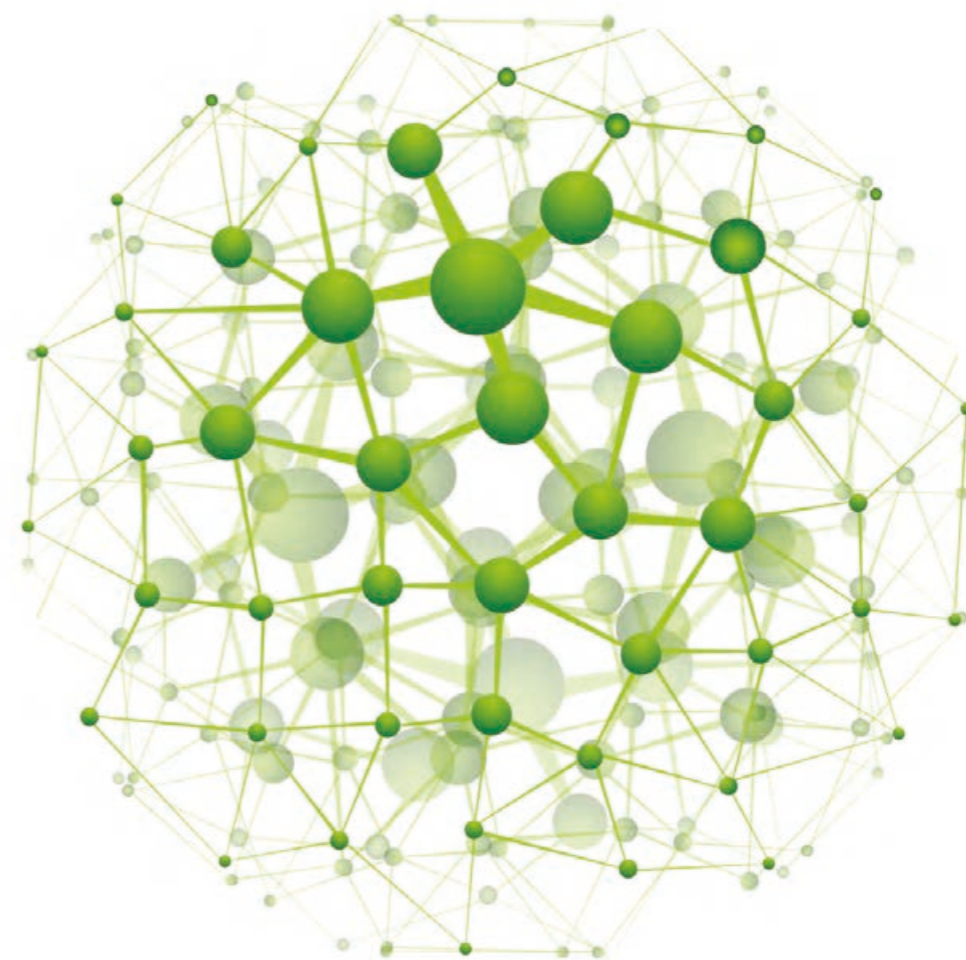




World Of Rubber, Leaving Our Green Print



诚信    务实  
Integrity    pragmatic  
高效    创新  
efficient    Innovation



嘉兴北化高分子助剂有限公司  
Jiexing Beihua Polymer Additives CO.,LTD



- 01 企业简介 Company profile
- 02 企业文化 corporate culture
- 03 企业成就 Enterprise achievement
- 04 企业荣誉 Enterprise honor
- 05 产品优势 Product advantage
- 07 产品应用 Product application
- 09 产品说明 Product description



## CORPORATE CULTURE

**Corporate Vision** To be a world-class chemical enterprise

**Strategic Positioning** To be a Leading Brand of Rubber Auxiliary Industry in China and Globally

**Corporate Mission** To Chang the world's rubber additives track and protect the earth's green environment.

## COMPANY PROFILE

Jiaxing Beihua Polymer Auxiliaries Co., Ltd. was established in 2010 with a registered capital of RMB 40 million. It is a high-tech enterprise specializing in producing kinds of pre-dispersed masterbatch. The company is located in Jiashan Zhejiang Science and Technology Park. The location is in the center of three cities of Shanghai, Hangzhou, and Suzhou with convenient transportation, good environment and perfect supporting facilities.

The company cooperates with Beijing University of Chemical Technology to develop fine pre-dispersed rubber masterbatch, which is specialized in solving problems of processing and dispersing the rubber products, improving the operating environment and optimizing the production process. It has the characteristics of improving the product quality, reducing the product nonuniformity rate and saving energy. Try best to make technology service for producing.

The company has passed the certification of ISO9001: 2015, ISO914001:2015,OHSAS 18001:2007,IATF16949:2016.

At present,the company's annual 8,000 tons capacity production lines have been officially put into operation.We are sincerely expecting to cooperate with domestic and foreign companies to create a better future.



### »» Corporate advantage

Excellent Technology---Technology Relies on Advanced Elastomer Materials Research Center Team of Beijing University of Chemical Technology The research team has 24 university teachers (11 professors), more than 200 masters and 40 doctoral students, more than 10 research assistants, and nearly 20 senior R&D engineers,providing professional technical support for the Company Talent introduction: In April 2015, the company formally appointed the academician Hu Guohua of Zhejiang Qianren Plan as deputy general manager and technical director. Academician Hu Guohua received the bronze medal of the French Scientific Research Center in 1996 and the Morand LAMBLA Achievement Award of the International Polymer Processing and Molding Society in 2001 (the prize is currently the world's most important prize , one each year) in recognition of his important contribution in polymer processing molding, especially in the field of polymer reaction processing molding. Its outstanding achievements in polymer materials.

»» 2016 American company Carlyle tire technology team joined Jiaxing Beihua



ENTERPRISE HONOR

ENTERPRISE HONOR



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01

16 patents (4 intention patents) 12 new products

02

ISO9001,ISO14001  
IATF16949,18001

03

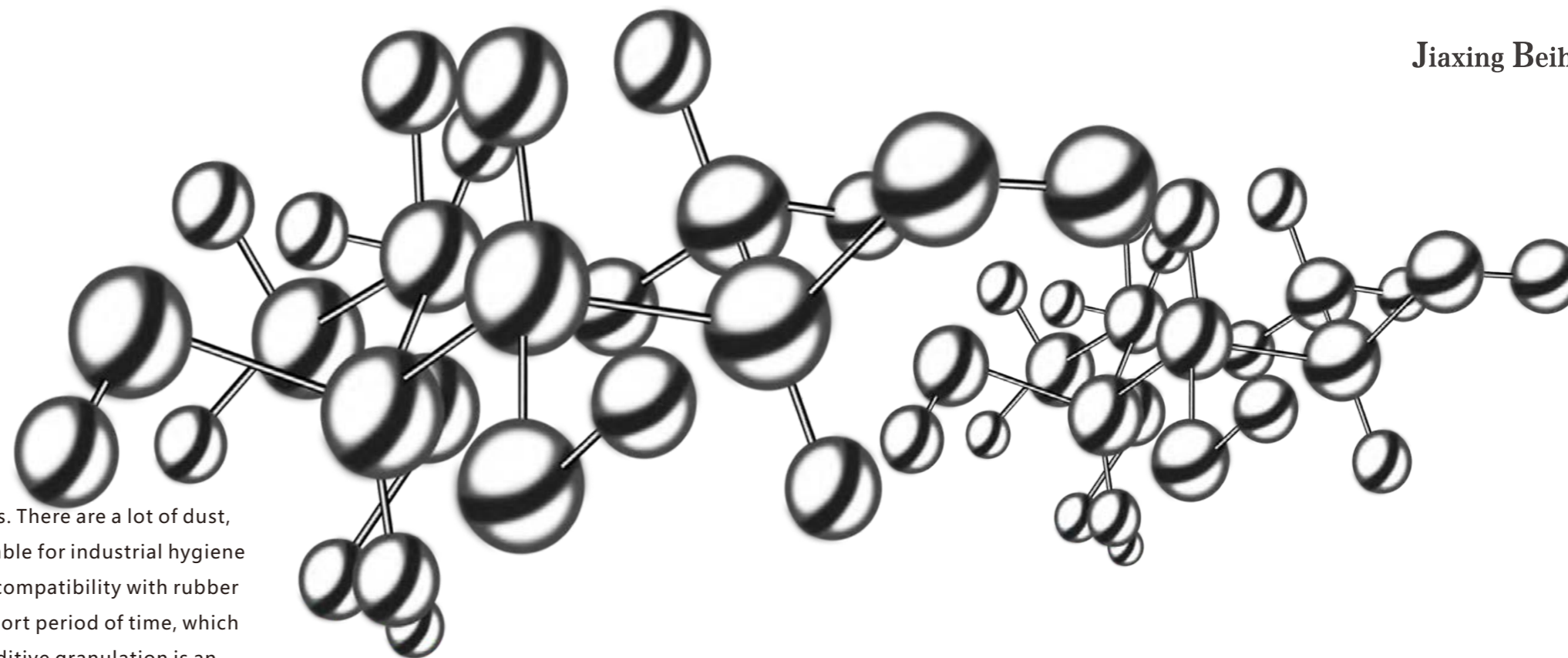
2015-2016,being selected to  
Thousand Talents Plan.

