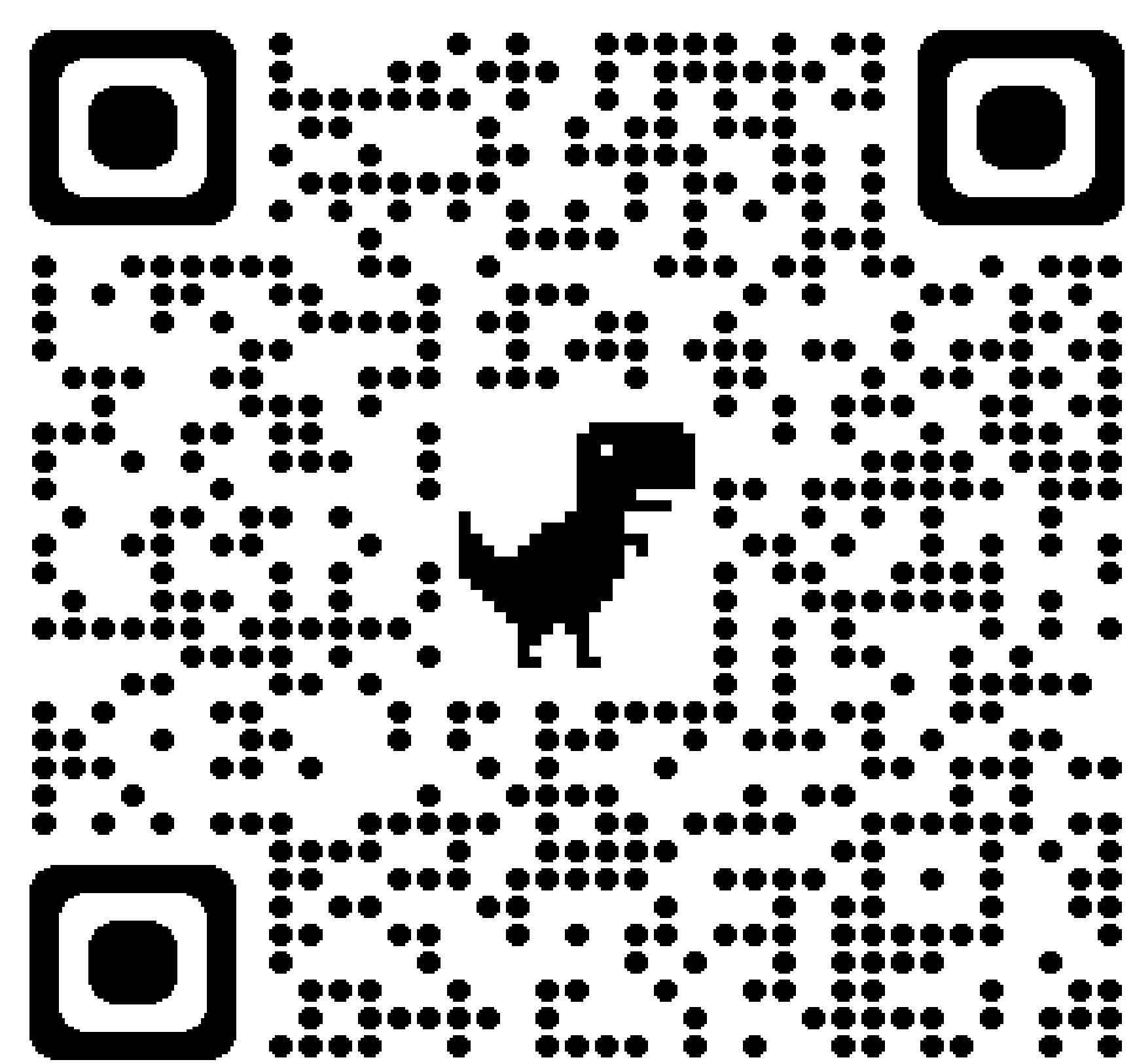




俊源石油集团
JunYuan Petroleum Group



Junyuan Petroleum Group
Add.: No.117, Guangqing Rd., Dongying, China
Phone: +86 178 1030 0898
Email: info@junyuanpetroleumgroup.com
Web: www.junyuanpetroleumgroup.com



