surface waters or groundwater or into the soil. Contaminated absorbent material may pose the same hazard as the spilled product. Non-sparking tools should be used.

7. Handling and Storage

Handling

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Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.
Smoking, eating and drinking should be prohibited in the application area.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Avoidance of contact : No specific data.

Storage

Conditions for safe storage : Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : Stable under recommended storage conditions.

Storage Container Specifications:

200L Galvanized Steel Drum;

200L Baked Paint Steel Drum

1 m³ IBC Tank;

20 m³ Tank or larger stainless-steel containers.

Prohibit the use of containers with moisture, rust, or foreign contaminants

8. Exposure controls and personal protection

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Use explosion-proof ventilating equipment.

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
Wear breathing apparatus with separate air supply (compressed air respirator, tube apparatus) at higher concentrations.

Filter type : Combined inorganic and acidic gas/vapour, ammonia/amines and organic vapour type

Eye/face protection : Tightly fitting safety goggles

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Flame retardant antistatic protective clothing.

Hand protection

Material : Nitrile rubber - NBR

Break through time : 8 h

Glove thickness : 0.75 mm

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Wearing time	:	< 60 min
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations
Hygiene measures	:	General industrial hygiene practice. Wash hands before breaks and at the end of workday.

9. Physical and Chemical Properties

Appearance	:	Light Yellow transparent liquid
Odor	:	Sulfurous odor (≤ 10 ppm)
pH value	:	Neutral
Melting point/Freezing point	:	-20°C ~ -15°C
Boiling point	:	> 200°C
Flash Point (Closed up)	:	No less than 100°C
Flammability Limits		
Upper limits	:	No data available
Lower limits	:	No data available
Vapor pressure	:	0.069 kPa (0.52 mm Hg) [50°C]
Vapor density	:	>1 [Air = 1]
Density (20°C)	:	1.010 g/cm ³
Solubility (water)	:	Insoluble in water; soluble in some organic solvents."
KOW:	:	No data available
Natural Temperature	:	No data available
Decomposition	:	150 °C

10. Stability and Reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is chemically stable
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur. Vapours may form explosive mixtures with air.
Conditions to avoid	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Hydrogen sulphide Sulphur oxides Carbon monoxide Carbon dioxide (CO ₂) No hazardous decomposition products are known.

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11. Toxicological Information

Acute toxicity

Not classified due to lack of data.

Components:

Di-tert-Butyl Polysulfide:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 401
GLP: Yes
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: Yes
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes mild skin irritation.

Components:

Di-tert-Butyl Polysulfide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Mild skin irritation
GLP : Yes

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Components:

Di-tert-Butyl Polysulfide:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation
GLP : Yes

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Components:

Di-tert-Butyl Polysulfide:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : The product is a skin sensitiser, sub-category 1B.
GLP : Yes

Germ cell mutagenicity

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Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Not classified due to lack of data.

STOT - single exposure

Not classified due to lack of data.

STOT - repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Repeated dose toxicity

Aspiration toxicity

Not classified due to lack of data.

Further information

Product

Remarks : No data available

12. Ecological Information

Ecotoxicity

Components:

Di-tert-Butyl Polysulfide:

Toxicity to fish : LC50 : 0.681 - 4.016 mg/l
End point: mortality
Exposure time: 96 h
Method: QSAR

Toxicity to daphnia and other aquatic invertebrates : EC10 (Daphnia magna (Water flea)): 0.135 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Method: OECD
Test Guideline 202
GLP: Yes
Remarks: water extractable fraction

EC50 (Daphnia magna (Water flea)): 0.255 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: Yes
Remarks: water extractable fraction

Toxicity to algae/aquatic plants : EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.696 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: Yes

EC50 (Raphidocelis subcapitata (freshwater green alga)): >

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1.89 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: Yes
NOEC (Raphidocelis subcapitata (freshwater green alga)):
0.162 mg/l
End point: Growth rate
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: Yes

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

Persistence and degradability

Components:

Di-tert-Butyl Polysulfide:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 13 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

Di-tert-Butyl Polysulfide:

Partition coefficient: n-octanol/water : log Pow: 5.6 (20 °C)
Method: OECD Test Guideline 117
GLP: Yes

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

13. Disposal Considerations

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
The product should not be allowed to enter drains, water courses or the soil.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

14. Transport Information

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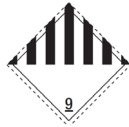
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International Regulations

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(DI-TERT-BUTYLPOLYSULFIDE)
Class : 9
Packing group : III
Labels : 9
:



Packing instruction (cargo aircraft) : 964: 450.00 L

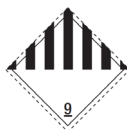
Packing instruction (passenger aircraft) : 964: 450.00 L

Environmentally hazardous : yes



IMDG-Code

UN number : UN 3082
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(DI-TERT-BUTYLPOLYSULFIDE)
Class : 9
Packing group : III
Labels : 9
:



EmS Code : F-A, S-F

Marine pollutant : yes



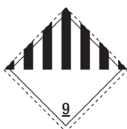
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

GB 6944/12268

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(DI-TERT-BUTYLPOLYSULFIDE)
Class : 9
Packing group : III
Labels : 9
:



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Environmentally hazardous : yes



Transportation Notes:

- Appropriate & sufficient fire-fighting facilities and spill emergency handling apparatus should be equipped with the transport vehicles.
- In case of products with explosive, flammable, self-reactive, pyrophoric, self-heating and oxidizing properties:
- Tank cars used in transport should be equipped with a grounding chain; a porous separator plate may be provided in the tank car to reduce static electricity shocks.
- The exhaust pipes of vehicles used for shipping this product must be equipped with fire retardant devices. The use of mechanical equipment or tools prone to sparking is prohibited.
- Protect against exposure to sun, rain and high temperatures during transit; in summer, transport should ideally be in the morning or evening.
- Keep away from fire, heat and high temperature zones during stopovers.
- When transporting over public roads, select routes compliant with regulations and do not stop over in residential or densely populated areas.

Special precautions for user

Hazard and Handling Notes

Environmentally hazardous substance.
Combustible.
Keep separated from foodstuffs.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory Information

National regulatory information

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : This product is not listed in the catalogue of hazardous chemicals, but it meets the definition of hazardous chemicals and its principles of determination.

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218) : Not listed

Hazardous Chemicals for Priority Management under SAWS : Not listed

Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals : Not listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export : Not listed

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Regulations of Ozone Depleting Substances Management

List of Controlled Ozone Depleting Substances : Not listed

Import and Export

List of Controlled Ozone Depleting Substances : Not listed

The components of this product are reported in the following inventories:

China. Inventory of Existing Chemical Substances in China (IECSC) : On the inventory, or in compliance with the inventory

16. Other Information

Revision Date : 2024/04/08

Date format : yyyy/mm/dd

Disclaimer

This product undergoes **annual hazard classification testing** by [*Shanghai Research Institute of Chemical Industry Testing Co., Ltd. (SRICI)*], an accredited third-party laboratory.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. Our company shall not assume any legal responsibility in this Safety Data Sheet (SDS).