04

The journal China Petroleum  
and Chemical Industry report  
the develop of company.

05

2017,high-technology  
enterprise



## PRODUCT ADVANTAGES

Traditional rubber auxiliaries are mostly powdery chemicals. There are a lot of dust, bad odors and toxic volatiles, which are extremely unfavorable for industrial hygiene and environmental protection. Some chemicals have poor compatibility with rubber and are difficult to disperse evenly in the rubber within a short period of time, which often leads to rubber product quality problems. Rubber additive granulation is an important development direction of rubber additives. Comparing with the traditional powder additives, the masterbatch has the following advantages:



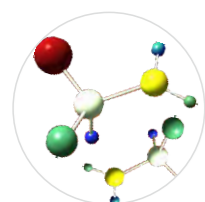
### Environmental protection

The use of pre-dispersed masterbatch to replace ordinary powder processing aids can reduce and eliminate chemical smoke and dust flying.



### Energy saving

The use of pre-dispersed masterbatch can improve the dispersion effect and processing performance, improve product quality, ease of use, reduce the mixing temperature.



### Excellent dispersion

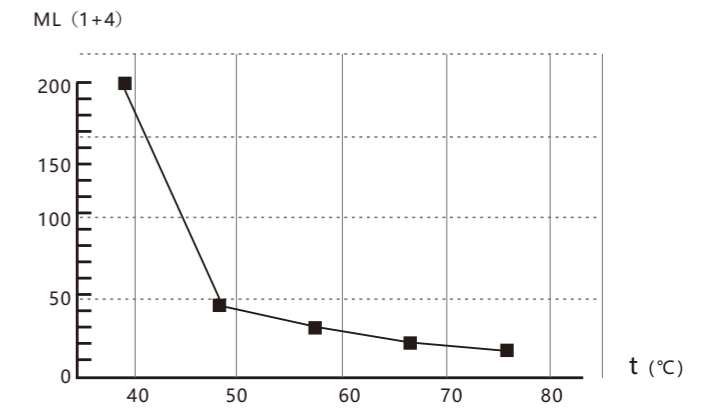
Increasing the dispersion degree, reducing the dispersion time and meeting the requirement of modern rubber of continuous mixing at low temperature.



## PRODUCT APPLICATION

Our products are mainly used in tires, automotive seals, oil seals, shoe soles, wire and cable, industrial products and other fields. It provides professional services for rubber products, and solves the problems of difficult dispersion of rubber additives, defects in product appearance, uneven product quality issues.

Temperature-Mooney Viscosity



# PRODUCT CATALOGUE

## PRODUCT CATALOGUE

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## JXBHgran TMTM(TS)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b> Composition	80% Tetramethyl thiuram monosulfide <sup>①</sup> 20% Carriers and dispersing agent
Appearance	Yellow particles
Density	About 1.16g/cm <sup>3</sup>
Ash	≤7%

**FUNCTION** JXBHgran TMTM-80 has a very fast vulcanization rate for natural and synthetic rubbers and prevents scorching. This product can be used alone, or in combination with thiazoles, aldehydes, guanidines and other accelerators. It is an active agent for thiazole accelerators.

**DOSAGE** NR: 0.15-0.30 Phr and 2.0-3.0 Phr sulphur blend.  
SBR: 0.25-1.50 Phr and 2.0-3.5 Phr sulphur blend.  
NBR: 0.1-3.0 Phr, 0.5-2.0 Phr Sulphur and 1.0-2.0 Phr thiazole accelerators blend.

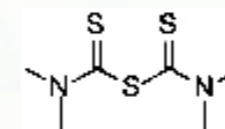
**APPLICATION** Applied to the pedal, cable insulation materials, hard rubber, etc.

**PACKING** 25 kg in carton box with polyethylene bag liner.

**STORAGE** A cool and dry condition, the storage period of one year.

### ①Tetramethyl thiuram monosulfide:

Chemical name	Tetramethyl thiuram monosulfide
Molecule formula	C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> S <sub>3</sub>
Molecule structure	



Molecular weight	208.4
CAS Number	97-74-5
Technical indicators	Appearance: Light yellow powder Initial melting point: ≥105.0 °C Heating loss: ≤0.30% Ash: ≤0.30% Residue on 150μm sieve: ≤0.10% Residue on 63μm sieve: ≤0.50%

This product is a non-discoloring, non-polluting super accelerator, which mainly used for natural rubber and synthetic rubber. The critical temperature of sulfurization is 121°C, the after effect is great, and the scorch resistance is excellent. This product can be used alone, or in combination with thiazoles, guanidine and other accelerators. It is an active agent for thiazole accelerators. There is a delayed vulcanization effect in the general purpose (GN-A) neoprene. It cannot decompose active sulfur and cannot be used for sulfur-free compounding.

JXBHgran TBzTD-70

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b> Composition	70% Tetrabenzyl thiuram disulphide <sup>①</sup> 30% Carriers and dispersing aids
Appearance	Light yellow particles
Density	Approximately 1.15g/cm <sup>3</sup>
Ash	≤12%

**FUNCTION** JXBHgran TBzTD-70 can accelerate the vulcanization of natural rubber and synthetic rubber with high processing safety, shorten the scorch and curing time. JXBHgran TBzTD-70 can not only be the main accelerator but also as a thiazole auxiliary accelerator in the presence of sulfur. It can also be used as sulfur-free system curing agent. It can improve the vulcanized rubber heat aging resistance characteristics without sulfur cross-linking or a small amount of sulfur cross-linking.

**DOSAGE** 0.2-2.0 Phr.

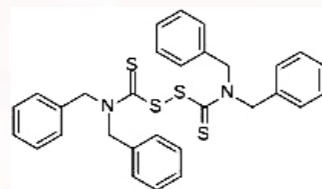
**APPLICATION** Mainly used for tire tread, hose, conveyor belt, rubber shoes and other industrial products.

**PACKING** 25 kg in carton box with polyethylene bag liner.

**STORAGE** Cool and dry conditions, the storage period of at least one year.

①Tetrabenzyl thiuram disulphide

Chemical name	Tetrabenzyl thiuram disulphide
Molecule formula	C <sub>30</sub> H <sub>28</sub> S <sub>4</sub> N <sub>2</sub>
Molecule structure	



Molecular weight	544
CAS Number	10591-85-2
Technical indicators	Appearance: light yellow powder Initial melting point: ≥128.0°C Heating loss: ≤0.30% Ash: ≤0.30% Residue on 150µm sieve: ≤ 0.10% Residue on 63µm sieve: ≤ 0.50%

This product is an environmental friendly thiuram accelerator, because tetrabenzylthiuram disulphide is not carcinogenic. For NR, SBR, EPDM, NBR vulcanization systems, it can be used as a fast main accelerator or secondary accelerator. It has a safer and longer scorch time than TMTD and can be used as a PVC rubber vulcanization inhibitor.

JXBHgran TMTD(TT)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b> Composition	80% Tetramethyl thiuram disulfide <sup>①</sup> 20% Carriers and dispersing aids
Appearance	Gray-white particles
Density	About 1.15g/cm <sup>3</sup>
Ash	≤6%

**FUNCTION** JXBHgran TMTD-80 is an accelerator for fast vulcanization of natural and synthetic rubbers, and also a vulcanizing agent in low-sulfur or non-sulfur curing systems.

**DOSAGE** 0.2-2.0 phr

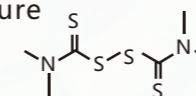
**APPLICATION** Mainly used in the manufacture of tires, rubber shoes, cables and other industrial products.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** Cool and dry conditions, the storage period of one year.

①Tetramethyl thiuram monosulfide:

Chemical Name	Tetramethyl thiuram monosulfide
Molecular formula	C <sub>4</sub> H <sub>12</sub> N <sub>2</sub> S <sub>2</sub>
Molecular Structure	



Molecular weight	240.41
CAS number	137-26-8
Technical indicators	Appearance: white to gray-white powder Initial melting point: ≥142.0 °C Heating loss: ≤0.30% Ash: ≤0.30% Residue on 150µm sieve: ≤ 0.10% Residue on 63µm sieve: ≤ 0.50%

It can be used as a super vulcanization accelerators in rubber industry, and it can be used not only with thiazole accelerators but also with other accelerators as a synergist. As it can be slowly decomposed to free sulfur above 100 °C, it can be used as curing agent. The product is excellent in aging resistance and heat resistance. Applicabing to natural rubber, synthetic rubber. It is mainly used in the manufacture of tires, inner tubes, rubber shoes, cables and other industrial products. It can not only be used as a fungicide and pesticides in agriculture, but also as lubricants additives.



## JXBHgran DPTT(TRA)-70

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b> Composition	70% Dipentamethylene thiuram hexasulfide <sup>①</sup> 30% Carriers and dispersing aids
Appearance	Light yellow particles
Density	About 1.25g/cm <sup>3</sup>
Ash	≤10%

**FUNCTION** JXBHgran DPTT-70's curing time is short and it has good anti-scorch performance. JXBHgran DPTT-70 can be used as an activator and an auxiliary accelerators when used in combination with a sulfenamide accelerators. A small amount of JXBHgran DPTT-70 is used in combination with a thiuram accelerators to achieve a very good anti-aging performance.