俊源石油集团
JunYuan Petroleum Group

JYA-56 CATALYST SULFIDING AGENT

JYA-56 COKING-INHIBITOR



DTBPS
Di-tert-butyl Polysulfide

DTBPS

Di-tert-butyl Polysulfide



JYA-56 Catalyst Sulfiding Agent

GROUP PROFILE

Junyuan Petroleum Group is a new green chemical industry group founded on the basis of Dongying Junyuan Petrochemical Technology Development Co., LTD. Founded in June 2007, the Group's business scope covers the production, trade, logistics and technology development of environmentally friendly refrigerant, food additive, industrial cleaning solvent and other hazardous chemicals. The total registered capital of the group is CNY 500 million, including: 3 production bases in Dongying, Shandong Province, 1 logistics base; 1 production base in Xinjiang; 1 office in Beijing; a mineral development base in Kenya; And three marketing divisions in Beijing and Shandong.

The group covers an area of more than 130 million m² and employs more than 1000 people. Total assets of nearly 6 billion yuan, total annual revenue of more than 6 billion yuan.

The group has established stable R&D and technical cooperation mechanisms with well-known universities such as Zhongshan University, Harbin Institute of Technology, China University of Petroleum, University of Chinese Academy of Sciences, Tianjin University, East China University of Science and Technology, and scientific research institutions such as Shanxi Institute of Coal Chemistry of Chinese Academy of Sciences and Beijing Institute of Process of Chinese Academy of Sciences. The Group and its affiliated enterprises have more than 10 provincial and municipal R&D platforms. Gradually formed a technology research and development team to support the high-end development of enterprises, "green chemical industry", "new materials", "new energy" and other fields as the focus of research and development of green low-carbon alternative technology research and application.

At present, the group has developed into a high-tech enterprise with R&D, production and sales of high-end green fine chemical products such as hydrocarbon refrigeration solvents and high purity environmental solvent oil as its main business. It is the largest manufacturer of environmentally friendly solvents and environment-friendly hydro-carbon refrigerants and pentane foaming agents in China, and its market share of leading products has been the first in the world for 6 consecutive years.

At present, the group is authorized the national production license of industrial products, the safety production license of dangerous chemicals, the production license of food additives (vegetable oil extraction solvent, n-hex-ane) and other production qualifications. Junyuan has been certified by ISO9001, ISO14001, OHSAS18001, ISO50001 and GB/T29490 five system certification; Being a approved supplier of large scale international petro-chemical enterprises, the group has expanded its market to more than 30 countries and regions in the Middle East, Europe, America and Southeast Asia, and its products cover petrochemical, building materials, new energy power generation, vegetable oil and other industries. It has established cooperative relations with large and well-known enterprises at home and abroad, such as Sinopec, Petrochina, CNOOC, Haier, COFCO, BASF, SABIC and Sinar-mas Group.

PRODUCT INTRODUCTION

JYA-56 catalyst sulfiding agent is the technology crystallization of collaborative innovation between Dongying Junyu-an Group and cooperative colleges and universities, owning its technical patents. This product is not listed as hazardous chemicals according to the physical hazard classification standard. It has environmentally none-foul smell, low odor, high flash point, and strong safety features, widely used in hydrogenation catalyst pre-sulfiding, lubrication additives and other industries. Each performance of this sulfiding agent is better than that of DMDS and It is in line with the domestic and international environmental protection and safety requirements. it's the best reliable alternative of DMDS.

PRODUCT NAME AND PHYSICAL CHARACTERISTICS

- Product Name: Catalyst Sulfiding Agent
- Product Code: JYA-56
- Chemical Composition: Di-Tert-Butyl Polysulfide
- Product Specification:

JYA-56 Catalyst Sulfiding Agent

Items	Quality Index	Method of Analysis
Flash Point (Opening),℃	≥100	GB/T 3536
Appearance	Dark Brown or Tan Liquid	Visual Inspection ^a
Odor	Lower Odor	Sniff Inspection
Solubility	Insoluble in Water, Miscible in Alcohol, Ether, etc.	Visual Inspection
Density(20℃),g/cm ³	1.09-1.18	GB/T 4472
Sulfur, %(m/m)	52-56	GB/T 17040
Solidifying Point, ℃	≤-30	GB/T 510
Ash, %(m/m)	≤0.05	GB/T 508
Kinematic Viscosity (40℃) , mm ² /s	To Be Reported	GB/T 265
Initial Thermal Decomposition Temperature, ℃	125-150	GB/T 22025

^aInject the sample into a 100mL glass measuring cylinder, and the sample should be dark brown or tan liquid when observed at room temperature.

