

# Liquid polysulfides

## 1 Description and characteristics

Liquid polysulfides (briefly LPS) is a kind of mecaptan-terminated polymers whose vulcanized products are one of special synthetic rubbers, and its main structure is  $\text{HS}[\text{C}_2\text{H}_4\text{OCH}_2\text{OC}_2\text{H}_4\text{S}_2]_n\text{SH}$  (n is normally 5 ~ 50). It can be cured by metal oxides or peroxides at room temperature because of its active thiol end group, processed and used conveniently. Its vulcanized products own excellent resistance to oil, solvent, alkali, seawater corrosion, UV and high energy radiation, excellent low temperature flexibility, air tightness, and good adhesion to metal and non-metal materials. Therefore, liquid polysulfides are widely used in aeronautics, astronautics, ships, construction, mechanical and electrical instruments, automobiles, railways, water conservancy and petrochemicals and other fields.

## 2 Types & Uses

### 2.1 Types:

Type Item	JLY-121	JLY-124	JLY-1225	JLY-155	JLY-115	JLY-215
Average molecular weight	1000	4000	2500	5000	5000	5000
Crosslinking degree, %	2	2	2	0.5	1	1

### 2.2 Main uses:

Type Uses	JLY-121	JLY-124	JLY-1225	JLY-155	JLY-115	JLY-215
Construction sealants	★	★	★	★		
Insulating glass sealants	★	★	★			
Aeroplane sealants		★		★	★	★
Automobile sealants	★	★		★		
Expoxy resin modifiers	★	★				
Electrical & mechanical encapping material	★	★	★	★		
Shipping sealants	★	★	★	★		
Artificial leather infiltrating material	★					
Concrete adhesives	★					
Flexible adhesives	★	★	★	★	★	

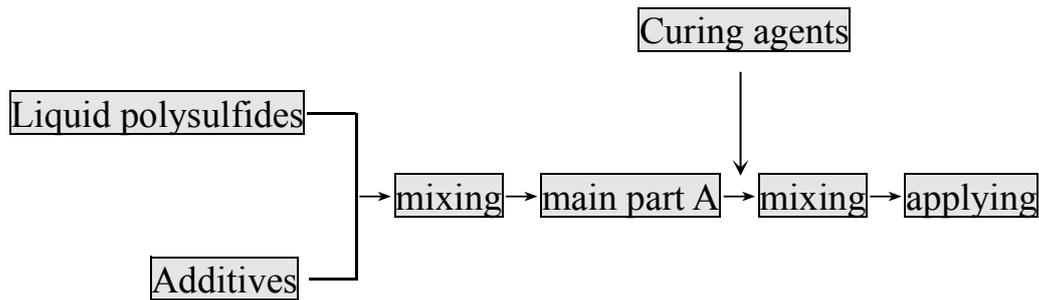
### 3 Specifications

Type Item	JLY-121	JLY-124	JLY-1225	JLY-155	JLY-115	JLY-215
Appearance	Brown sticky liquid					
-SH, %	5.90~ 7.70	1.47~ 1.89	2.44~ 2.87	1.10~ 1.65	1.20~ 1.47	1.16~ 1.47
Water, %	0.2	0.2	0.2	0.2	0.1	0.1
pH value	6.0~8.0	6.0~8.0	6.0~8.0	6.0~8.5	6.0~8.0	6.0~8.0
Foreign subjects, %	0.5	0.3	0.5	0.3	0.3	0.3
Free sulfur, %	—	—	—	0.2	0.1	0.1
Viscosity, 25℃,Pa.s	—	50~120	15~25	70~200	—	80~200
After curing						
Stretch strength, MPa $\geq$	1.75	3.0	3.0	4.0	3.0	4.5
Elongation at break, % $\geq$	200	300	300	600	500	600
Tensile permanent deformation, % $\leq$	15	10	15	25	15	25

### 4 Application method & attention points

Liquid polysulfides is mainly processed as sealing materials most of

which are two-part type. The application method is as follows.



## 5 Storage

Liquid polysulfides should be stored in a cool, dry, and well-ventilated warehouse. The shelf life is two years from the date of production.

## 6 Packing & labeling

Liquid polysulfides is packed in galvanized iron drums of 250kg each, or in buckets of 25kg each, or in accordance with the contract. The packing container should be labeled with producer name, product name & type, product standard no., production date & batch no., and net mass.

## 7 Transportation

Liquid polysulfides is non-flammable, non-explosive goods which can be transported according to the general non-dangerous goods.

## 8 Safety

Liquid polysulfides is non-toxic. It has a mercaptan-like odor with trace amounts of small molecules containing sulfur compounds, but the odor will disappear after curing. It is not irritant to eyes and skin. Occasional contact with liquid polysulfides will not cause allergic reactions. Health injuries are not known or expected under normal use. Liquid polysulfides is usually processed as sealants with other additives. Please use suitable additives with LPS to prevent the occurrences of toxicity and other hazards.

# Solid polysulfides JLG-200

## 1 Description and characteristics

Solid polysulfides JLG-200 is a kind of hydroxyl-terminated disulfide polymer synthesized from dichloroethers and sodium polysulfide. Its vulcanized products hold resistance to oil, solvents and aging.

## 2 Uses

It is used for producing oil-resistant rubber articles such as oil-resistant rubber hoses, rubber films and printing rubber rolls. Its low-temperature flexibility and solvent resistance can be improved by blending with acrylonitrile-butadiene rubber. Also, it can be used for producing non-drying putty with good oil and solvent resistance.

## 3 Specifications

Item	Index	
	Type I	Type II
Appearance	Dark elastic material	
Water, % ≤	1.0	
Ash, % ≤	2.0	
Swelling degree, % ≤	5.0	
Cold resistance (-40°C, 2h)	Crack free under 180°bending	
Softness degree, s	10~50	16~35
After curing		
Stretch strength, MPa ≥	—	3.43
Elongation at break, % ≥	—	250
Tensile permanent deformation, % ≤	—	24

## 4 Application method

Solid polysulfides JLG-200 is used in much the same way as general synthetic rubbers. Zinc oxide is usually used as its curing agent and stearic acid is used as its retarder.

## 5 Storage

Solid polysulfides JLG-200 should be stored in dry and well-ventilated warehouse, prevented from direct sunlight, isolated from

the source of fire, and away from the heat source. The shelf life is 1 year from the date of production.

### **6 Packing & labeling**

Solid polysulfides JLG-200 is packed in two layers: inner is silicone cloth bag and outer is iron bucket, 25kg per bucket, or in accordance with the contract. The packing container should be labeled with producer name, trademark, product name & type, product standard no., production date & batch no., and net mass.

### **7 Transportation**

Solid polysulfides belongs to non-dangerous goods which can be transported according to the general non-dangerous goods. Pay attention to the rainproof, the moisture-proof and the sun-proof during transportation and avoid the packing breakage when handling.

### **8 Safety**

Solid polysulfides is non-toxic. It has a mercaptan-like odor with trace amounts of small molecules containing sulfur compounds, but the odor will basically disappear after curing. It is not irritant to eyes and skin. Occasional contact with liquid polysulfides will not cause allergic reactions. Health injuries are not known or expected under normal use.