**DOSAGE** 0.2-3.5 phr

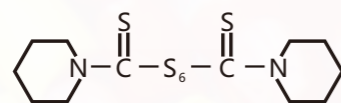
**APPLICATION** It generally used for a variety of heat-resistant rubber products, cables and so on.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

### ①Dipentamethylene thiuram hexasulfide:

Chemical Name	Dipentamethylene thiuram hexasulfide;
Molecular Formula	C <sub>12</sub> H <sub>20</sub> N <sub>2</sub> S <sub>6</sub>
Molecular structure	



Molecular weight	448.77
CAS number	971-15-3
Technical indicators	Appearance: Light yellow powder Initial melting point: ≥113.0°C Heating loss: ≤0.20% Ash: ≤0.10% Residue on 150μm sieve: ≤0.10% Residue on 63μm sieve: ≤0.50%

This product is used as an auxiliary accelerator for natural rubber, synthetic rubber and latex. For the decomposition of free sulfur when heated, it can also be used as a vulcanizing agent. The effective sulfur content is 28% of its mass. The operating temperature is relatively safe. Vulcanized rubber heat resistance, excellent aging resistance can be obtained. This product can be the main accelerator in chlorosulfonated polyethylene rubber, styrene butadiene rubber, and butyl rubber. When used in combining with thiazole accelerators, it is particularly suitable for nitrile rubber and also easily dispersed in water. It does not pollute, and can be used in the manufacture of heat-resistant products, cables, and so on.

## JXBHgran TETD-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b> Composition	80% Tetraethyl thiuram disulfide <sup>①</sup> 20% Carriers and dispersing aids
Appearance	Slight yellow particles
Density	Approximately 1.1g/cm <sup>3</sup>
Ash	≤5%

**FUNCTION** JXBHgran TETD-80 is a super vulcanization accelerator and vulcanizing agent for natural rubber, synthetic rubber and latex

**DOSAGE** 0.2-2.0 phr

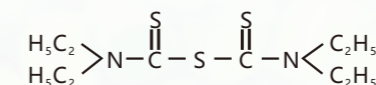
**APPLICATION** Mainly used in the manufacture of variety heat-resistant rubber products. used in cables, tape, rubber shoes, inner tubes, and colorful products.

**PACKING** 25 kg/ box

**STORAGE** Cool and dry conditions, the storage period of one year.

### ①Tetraethyl thiuram disulfide

Chemical Name	Tetraethyl thiuram disulfide
Formula	C <sub>10</sub> H <sub>20</sub> N <sub>2</sub> S <sub>2</sub>
Molecular structure	



Molecular weight	296.53
CAS number	97-77-8
Technical indicators	Appearance: Yellow crystalline powder Initial melting point: ≥65 °C Heating loss: ≤0.30%

It can be used as a super vulcanization accelerator in the rubber industry. The effective sulfur content is 11% of its mass. This product is an excellent second accelerator for thiazole accelerators. It also catalyzes the acid and guanidines accelerators. This product is easy to disperse in the rubber, no pollution, no discoloration. It has good anti-aging and anti-compression deformation properties. Usually used for the manufacture of cables, tapes, rubber shoes, inner tubes, colorful products and so on. It has better scorch properties than TMTD and plasticization in S-adjusted CR.

## JXBHgran MBT(M)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% 2-Mercapto-benzothiazole <sup>®</sup> 20% Carrier and dispersing agent
	Appearance	Light yellow particles
	Density	About 1.25g/cm <sup>3</sup>
	Ash	≤5%

**FUNCTION** JXBHgran MBT-80 is a quasi-ultrafast, multifunctional accelerator which has a long vulcanization flat phase. Good physical and mechanical properties are endowed to vulcanize rubber. In non sulfur vulcanization, JXBHgran MBT-80 as an anti scorch agent, used as a delay vulcanizing agent in CR rubber. Such as aldehyde amine and guanidine alkaline accelerator, Thiurams and dithiocarbamate accelerator have an activating effect on JXBHgran MBT-80.

**DOSAGE** NR and SBR primary accelerator: 1.0-2.0 phr and 2.0-3.0 phr with Sulfur

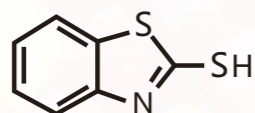
**APPLICATION** Generally used in a variety of industrial products, such as hose, conveyor belt, cable sheath, etc.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry conditions, the storage period of one year.

### ①2-Mercapto-benzothiazole

Chemical Name 2-Mercapto-benzothiazole  
Molecular Formula C<sub>7</sub>H<sub>5</sub>NS<sub>2</sub>  
Molecular structure



Molecule structure  
Molecular weight 167.26  
CAS Number 149-30-4  
Technical indicators  
Appearance: light yellow powder  
Initial Melting point: ≥171.0 °C  
Heating loss: ≤0.30%  
Ash: ≤0.30%  
Residue on 150μm sieve: ≤0.10%  
Residue on 63μm sieve: ≤0.50%

Mainly used in IR, NR, SBR, NBR, and EPDM system. It is a kind of main acid accelerator. Comparing with other accelerators such as DM, TMTD and other alkaline accelerators, higher activity can be obtained, the curing temperature is low, and it is easily to disperse in rubber without pollution. It can be used to make industrial rubber products such as tires, rubber belts, and rubber shoes, but it cannot be used as a food material.

## JXBHgran MBTS(DM)-75

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	75% Dibenzothiazole disulfide <sup>®</sup> 25% Carrier and dispersing agent
	Appearance	Light yellow particles
	Density	About 1.27g/cm <sup>3</sup>
	Ash	≤5%

**FUNCTION** JXBHgran MBTS-75 is a versatile quasi-ultrafast accelerator with good processing safety that can be used alone or in combination with other accelerators. With the activated dithiocarbamate accelerator, it can prevent scorch, and also act as a plasticizer or retarder in neoprene. JXBHgran MBTS-75 can improve processing safety when used in combination with the accelerator. Using JXBHgran MBTS-75 good heat aging resistance can be obtained.

**DOSAGE** NR: 1.2-2.2 phr with 2.0-3.0 phr of sulfur.  
NBR: 1.2-2.2 phr with 0.2-2.0 phr of sulfur.  
SBR: 1.2-3.3 phr with 1.0-3.0 phr of sulfur.

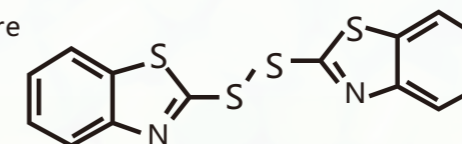
**APPLICATION** Generally used for heat-resistant industrial products, cable sheathing, insulation, and hard rubber.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** Cool and dry conditions, the storage period of one year.

### ①Dibenzothiazole disulfide:

Chemical Name Dibenzothiazole disulfide:  
Molecular Formula C<sub>14</sub>H<sub>8</sub>N<sub>2</sub>S<sub>4</sub>  
Molecular structure



Molecule structure  
Molecular weight 332.50  
CAS Number 120-78-5  
Technical indicators  
Appearance: Gray-white or light yellow powder  
Initial melting point: ≥170.0 °C  
Heating loss: ≤0.30%  
Ash: ≤0.30%  
Residue on 150μm sieve: ≤0.10%  
Residue on 63μm sieve: ≤0.50%

Natural rubber and a variety of synthetic rubber with this accelerator, can produce flating and medium speed vulcanization. There is a significant post-effect, not early curing, safe operation, easy to disperse, no pollution, vulcanized rubber aging resistance. This product is G-type neoprene excellent anti-scorch agent. In neoprene it can also play a plasticizer or delay agent role.

JXBHgran MTT-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% 3-methylthiazolidine-2-thione 20% Carrier and dispersing agent
	Appearance	White particles
	Density	About 1.10 g / cm <sup>3</sup>
	Ash	≤8%

**FUNCTION** JXBHgran MTT-80 is a thiazole heterocyclic compound containing active sulfur atoms to crosslink the halogen-containing polymer. Applicable to chlorinated butyl rubber, chloroprene rubber vulcanization crosslinking, in particular, can be used as chloroprene rubber efficient accelerator. Compared with ETU-75 masterbatch, this product retains good physical and aging resistance, improves the scorch performance and operation of the compound safety. Both have a faster curing characteristics.

**DOSAGE** Chloroprene rubber: 0.4-1.5 phr with 4.0 phr of magnesium oxide or 5.0 phr of zinc oxide or 20.0 phr of lead oxide. Low rubber content of the compound or add light-colored filler of the rubber: To achieve the best mechanical processing performance, 0.5-1.0 phr and 0.2-1.0 phr sulfur. Continuous vulcanization: 0.8-1.5 phr.

**APPLICATION** It can be used in the inner liner of tire, airbags, cables, tape, rubber shoes, hoses, seals, and different industrial products in the compound. Particularly suitable for neoprene.

**PACKING** 25 kg in carton box with polyethylene bag liner

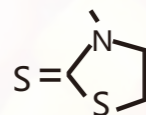
**STORAGE** Cool and dry conditions, the storage period of one year.