DTBPS
Di-tert-butyl Polysulfide

PHYSICAL CHARACTERISTICS

Comparison Between JYA-56 and DMDS

Physical Characteristics	DMDS	JYA-56
Sulfur Content(%wt/wt)	68	52-56
Thermal Decomposition Temperature℃	200	150
Flash Point℃	24	100
Appearance	Light Yellow Liquid	Dark Brown Liquid
Water Solubility	No	No
Odor	Foul	Hydrocarbon Oil Smell
Fluidity	Good	Good
GHS	Hazard Cargo	None Hazard Cargo

APPLICATION SCOPE

JYA-56 Sulfiding Agent is widely used in the fields of oil refining, petrochemical, coal chemical, fine chemical and other fields for hydrogenation catalyst presulfidation, sulfur supplementation and sulfur injection; it has achieved good environmental protection and safety production effects and economic benefits.

STORAGE

Store in a cool, ventilated place. When storing in the warehouse, ventilation should be maintained, and electrical facilities such as lighting should be explosion-proof, and stored separately from oxidants, reducing agents, acids and alkalis, and hazardous chemicals. If it is stored outdoors, it is necessary to protect it from exposure to the sun and rain, and keep it away from fire and high temperature areas. The storage area is equipped with first aid safety equipment such as emergency leakage treatment and containment.



JYA-56 Sulfiding Agent

⚠ DANGER

Hazardous characteristics: Combustible in case of open flame and high heat.
Hazardous combustion products: carbon monoxide, sulfur oxides.
Fire extinguishing method: use mist water, foam, dry powder, carbon dioxide, sand to extinguish fire.

【Precaution】

- Avoid operation, full ventilation.
- Operators wear self-priming filter gas masks (half mask), chemical safety protective glasses, anti-penetrant overalls and chemical-resistant gloves.
- Keep away from fire and heat sources, and smoking is strictly prohibited in the workplace.
- Use explosion-proof ventilation systems and equipment.
- Prevent vaporization escaping into workplace air.
- Avoid contact with oxidizing agents and acids.
- Equipped with corresponding types and quantities of fire-fighting equipment and leakage emergency treatment equipment.

【Incident Response】

- Fire extinguishing method: use mist water, foam, dry powder, carbon dioxide, sand to extinguish fire.
- Leakage emergency treatment: quickly evacuate personnel from the leaked contaminated area to a safe area, and isolate them, strictly restricting access. Cut off the fire sources. It is recommended that emergency personnel wear self-priming filter gas masks (full face masks) and protective clothing. Cut off the source of the leak as much as possible. Prevent flowing into restricted spaces such as sewers and flood drains.
- Small spills: mix with sand, drylime or soda ash.
- Large amount of leakage: Construct dikes or dig pits for containment. Use a pump to transfer it to a tank truck or a special collector, and recycle it or transport it to a waste treatment site for disposal.
- Skin contact: Take off contaminated clothing and rinse with running water. Get medical attention if you feel unwell.
- Eye contact: Lift the eyelids and rinse with running water or saline. Get medical attention if you feel unwell.
- Inhalation: Get away from the source to fresh air. If breathing is difficult, give oxygen. Seek medical attention.
- Ingestion: Drink plenty of warm water, induce vomiting. Seek medical attention.
- Contaminated clothing should be washed before use.

【Safe storage】

- Store in a cool, ventilated warehouse. Keep away from fire and heat sources. It should be stored separately from oxidants and acids, and should not be stored together. Equipped with the appropriate variety and quantity of fire equipment. The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.

【Disposal】

- Disposal methods: Please refer to relevant national and local regulations before disposal. Disposal by incineration is recommended. Sulfur oxides from the incinerator are removed through a scrubber.