①3-methylthiazolidine-2-thione

Chemical Name 3-methylthiazolidine-2-thione

Molecular Formula C<sub>4</sub>H<sub>7</sub>NS<sub>2</sub>

Molecular structure



Molecule structure

Molecular weight 133.1

CAS Number 1908-87-8

Technical indicators Appearance: light yellow powder  
Initial melting point: ≥ 50.0 °C  
Moisture: ≤0.40%  
Ash: ≤0.40%

This product is a thiazole heterocyclic compound, which contains active sulfur atoms, halogen-containing polymer can produce cross-linking. Particularly suitable for chlorinated butyl rubber, chloroprene rubber, chlorinated polyethylene rubber vulcanization.

JXBHgran TBBS(NS)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% N - tert-butyl - 2 - benzo thiazolesulfonamide① 20% of carrier and dispersion aids
	Appearance	beige particles
	Density	about 1.09 g/cm <sup>3</sup>
	Ash	≤8%

**FUNCTION** JXBHgran TBBS - 80 has a longer scorch time, high processing security and curing speed. It can be used in the low sulphur vulcanization alone, either with dithiocarbamates or thiurams. The vulcanization rate of the compound is significantly reduced after the dithiocarbamate accelerator and the thiuram accelerator is blended. JXBHgran TBBS - 80 has obvious secondary role of accelerating to thioureas, especially in low sulfur rubber, and scorch time can delayed .

**DOSAGE** NR: the main accelerator: 0.5- 1.0 Phr , 2.5 -3.5 Phr of sulfur; Second accelerator: 0.5 PHR , 0.3 PHR of thioureas or thiurams and 1.5- 3.5 Phr of sulfur; SBR: 1.0-1.4 Phr , 0.2 Phr thiurams and 1.5 -2.5 Phr of sulfur.

**APPLICATION** It can be used in tire, rubber hose, conveyor belt, rubber shoes etc.

**PACKING** 25 kg in carton box with polyethylene bag liner

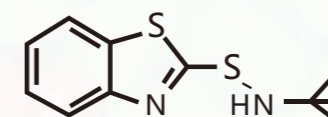
**STORAGE** A cool and dry condition, the storage period of one year.

①N - tert-butyl - 2 - benzothiazole sulfonamide

Chemical Name N - tert-butyl - 2 - benzothiazole sulfonamide

Molecular Formula C<sub>11</sub>H<sub>14</sub>N<sub>2</sub>S<sub>2</sub>

Molecular structure



Molecule structure

Molecular weight 238.37

CAS Number 95-31-8

Technical indicators Appearance: Gray-white powder  
Initial melting point: ≥105.0°C  
Heating loss: ≤0.30%  
Ash: ≤0.30%  
Residue on 150µm sieve: ≤0.10%  
Residue on 63µm sieve: ≤0.50%

This product is an excellent after effect accelerator for NR, BR, IR, SBR and reclaimed rubber, especially suitable for stronger alkaline carbon black rubber. It has excellent properties of safe processing, scorch resistance , fast curing rate, high tensile modulus, and an ideal substitute for NOBS. With aldehyde amine, guanidines, thiurams, and antiscorching agent PVI (CTP), it can form a good vulcanization system.

JXBHgran CBS (CZ) -80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% N-cyclohexyl-2-benzo thiazole sulfonamide① 20%carrier and dispersing aids
	Appearance	Gray-white particles
	Density	about 1.10g/cm <sup>3</sup>
	Ash	≤7%

**FUNCTION** JXBHgran CBS-80 is a kind of highly active after effect accelerator, with excellent scorch resistance performance, processing security, and short vulcanization time. When curing temperature above 138 °C, it will present a strong role in accelerating. Generally, it is used together with TMTD, DPG or other alkaline accelerators as the second accelerator. Alkaline accelerator, such as Thiurams and Dithiocarbamate salts, can enhance its activity.

**DOSAGE** NR: 0.5-1.0 phr and 2.5-3.5 phr sulfur use simultaneously;  
0.5 phr and 1.5-3.0 phr sulfur and 0.3 phr Thiurams use simultaneously;  
SBR: 1.0-1.4 phr and 1.5-2.5 phr sulfur and 0-0.2 phr Thiurams use simultaneously.

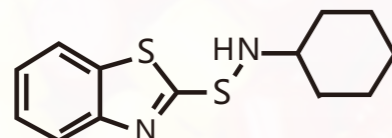
**APPLICATION** Commonly used to tread, hose, conveyor belt, soles, etc

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** Cool and dry condition, the storage period is one year.

①N-cyclohexyl-2-benzo thiazole sulfonamide:

Chemical Name N-cyclohexyl-2-benzo thiazole sulfonamide  
Molecular Formula C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>S<sub>2</sub>  
Molecular structure



Molecular weight 264.41  
CAS Number 95-33-0  
Technical indicators  
Appearance: Gray powder  
Initial Melting Point: ≥98.0 °C  
Heating loss: ≤0.30%  
Ash: ≤0.30%  
Residue on 150μm sieve: ≤0.10%  
Residue on 63μm sieve: ≤0.50%

This product can be used in natural rubber and synthetic rubber. Even it is applicable to almost all rubber products including tires, rubber hose, industrial products, household items, and sponge products, etc.

JXBHgran ZDBC(BZ)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% of Zinc dibutyl dithiocarbamate① 20% of Carrier and dispersing aids
	Appearance	White or yellow particles
	Density	About 1.09g/cm <sup>3</sup>
	Ash content	18%±5%

**FUNCTION** JXBHgran ZDBC-80 can cause rapid vulcanization of NR and synthetic rubber. It has a shorter scorch time and a slower full cure rate comparing with ZDEC-80 and ZDMC-80, and has an activating effect on conventional accelerators.

**DOSAGE** NR: 0.6-1.0 phr Second accelerator, 0.1-0.2 phr.  
SBR / NBR: 0.6-1.2 phr Second accelerator, 0.1-0.2 phr

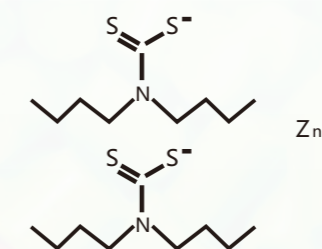
**APPLICATION** Mainly used for professional and technical appliances, footwear, cables and so on.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

①Zinc dibutyl dithiocarbamate:

Chemical Name Zinc dibutyl dithiocarbamate  
Molecular Formula C<sub>18</sub>H<sub>36</sub>N<sub>2</sub>S<sub>4</sub>Zn  
Molecular structure



Molecular weight 474.1  
CAS Number 136-23-2  
Technical indicators  
Appearance: white powder  
First melting point: ≥104.0 °C  
Heating reduction: ≤0.30%  
Zinc: 13.0%-15.0%  
Residue on 150μm sieve: ≤0.10%  
Residue on 63μm sieve: ≤0.50%  
Water soluble zinc salt: ≤0.01%

It is a super accelerator used in natural rubber, synthetic rubber and latex. The activity in rubber is greater than ZDEC. Preserved milk containing in this product can be used for one week without any early vulcanization, and it is a good activator for thiazole accelerators. This product has the role of antioxidant in the mixing, and can improve the aging resistance of vulcanized rubber, no discoloration, no pollution, easy to disperse

## JXBHgran ZDEC(EZ)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% of Zinc diethyl dithiocarbamate① 20% of Carrier and dispersing aids
	Appearance	Gray-white particles
	Density	About 1.08g/cm <sup>3</sup>
	Ash content	18%±5%

**FUNCTION** JXBHgran ZDEC-80 can cause rapid vulcanization of NR and synthetic rubber, improve the safety of the operation. It has longer scorch time and complete curing rate than ZDBC-80, and has an activating effect on conventional accelerators.

**DOSAGE** NR: 0.3-1.0 phr      Second accelerator, 0.1-0.2 phr.  
SBR / NBR: 0.8-1.2 phr      Second accelerator, 0.1-0.2 phr, 0.5-1 phr in latex.

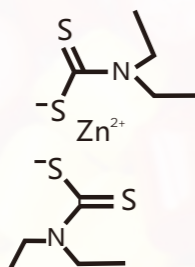
**APPLICATION** Mainly used for professional and technical appliances, footwear, cables and so on.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

### ①Zinc diethyl dithiocarbamate:

Chemical Name      Zinc diethyl dithiocarbamate  
Molecular Formula    C<sub>10</sub>H<sub>20</sub>N<sub>2</sub>S<sub>4</sub>Zn  
Molecular structure



Molecule structure  
Molecular weight      361.91  
CAS Number            14324-55-1  
Technical indicators    Appearance: white powder ; Initial melting point: ≥174.0 °C    Zinc: 17%-19.0%  
Heating loss: ≤0.30% ; Water soluble zinc salt: ≤0.01%  
Residue on 150μm sieve: ≤0.10% ; Residue on 63μm sieve: ≤0.50%

This product is used as a super accelerator for NR, synthetic rubber and latex . It is a good active agent of thiazole and sulfenamide accelerator. Using as latex non-water-soluble accelerator, it has little effect on the stability of latex. This product does not pollute, does not change color, odorless, tasteless, and non-toxic. Mainly used in the manufacture of medical products, tape and self-vulcanized products.

## JXBHgran ZDMC(PZ)-75

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	75% of Zinc dimethyl dithiocarbamate① 25% of Carrier and dispersing agent
	Appearance	Gray to pale yellow particles
	Density	About 1.47g/cm <sup>3</sup>

**FUNCTION** JXBHgran ZDMC-75 can cause rapid vulcanization of natural rubber and synthetic rubber, such as SBR, NBR, EPDM. And the addition of thiuram and thiazole accelerators can delay the early vulcanization, improve the safety of the operation. JXBHgran ZDMC-75 has longer scorch time and complete curing rate than ZDBC-75.

**DOSAGE** NR: 0.3-0.8 phr      Second accelerator, 0.05-0.3 phr.  
SBR / NBR: 0.8-1.2 phr      Second accelerator, 0.05-0.3 phr

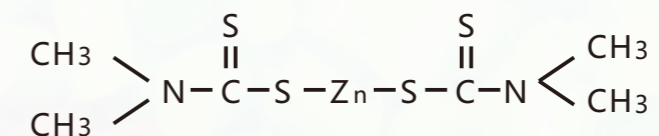
**APPLICATION** Mainly used for light-colored products, transparent rubber utensils, wire and cable, etc.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

### ①Zinc dimethyl dithiocarbamate:

Chemical Name      Zinc dimethyldithiocarbamate  
Molecular Formula    C<sub>6</sub>H<sub>12</sub>N<sub>2</sub>S<sub>4</sub>Zn  
Molecular structure



Molecule structure  
Molecular weight      305.81  
CAS Number            137-30-4  
Technical indicators    Appearance: White powder; Initial melting point: ≥240 °C  
Residue on 150μm sieve: ≤0.10% ; Residue on 63μm sieve : ≤0.30%  
Heating loss: ≤0.40%; Zinc: 20%-23%

This product is a super accelerators for NR and synthetic rubbers and latex. Especially suitable for IIR and NBR with excellent aging resistance for compression deformation, also suitable for EPDM. The vulcanization temperature is 100°C, and the activity is stronger than TMTD. This product has an activating effect on thiazoles and sulfenamides accelerators and can be used as a second accelerator. When used in combination with accelerator DM, scorch resistance increases as the amount of DM increases. Because it is odorless, non-polluting and does not change color, it is suitable for rubber products such as tape, food and medicine.

## JXBHgran ZBEC(ZTC)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% Zinc dibenzyl dithiocarbamate <sup>①</sup> 20% of carrier and dispersing agent
	Appearance	Gray-white particles
	Density	About 1.22g/cm <sup>3</sup>
	Ash content	15%±5%

**FUNCTION** JXBHgran ZBEC-80 is a dithiocarbamates accelerator that does not produce nitrosamines. It can be used as a primary or secondary accelerator in natural rubber and synthetic rubbers such as EPDM, IR, SBR, NBR, and IIR. Compared with traditional dithiocarbamate accelerators, ZBEC processing is more safer. This product is particularly suitable for continuous vulcanization of EPDM compounds.

**DOSAGE** 0.5-3.0 phr

**APPLICATION** Used for NR, EPDM, IR, SBR, NBR, IIR industrial rubber products, particularly suitable for light and bright color rubber products.

**PACKING** 25 kg in carton box with polyethylene bag liner

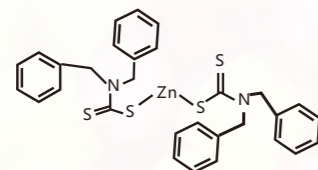
**STORAGE** A cool and dry condition, the storage period of one year.

①Zinc dibenzyl dithiocarbamate :

Chemical Name Zinc dibenzyl dithiocarbamate

Molecular Formula C<sub>30</sub>H<sub>28</sub>N<sub>2</sub>S<sub>4</sub>Zn

Molecular structure



Molecule structure

Molecular weight 610.18

CAS Number 14726-36-4

Technical indicators Appearance: White to cream powder

Initial melting point: ≥180.0 °C

Heating loss: ≤0.50%

Zinc content: 10.0%-11.5%

Residue on 150μm sieve: ≤0.10%

Residue on 63μm sieve: ≤0.50%

This product is a super accelerator for natural rubber, synthetic rubber and latex. The property of low vulcanization activity temperature can be used instead of ZDBC, ZDEC, PZ, etc., and the operation safety is better.

## JXBHgran ETU(NA-22)-75

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	75% N, N'-ethylene thiourea <sup>①</sup> 25% Carriers and dispersing aids
	Appearance	Gray-white particles
	Density	About 1.15g/cm <sup>3</sup>
	Ash	≤5%

**FUNCTION** JXBHgran ETU-75 can accelerate the rapid curing of chloroprene rubber, and has good anti-scorch performance. In other diene-based rubbers, vulcanization systems containing sulfur or a small amount of sulfur can be used as active agents and auxiliary accelerator. Using JXBHgran ETU-75 accelerator, excellent anti-aging performance and mechanical properties can be obtained.

**DOSAGE** 0.1-3.0 phr

**APPLICATION** Mainly used in neoprene products

**PACKING** 25 kg in carton box with polyethylene bag liner

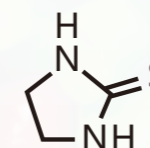
**STORAGE** Cool and dry conditions, the storage period of one year.

①N, N'-ethylene thiourea:

Chemical Name N, N'-ethylene thiourea

Molecular Formula C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>S

Molecular structure



Molecule structure

Molecular weight 102.17

CAS Number 96-45-7

Technical indicators Appearance: White powder

Initial melting point: ≥195.0°C

The percentage of heat lost weight: ≤0.30%

Ash: ≤0.30%

Residue on 150μm sieve: ≤0.10%

Residue on e 63μm sieve: ≤0.50%

This product is chloroprene rubber CH and W type and chloroethanol rubber, polyacrylate rubber products for the special accelerator. It is also used in fine chemicals intermediates, antioxidants, insecticides, dyes and synthetic resins for wire, cable, rubber, pipe belt, rubber shoes, rain boots and raincoats.

JXBHgran DPG(D)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% N, N'-diphenylguanidine① 20% Carriers and dispersing aids
	Appearance	Gray-white particles
	Density	About 1.06g/cm <sup>3</sup>
	Ash	≤5%

**FUNCTION** JXBHgran DPG-80 provides a very long time of scorch and relatively slow vulcanization, which can cause slight discoloration and can not be used for light-colored products unless added as an activator. JXBHgran DPG-80 can activated thiazole catalyst. In the IIR and EPDM.

**DOSAGE** Main accelerator: 1.0-2.0 phr with 2.5-3.5 phr of sulfur;  
Second accelerator: 0.1-0.25 phr with 0.75-1.0 phr thiazoles and 2.5 phr of sulfur

**APPLICATION** It can be used for a variety of rubber industrial products.

**PACKING** 25 kg in carton box with polyethylene bag liner

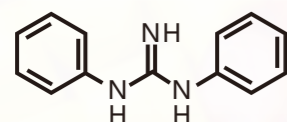
**STORAGE** The storage period of one year under cool and dry conditions.

①N,N'-diphenylguanidine

Chemical Name N,N'-diphenylguanidine

Formula C<sub>13</sub>H<sub>13</sub>N<sub>3</sub>

Molecular structure



Molecular weight	211.27
CAS Number	102-06-7
Technical indicators	Appearance : Gray-white powder Initial melting point : ≥145.0 °C Heating loss : ≤0.30% Ash : ≤0.30% Residue on 150μm sieve: ≤0.10% Residue on 63μm sieve : ≤0.50%

This product is used in natural rubber and synthetic rubber, while not suitable for latex. It mainly used in the manufacture of tires, shoes and other rubber industrial products.

JXBHgran HMT(HEXA)-80

VULCANIZATION ACCELERATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% Hexamethylenetetramine① 20% Carrier and dispersing agent
	Appearance	Grey-white particle
	Density	About 1.13g/cm <sup>3</sup>
	Ash	≤6%

**FUNCTION** JXBHgran HEXA-80 is a slow accelerator that can be used with thiazoles, sulfenamides, dithiocarbamates, and thiuram accelerators. At the same time, HEXA is a formaldehyde donor that combines with JXBHgran R-80 and silica to increase the bonding strength between rubber and steel cords.

**DOSAGE** Formaldehyde donor: 1.0-2 phr, and 2.0-2.5 phr with R-80  
As accelerator: primary accelerator: 0.6-0.8 phr, and 3.0-4.0 phr with sulfur  
Second accelerator: 0.1-0.35 phr and 0.25-1.0 phr thiazole or thiurams accelerator 2.0-3.5 phr with sulfur

**APPLICATION** Formaldehyde donor in a white system, Rubber roller, Thick wall products, Bright and transparent products.

**PACKING** 25 kg in carton box with polyethylene bag liner

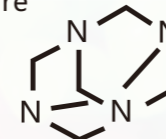
**STORAGE** A cool and dry condition, the storage period of one year.r.

① Hexamethylenetetramine

Chemical Name hexamethylenetetramine

Molecular Formula C<sub>6</sub>H<sub>12</sub>N<sub>4</sub>

Molecular structure



Molecular weight	140.19
CAS Number	100-97-0
Technical indicators	Appearance: White powder Initial Melting point: Heating sublimation Heating loss: ≤0.40% Ash: ≤0.30% Residue on 150μm sieve: ≤0.10% Residue on 63μm sieve: ≤0.30%

This product is a kind of slow curing accelerator of alkaline. The curing rate is slow, and the degree of crosslinking is very high. Thiazoles, sulfenamides, thiurams, and dithiocarbamate accelerators can activate and secondarily accelerate on the rubber compounds containing HEXA. As a formaldehyde donor with resorcinol is especially suitable for bonding of rubber and metal or steel cord. This product is not blooming.