See Material Safety Data Sheet

Supplier: Dongying Junyuan Petrochemical Technology Development Co., Ltd. Tel: 0546-6403245
Address: No.117, Guanggang Road, Dingcheng Town, Guangao County, Shandong Province
Enterprise Emergency Telephone: 0546-6403246

It can be seen from the table:

- (1) The flash point (open cup)of this product is as high as 100℃, which is significantly higher than that of dimethyl disulfide (DMDS), so to leads to a safer storage, transportation, injection handling and other characteristics. In addition, the product does not require a water seal for storage, and there is no special protection and strict regulatory requirements for transportation and usage, which greatly reduces the risk of production.
- (2) Compared with dimethyl disulfide (DMDS), it is not easy to volatilize under normal temperature and pressure, and has only a light smell when loading and unloading, no unpleasant smell, so the operating environment is friendly.
- (3) The decomposition temperature of this product is lower than that of dimethyl disulfide (DMDS), and the decomposition temperature range is wide. It is easy to be adsorbed by the catalyst, and the adsorption effect is better. A certain molecular weight distribution can effectively protect the hydrogenation catalyst from being thermally deactivated during the heating process.
- (4) The appearance of the product is a dark brown liquid, and it is easy to judge and verify the injection volume through the liquid level gauge during the vulcanization process.
- (5) This product has the environmental protection concerns of saving hydrogen consumption and reducing sulfide emissions.
- (6) Compared with the loss of sulfuretted hydrogen caused by methane emission when use dimethyl disulfide (DMDS), this product has basically no sulfuretted hydrogen loss in the sulfidation process, high utilization rate and economize the amount of sulfiding agent.

DTBPS
Di-tert-butyl Polysulfide

JYA-56 Coking-Inhibitor



PRODUCT INTRODUCTION

JYA-56 Environmental friendly and safe coking inhibitor is an independent innovation product jointly innovated by Dongying Junyuan group and cooperative colleges and universities. It has a number of technical patents and can effectively replace international products. This product is not listed as hazardous chemicals according to the physical hazard classification standard. It has environmental none-foul smell, low odor, high flash point, and strong safety features, and it is widely used as coking inhibitor for ethylene cracking furnace (also known as coking inhibitor for gas phase cracking furnace), Hydrogenation catalyst presulfidation and lubricating oil additives, etc. As a new generation of environmentally friendly and safe products, its each performance is better than that of DMDS and It is in line with the domestic and international environmental protection and safety requirements. it’s the best reliable alternative of DMDS.

PRODUCT NAME AND PHYSICAL CHARACTERISTICS

- Product Name:Coking-Inhibitor
- Product Code:JYA-56
- Chemical Composition:Di-Tert-Butyl Polysulfide
- Product Specification:

JYA-56 Coking-Inhibitor

Items	Quality Index	Method of Analysis
Flash Point (Opening),℃	≥100	GB/T 3536
Appearance	Dark Brown or Tan Liquid	Visual Inspection ^a
Odor	Lower Odor	Sniff Inspection
Solubility	Insoluble in Water, Miscible in Alcohol, Ether, etc.	Visual Inspection
Density(20℃),g/cm³	1.09-1.18	GB/T 4472
Sulfur, %(m/m)	52-56	GB/T 17040
Solidifying Point, ℃	≤-30	GB/T 510
Ash, %(m/m)	≤0.05	GB/T 508
Kinematic Viscosity (40℃) , mm²/s	To Be Reported	GB/T 265
Initial Thermal Decomposition Temperature, ℃	125-150	GB/T 22025

^aInject the sample into a 100mL glass measuring cylinder, and the sample should be dark brown or tan liquid when observed at room temperature.

JYA-56 Coking -Inhibitor

APPLICATION SCOPE

JYA-56 is widely used in cracking furnace tube coking inhibitors in the ethylene industry, sulfur supplementation and sulfur injection; it has achieved good environmental protection and safety production effects and economic benefits.

STORAGE

Store in a cool, ventilated place. When storing in the warehouse, ventilation should be maintained, and electrical facilities such as lighting should be explosion-proof, and stored separately from oxidants, reducing agents, acids and alkalis, and hazardous chemicals. If it is stored outdoors, it is necessary to protect it from exposure to the sun and rain, and keep it away from fire and high temperature areas. The storage area is equipped with first aid safety equipment such as emergency leakage treatment and containment.