JXBHgran S-80

RUBBER VULCANIZING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% Sulfur① 20% Carrier and dispersing aids
	Appearance	Slight yellow particles
	Density	About 1.55g/cm <sup>3</sup>
	Ash	≤5%

**FUNCTION** JXBHgran S-80 rubber vulcanizing agent masterbatch, as the vulcanizer of natural rubber and synthetic rubber, can quickly mix into rubber stock and disperse well. The characteristic of homodisperse prevents partly over cure, therefore, improves the aging and dynamic fatigue performance. Sulfur dispersity is especially important in soft rubber stock because general sulfur can hardly dispersed well in it. JXBHgran S-80 rubber vulcanizing agent masterbatch are particularly crucial when considering light color rubber products, due to its excellent dispersity, the brown sulfur spots will not appear on rubber surfaces and the product defects will reduce.

**DOSAGE** 0.5-5.0 phr

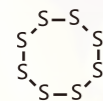
**APPLICATION** Tire, tube, conveyer belt, shoe sole etc.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

①Sulfur

Chemical Name Sulfur  
Molecular Formula S<sub>8</sub>  
Molecular structure



Molecular weight 256.52  
CAS Number 7704-34-9  
Technical indicators  
Appearance: Yellow powder  
Melting point: About 114°C  
Moisture: ≤0.50%  
Ash: ≤0.10%  
Fe: ≤0.005%  
Residue on 43μm sieve: ≤0.30%

This product, as an important rubber chemical, can be used for vulcanization, making pesticide, sulfur fertilizer, dye, black gunpowder, sulfuric acid rubber products etc.

JXBHgran IS60G

RUBBER VULCANIZING AGENT MASTERBATCH

<b>PRODUCT SPECIFICATIONS</b>	Composition	Total sulfur content 80% (insoluble sulfur ≥48%) 20% Carrier and dispersing agent
	Character	Pale yellow granules
	Density	About 1.50g/cm <sup>3</sup>
	Ash content	≤10%

**FUNCTION** JXBHgran IS 60G can avoid the migration of sulfur, spray frost, keep the storage safety of rubber. In order to avoid the conversion of insoluble sulfur to soluble sulfur, it should be added before the end of the appropriate mixing. Mixing temperature is below 90°C.

**DOSAGE** 1.0-4.0 phr

**APPLICATION** Used in rubber products that require no blooming, multi-layer vulcanization, such as high-performance tires, conveyor belts, rubber and other rubber products.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year

Principal component:

Grade	IS-60 insoluble sulfur
Appearance	Yellow powder
Total sulfur content	≥99.5%
Insoluble sulfur content	≥60.0%
Heating loss	≤0.50%
Ash	≤0.10%
Residue on 150μm sieve	≤0.20%
Acidity	≤0.10%
CAS number	Polymeric sulfur: 9035-99-8 Rhombic sulfur: 7704-34-9

This is the best rubber vulcanizing agent, widely used in natural rubber and various synthetic rubber product, such as rubber hose, rubber belt, rubber roller, sealing parts, wire and cable, and all kinds of light rubber latex products. It does not bloom, can prevent scorch, and enhance the bonding between rubber-rubber, rubber-steel, rubber- chemical fiber cord.



## JXBHgran SAT-150

### RUBBER VULCANIZING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	75% Insoluble sulfur and soluble sulfur 25% Carrier and dispersing agent
	Appearance	Faint yellow particle
	Density	About 1.42g/cm <sup>3</sup>
	Ash	≤ 9%

**FUNCTION** JXBHgran SAT-150 is the vulcanizing agent of all the natural rubber and diolefins rubber. The advantage of this vulcanizing agent is not blooming and no migrating to other layer. Besides, it possesses good heat stability and therefore it can inhibit the reversion to ordinary sulfur during processing and provide the most effective scorch resistance for vulcanization operation.

**DOSAGE** 1.0-6.0 phr

**APPLICATION** Widely used in rubber products that require no blooming, multi-layer vulcanization, such as high-performance tires, conveyor belts, rubber and other rubber products.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year

#### Principal component:

Mark:	IS-HS-8010 insoluble sulfur
Appearance	Yellow powder
Total sulfur content	90.0%±1.0%
Insoluble sulfur content	≥80.0%
Oil	10.0%±1.0%
Ash	≤0.10%
Heating loss	≤0.50%
Residue on 150 μm sieve	≤0.20%
Acidity	≤0.05%
Heat stability	≥75.0%
CAS code	Aggregated sulfur 9035-99-8 Rhombic sulfur 7704-34-9

It is a good vulcanizer, widely used in all kinds of tires, tubes, tapes, rubber covered rollers, sealing elements, electric wires, latex products and light color rubber products. It can provide no blooming, anti scorch properties, and enhance the bonding between rubber-rubber, rubber-steel, rubber- chemical fiber cord.

## JXBHgran DTDM-80

### RUBBER VULCANIZER MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% 4,4'-dithiodimorpholine ① 20% carrier and dispersing agent
	Appearance	Gray-white particles
	Density	About 1.17 g / cm <sup>3</sup>
	Ash	≤7%

**FUNCTION** JXBHgran DTDM-80 can be used as rubber vulcanizing agent and accelerator, while using as a vulcanizing agent, scorch safety is good. As an accelerator, the amount of sulfur can be appropriately reduced. The use of this product does not bloom, pollute, or change color. It can increase the product of fatigue and aging resistance.

**DOSAGE** 3.0-5.0 phr

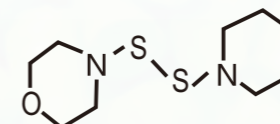
**APPLICATION** Particularly suitable for butyl rubber, mainly used in the manufacture of tires, butyl inner tube, tape and heat-resistant rubber products

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** Cool and dry conditions, the storage period of one year.

#### ①4,4'-dithiodimorpholine:

Chemical Name 4,4'-dithiodimorpholine  
Molecular Formula C<sub>8</sub>H<sub>16</sub>N<sub>2</sub>O<sub>2</sub>S<sub>2</sub>  
Molecular structure



Molecular weight	236.27
CAS Number	103-34-4
Technical indicators	Appearance: white powder or crystalline powder Initial melting point: ≥120.0 °C Heating loss: ≤0.30% Ash: ≤0.30% Residue on 840 μm sieve: 0.00%

This product can be used as vulcanizing agent and accelerator for natural rubber and synthetic rubber. When used in effective and semi-effective vulcanization systems, the performance of good heat resistance and aging resistance can be obtained. The active sulphur can be released at the vulcanization temperature. The effective sulphur content is 27%, and the operation is safe. When used alone, the vulcanization rate is slow, and with the use of thiazoles, thiurams and dithiocarbamates, it can increase the vulcanization rate. This product is especially suitable for butyl rubber. It is mainly used for the manufacture of tires, butyl inner tubes, adhesive tapes and heat-resistant rubber products. It is also used as an asphalt stabilizer for highways.

JXBHgran PDM-75

VULCANIZING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	75% N,N'-m-Phenylenebismaleimide① 25% Carriers and dispersing agent
	Appearance	Gray yellow particles
	Density	About 1.25g/cm <sup>3</sup>
	Ash	≤2%

**FUNCTION** JXBHgran PDM-75, as a vulcanizing agent for the peroxide-based vulcanizates of rubbers, it is especially useful for acrylonitrile-butadiene rubber and ethylene-propylene rubber. When used in chlorosulfonated polyethylene rubber, it can be used as a scorch retarder in combination with magnesium oxide, pentaerythritol and bis-pentamethyltetrasulfide (TRA). It solves the problem of copper conductors and copper electrical appliances generating black sulfide pollution due to exposure to sulfur-containing vulcanizing agents. As a vulcanization accelerator for neoprene, it can significantly improve the scorch resistance of the rubber compound.

**DOSAGE** Used as a scorch retarder: 0.5-1.5phr; Used as a vulcanizing agent: 2-3phr;  
Used to improve the compression set: 1.5phr; To improve the adhesive strength: 0.5-5.0phr

**APPLICATION** Applied to various tires and various rubber products

**PACKING** 25 kg in carton box with polyethylene bag liner

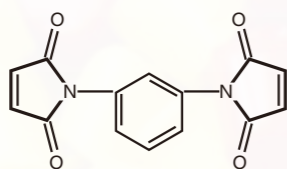
**STORAGE** A cool and dry condition, the storage period of one year.

①N,N'-m-Phenylenebismaleimide:

Chemical Name N,N'-m-Phenylenebismaleimide

Molecular Formula C<sub>14</sub>H<sub>8</sub>N<sub>2</sub>O<sub>4</sub>

Molecular structure



Molecular weight	268.22
CAS Number	3006-93-7
Technical indicators	Appearance: Yellow or light brown powder; Initial melting point: ≥195 °C Residue on 150μm sieve: ≤0.30%; Residue on 63μm sieve: no Heating loss: ≤0.50%; Ash: ≤0.50%

It can prevent reversion in NR, improve anti-aging, heat resistance, reduce heat generation, improve rubber and cord adhesion and vulcanize rubber modulus. It can be used in tire to solve the problem of separation at tires shoulder. It can also be used for large-size thick products. It cures quickly, and has a low compression set and resistant to air aging. It is a sulfurless vulcanizing agent for cable rubber.

JXBHgran ZnO -80

VULCANIZATION ACTIVATOR MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% Zinc oxide① 20% Carriers and dispersing agent
	Appearance	White particles
	Density	About 2.96g/cm <sup>3</sup>
	Ash	≤81% ± 3%

**FUNCTION** JXBHgran ZnO -80 as an active agent for natural and synthetic rubbers, the cross-linking density of the vulcanizates can be increased and the strength can be increased. When used as a vulcanizing agent for neoprene, it is used together with magnesium oxide to improve scorch resistance. It is activation of thiazoles, thiurams, quinones, sulfenamides and other accelerators.

**DOSAGE** 3.0-5.0 phr

**APPLICATION** Can be used for most rubber products.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

①Zinc oxide:

Chemical Name Zinc oxide

Molecular Formula ZnO

Molecular weight	81.37
CAS Number	1314-13-2
Technical indicators	Appearance: White powder Purity: ≥99.7% 105°C Heating lossheating loss: ≤0.30% Loss on ignition: ≤0.20% Residue on 45μm sieve: ≤0.10%

ZnO is an inorganic active agent for natural rubber, synthetic rubber. It also can be used as reinforcing, heat-conducting and coloring agent. This product is suitable for tires, tapes, hoses, shoes and other rubber products with high temperature resistance, aging resistance, and no discoloration.

JXBHgran Retarder E-80

RUBBER ANTISCORCHING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80%N-Phenyl-N-(Trichloromethylsulfenyl)-Benzene Sulfonamide①, 20%Carrier and dispersing agent
	Appearance	Beige particles
	Density	About1.35g/cm <sup>3</sup>
	Ash	≤3%

**FUNCTION** JXBHgran Retarder E-80 is an excellent environmental friendly antiscorching agent that effectively retards the initial vulcanization of NR and SR. It is particularly suitable for EPDM, NBR and HNBR. It can increase the cross-link density, tensile strength of the vulcanizate and reduce the compression set in EPDM and NBR. Especially suitable for thiuram vulcanization systems and as a second accelerator. It can significantly improve the storage stability and high-temperature processing safety performance of unvulcanized rubber. It will not produce harmful substances in the vulcanization process and will not cause contact contamination and discoloration problems.

**DOSAGE** 0.2-2.0 phr

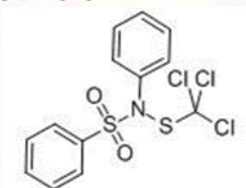
**APPLICATION** Mainly used for tires, conveyor belts, shoe soles, molded and extruded products.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

①N-Phenyl-N-(Trichloromethylsulfenyl)-Benzene Sulfonamide

Chemical Name N-Phenyl-N-(Trichloromethylsulfenyl)-Benzene Sulfonamide  
Molecular Formula C<sub>13</sub>H<sub>10</sub>Cl<sub>3</sub>NO<sub>2</sub>S<sub>2</sub>



Molecular structure	
Molecular weight	382.713
CAS Number	2280-49-1
Technical indicators	Appearance: White to gray powder Initial Melting Point: ≥108°C Heating loss: ≤0.40% ; Ash: ≤0.50% Residue on 63μm sieve: ≤0.50% Residue on 150μm sieve: ≤0.10%

This product is an environmental friendly anti-scorching agent for natural rubber and synthetic rubber. It can improve processing safety, extend the fluidity of the compound at the vulcanization temperature, and improve the storage stability of rubber. This product does not stain or discolor, suitable for light-colored products. It can be used with thiazoles and thiuram accelerators, and used as a high-temperature fast anti-scorching agent for EPDM.

JXBHgran CTP(PVI)-80

RUBBER ANTISCORCHING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% N-cyclohexylthiophthalimide①, 20%Carrier and dispersing agent
	Appearance	Beige particles
	Density	About1.09g/cm <sup>3</sup>
	Ash	≤6%

**FUNCTION** JXBHgran CTP-80 is a kind of antiscorching agent. It can delay NR and SR starting vulcanization time without affecting the overall curing time. It can also improve the processing safety without affecting the performance of vulcanized rubber with sulfonamide and thiazole accelerator used together. JXBHgran CTP-80 can significantly improve the storage stability and high temperature of unvulcanized rubber processing safety performance, and fully improve the production capacity of equipment. The use of the product will not cause contact contamination.

**DOSAGE** 0.2-2.0 phr

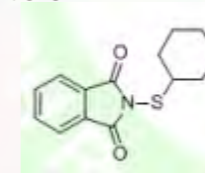
**APPLICATION** The product is mainly used for natural rubber and synthetic rubber which use sulfonamides or thiazoles as the main accelerator.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** cool and dry condition, the storage period is one year.

①N-cyclohexylthiophthalimide:

Chemical Name N-cyclohexylthiophthalimide  
Molecular Formula C<sub>14</sub>H<sub>15</sub>O<sub>2</sub>SN  
Molecular structure



Molecular weight	261.34
CAS Number	17796-82-6
Technical indicators	Appearance: White powder or crystalline powder Initial Melting Point: ≥90.0°C Heating loss: ≤0.30% Ash: ≤0.30%

This product can prevent early curing of the rubber compound during processing and improve the processing safety, while it has almost no effect on the vulcanization rate and vulcanizate properties. For it can effectively prevent scorching, the high temperature and high speed operation of the calender and the extruder can be made possible, and the powerful vulcanization activator can be effectively used to increase the production capacity of vulcanization machine. This product has a rejuvenating effect for rubber which has been subjected to high temperatures due to seasons, handling, and improper operation, or a compound that can not be further processed with the risk of scorching.

## JXBHgran SI69-50

### SILANE COUPLING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	50% Bis-[3-(triethoxysilyl)propyl]-tetrasulfide① 50%Carrier and dispersion agent
	Appearance	Light yellow translucent particles
	Density	About 1.33g/cm <sup>3</sup>
	Active content	50%
	Sulfur element	Typical value 11.0%
	Filter mesh	120 mesh
	Carrier type	EPDM

**FUNCTION** The silane coupling agent JXBHgran SI69-50 not only has the function of an activator and a coupling agent, but also has the function of cross-linking reinforcing serving as a reinforcing agent and a vulcanizing agent in the rubber industry. It can be used in natural rubber, isoprene rubber, styrene butadiene rubber, butadiene rubber, neoprene rubber and other synthetic rubber. It can increase the tensile strength, tear strength and wear resistance of vulcanizates, and at the same time improve the dynamic properties of vulcanizates.

**DOSAGE** In accordance with the formula used twice the amount of silane coupling agent Si-69

**APPLICATION** It can be used for tires, hoses, conveyor belts, rubber shoes and so on. It is widely used in the production of radial tires.

**PACKING** 25 kg/carton, built-in vacuum packaging

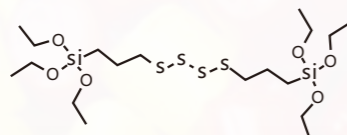
**STORAGE** cool and dry condition, the storage period is at least one year.

#### ①Bis-[3-(triethoxysilyl)propyl]-tetrasulfide:

Chemical Name Bis-[3-(triethoxysilyl)propyl]-tetrasulfide

Molecular Formula C<sub>18</sub>H<sub>42</sub>O<sub>6</sub>Si<sub>2</sub>

Molecular structure



Molecular weight	538.95
CAS Number	40372-72-3
Technical index	Flash point: ≥100.0°C ; Total sulfur content: ≥22.5% Chlorine content: ≤0.6%; Density : 1.08-1.09g/cm <sup>3</sup>

This product has the role of activator, coupling agent, softener, reinforcing agent and vulcanizing agent in rubber industry. It can reduce the Mooney viscosity of the rubber compound and improve the extrusion and rolling properties, and increase the tensile strength, dynamic properties, tear strength and wear resistance of vulcanizates.

## JXBHgran Resorcinol (R) -80

### ADHESION AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% resorcinol① 20% carrier and dispersing agent
	Appearance	Gray to pale red particles
	Density	About 1.09 g / cm <sup>3</sup>
	Ash	≤3.0%

**FUNCTION** JXBHgran Resorcinol-80 is used as an adhesive for rubber compound, textile and metal fabric in combination with formaldehyde donors such as HEXA-80. In the curing process. It can produce phenolic formaldehyde resin to bond rubber and textile or metal tightly. It can avoid pure crystalline resorcinol in the mixing process which is easy to volatile.

**DOSAGE** 2.0-4.0 phr

**APPLICATION** Can be used for tires, conveyor belts, V belts, round tape, fire hose, other reinforced hoses, soft containers, fabric gluing.

**PACKING** 25 kg in carton box with polyethylene bag liner

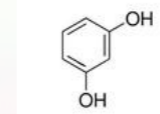
**STORAGE** Cool and dry conditions, the storage period of one year.