JYA-56 Coking-Inhibitors	
DANGER 	
Hazardous characteristics: Combustible in case of open flame and high heat. Hazardous combustion products: carbon monoxide, sulfur oxides. Fire extinguishing method: use mist water, foam, dry powder, carbon dioxide, sand to extinguish fire.	
【Precaution】 ➢ Avoid operation full mouth when. ➢ Operators wear self-priming filter gas mask (half mask), chemical safety protective glasses, anti-poison infiltration overalls, and chemical-resistant gloves. ➢ Keep away from fire and heat sources, and smoking is strictly prohibited in the workplace. ➢ Use explosion-proof ventilation systems and equipment. ➢ Payed attention on recycling into workplace air. ➢ Avoid contact with oxidizing agents and acids. ➢ Equipped with corresponding types and quantities of fire-fighting equipment and leakage emergency treatment equipment.	
【Incident Response】 ➢ Fire extinguishing method: use mist water, foam, dry powder, carbon dioxide, sand to extinguish fire. ➢ Leakage emergency treatment: quickly evacuate personnel from the leaked contaminated area to a safe area, and isolate them, strictly restricting access. Cut off the fire source. It is recommended that emergency personnel wear self-priming filter gas mask (full face mask) and protective clothing. Cut off the source of the leak as much as possible. Prevent flowing into restricted spaces such as sewers and flood drains. ➢ Small spill: mix with sand, drylime or soda ash. ➢ Large amount of leakage: Construct dikes or dig pits for containment. Use a pump to transfer it to a tank truck or a special collector, and recycle it or transport it to a waste treatment site for disposal. ➢ Skin contact: Take off contaminated clothing and rinse with running water. Get medical attention if you feel unwell. ➢ Eye contact: Lift the eyelids and rinse with running water or saline. Get medical attention if you feel unwell. ➢ Inhalation: Get away from the source to fresh air. If breathing is difficult, give oxygen. Seek medical attention. ➢ Ingestion: Drink plenty of warm water, induce vomiting. Seek medical attention. ➢ Contaminated clothing should be washed before use.	
【Safe storage】 ➢ Store in a cool, ventilated warehouse. Keep away from fire and heat sources. It should be stored separately from oxidants and acids, and should not be stored together. Equipped with the appropriate variety and quantity of fire equipment. The storage area should be equipped with leakage emergency treatment equipment and suitable containment materials.	
【Disposal】 ➢ Disposal methods: Please refer to relevant national and local regulations before disposal. Disposal by incineration is recommended. Sulfur oxides from the incinerator are removed through a scrubber.	
See Material Safety Data Sheet	
Supplier: Dongying Junyuan Petrochemical Technology Development Co., Ltd. Tel: 0546-6403245 Address: No.117, Guanggang Road, Dangzhuang Town, Guangao County, Shandong Province 257345	
Enterprise Emergency Telephone: 0546-6403245	

DTBPS
Di-tert-butyl Polysulfide
PHYSICAL CHARACTERISTICS

Comparison Between JYA-56 and DMDS

Physical Characteristics	DMDS	JYA-56
Sulfur Content(%wt/wt)	68	52-56
Thermal Decomposition Temperature℃	200	150
Flash Point℃	24	100
Appearance	Light Yellow Liquid	Dark Brown Liquid
Water Solubility	No	No
Odor	Foul	Hydrocarbon Oil Smell
Fluidity	Good	Good
GHS	Hazard Cargo	None Hazard Cargo

It can be seen from the table:

(1) The flash point (open cup)of this product is as high as 100℃, which is significantly higher than that of dimethyl disulfide (DMDS). It’s non hazardous chemicals so to leads to a safer storage, transportation, injection handling and other characteristics compared to dimethyl disulfide (DMDS) (hazardous chemicals, flash point 24℃). In addition, the product does not require a water seal for storage, and there is no special protection and strict regulatory requirements for transportation and usage, which greatly reduces the risk of production.

(2) Compared with dimethyl disulfide (DMDS), it is not easy to volatilize under normal temperature and pressure, and has only a light smell when loading and unloading, no unpleasant smell, so the operating environment is friendly.

(3) The decomposition temperature of this product is lower than that of dimethyl disulfide (DMDS), and the decomposition temperature range is wide. It can be able to decompose at low temperatures, with mild operating conditions, reducing the impact of incomplete decomposition on the environment.



HONORS AND CERTIFICATES

Honors derive from capacity, while capacity will embrace a continuous success



PRODUCTION FACILITIES

Complete production certificates, complete certification system, advanced process technology, reliable testing capacity and efficient after-sale service



DTBPS Di-tert-butyl Polysulfide



Junyuan Petroleum Group
Add.: No,117, Guangqing Rd.,Dongying,China
Phone: +86 178 1030 0898
Email: info@junyuanpetroleumgroup.com
Web: www.junyuanpetroleumgroup.com