#### ①Resorcinol:

Chemical Name Resorcinol

Molecular Formula C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>

Molecular structure



Molecular weight	110.11
CAS Number	180-46-3
Technical indicators	Appearance: colorless or white-like needle-like crystals or powder Resorcinol: ≥99.5% Initial melting point: ≥ 105.0 °C Density: about 1.28 g / cm <sup>3</sup> Water insoluble matter: ≤0.10%

Resorcinol is mainly used for rubber adhesives, synthetic resins, dyes, preservatives, pharmaceuticals and analytical reagents, and is an adhesive for the excellent bonding of rubber, fiber and steel. It could produce phenol-formaldehyde resin during the vulcanization and able to avoid the disadvantage of crystal resorcinol fume vapor in the process of compound.

JXBHresin HA-100

HOMOGENIZING AGENT

Product description    Composition    Mixtures with different polar components of aliphatic, naphthenic and aromatic hydrocarbons  
 Appearance                      Black particles or flakes

Property	Specifications		Units
	Min.	Max	
Softening Point	98	118	°C
Ash	–	2.0	Wt. %
Heat Loss	–	0.5	Wt. %
Density	1.06, typical		g/cm <sup>3</sup>

Function

- ① This homogenizer with a different polarity exhibits good compatibility with various elastomers and it can be facilitated by softening and infiltrating the interface of the polymer, making the polymer molecules of different polarities easy to move each other to achieve the purpose of blending.
- ② This homogenizer can improve the carbon black dosage in the compound in the mixing rate and improve the dispersion of carbon black in the mixing rubber.
- ③ This homogenizer can improve the initial viscosity of the compound and increase the effect of sticky.
- ④ This homogenizer can help to disperse the powder and avoid the phenomenon of filler agglomeration.
- ⑤ The addition of homogenizer can significantly improve the processing properties of the compound, improve the mixing efficiency, reduce energy consumption and reduce costs.

**Environmental Friendly**    Meets the EU REACH regulations

**Dosage**                              3.0-8.0 Phr

**Application**                      It can be used for tires, conveyor belts, V belts, round tapes, rubber hoses, other reinforced hoses, soft containers, and fabric gluing.

**Packing**                              25 kg in carton box with polyethylene bag liner

**Storage**                              A cool and dry condition, the storage period of one year.

JXBHresin HA-40

HOMOGENIZING AGENT

Product description    Composition    A mixture with different polar components of aliphatic, naphthenic and aromatic hydrocarbons  
 Appearance                      Black particles

Property	Specifications		Units
	Min.	Max	
Softening Point	95	106	°C
Ash	–	2.0	Wt. %
Heat Loss	–	0.5	Wt. %
Density	1.06, typical		g/cm <sup>3</sup>

Function

- ① This homogenizer with a different polarity exhibits good compatibility with various elastomers and it can be facilitated by softening and infiltrating the interface of the polymer, and making the polymer molecules of different polarities easy to move each other to achieve the purpose of blending.
- ② This homogenizer can improve the carbon black dosage in the compound in the mixing rate and improve the dispersion and homogeneity of carbon black in the mixing rubber.
- ③ This homogenizer can improve the initial viscosity of the compound and increase the effect of sticky.
- ④ This homogenizer can help to disperse the powder and avoid the phenomenon of filler agglomeration.
- ⑤ The addition of homogenizer can significantly improve the processing properties of the compound, improve the mixing efficiency, reduce energy consumption and reduce costs.

**Environmental Friendly**    Meets the EU REACH regulations

**Dosage**                              3.0-8.0 Phr

**Application**                      It can be used for tires, conveyor belts, V belts, round tapes, rubber hoses, other reinforced hoses, soft containers, fabric gluing.

**Packing**                              25 kg in carton box with polyethylene bag liner

**Storage**                              A cool and dry condition, the storage period of one year.

## JXBHgran CaO-80

### RUBBER HYGROSCOPIC AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% Calcium oxide① 20% Carrier and dispersing agent
	Character	Gray particles
	Density	About 2.00g/cm <sup>3</sup>
	Ash	82%±3%

**FUNCTION** JXBHgran CaO-80 can be used as a hygroscopic agent in rubber and plastic products to absorb the moisture brought by the fillers, vulcanizing agents, accelerants, foaming agents using in the production process. The section is uniform, dense, and the surface is smooth and beautiful. This product is especially suitable for the normal pressure vulcanized rubber assembly line, and it is one of the essential additives.

**DOSAGE** 2.0-10.0 phr

**APPLICATION** applicable to sealing strip, rubber hose, tape, conveyor belt, rubber roller, cable sheath, rubber floor etc.

**PACKING** 20 Kg/carton, 10×2kg vacuum aluminum foil bag

**STORAGE** A cool and dry condition, the storage period of one year.

①Calcium oxide:

Chemical Name	Calcium oxide
Molecular Formula	CaO
Molecular weight	56.08
CAS number	1305-78-8
Technical indicators	Appearance: Gray-white powder Loss on ignition: ≤0.20% Purity: ≥94% Fe: ≤0.10% Residue on 63μm sieve: 0

CaO avoids spongy defect in the presence of vapor, it can be used as a hygroscopic agent in rubber and plastic products to absorb the moisture brought by the fillers, vulcanizing agents, accelerants, foaming agents, etc. used in the production process.

## JXBHgran Sb<sub>2</sub>O<sub>3</sub>-80

### RUBBER FLAME RETARDANT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	80% Antimony trioxide① 20% Carrier and dispersing aids
	Character	Gray-white particles
	Density	About 3.15g/cm <sup>3</sup>
	Ash	60%±5%

**FUNCTION** JXBHgran Sb<sub>2</sub>O<sub>3</sub>-80 combined with chlorinated paraffin and used as a flame retardant. When the combustion occurs, the reaction releases H<sub>2</sub>O and generates a halogenated helium which has a lower melting point and can be gasified, and acts to dilute flammable gas. At the same time, it has a relatively high relative density, covering the surface of the polymer material to block air, accelerate the carbonization reaction, lower the temperature of the combustion system, and capture the free HO and H in the gas phase during the combustion process to suppress combustion.

**DOSAGE** 10-15 phr

**APPLICATION** It can be used for the flame retardant conveyor belt and other rubber products.

**PACKAGING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

①Antimony trioxide:

Chemical Name	Antimony trioxide
Molecular Formula	Sb <sub>2</sub> O <sub>3</sub>
Molecular weight	291.52
CAS number	1309-64-4
Technical indicators	Appearance: white or grey powder Sb <sub>2</sub> O <sub>3</sub> : ≥99.0% Chloride: ≤0.05% Fe: ≤0.001% Sulfate: ≤0.002% Arsenic: ≤0.001% Heavy metals (Pb): ≤0.001% Density: 5.2g/cm <sup>3</sup> Melting point: 656°C

Antimony trioxide belongs to additive flame retardant, often use together with other flame retardants and smoke elimination agent, and can produce synergies between components. Antimony trioxide in the early part of the combustion, first is melting, the material form a protective film from the air, and through internal endothermic reaction, reduce the combustion temperature. Under high temperature condition, antimony trioxide are vaporized and dilute the oxygen concentration in the air, and flame retardant effect.

JXBHgran ZnBO-70

RUBBER FLAME RETARDANT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	66.7% Zinc borate ① 33.3% Carriers and dispersing aids
	Appearance	Gray- white particles
	Density	About 1.67g/cm <sup>3</sup>
	Ash	59%±5%
<b>FUNCTION</b>	JXBHgran ZnBO-70 has a good thermal stability, low toxicity, no smoke, and other flame retardant compound effect is good. Material burning smoke concentration can be reduced significantly. With halogen-containing flame retardants, antimony trioxide compound effect is obvious.	
<b>DOSAGE</b>	10-15 phr	
<b>APPLICATION</b>	It can be used for flame retardant conveyor belt, PVC cable and so on	
<b>PACKING</b>	25 kg in carton box with polyethylene bag liner	
<b>STORAGE</b>	Cool and dry condition, the storage period of one year	

①Zinc borate:

Chemical Name	Zinc borate
Molecular formula	2ZnO•3B <sub>2</sub> O <sub>3</sub> •3.5H <sub>2</sub> O
Molecular weight	434.62
CAS number	12513-27-8
Specifications	Appearance: white or light yellow powder Transmittance: ≥95.0% Particle size: 2-10μm Density : 2.67g/cm <sup>3</sup> Zinc chloride content: 37.0% -40.0% Boron oxide content: 45.0% -48.0% Water loss temperature: > 300 °C

This product is used for all kinds of engineering plastics, rubber products, coatings, textiles and other flame retardants. It also used in medicine, waterproof fabric, paint fungicide, fungicide, and so on.

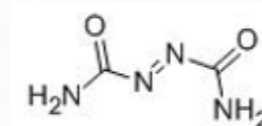
JXBHgran AC3000-75

BLOWING AGENT MASTERBATCH

<b>PRODUCT DESCRIPTION</b>	Composition	75% Azobisformamide① 20% Carriers and dispersing agent
	Appearance	Orange particles
	Density	About 1.30g/cm <sup>3</sup>
<b>FUNCTION</b>	JXBHgran AC3000-75 is a blowing agent for rubber compounds that can be easily incorporated into rubber compounds. It can make foam products have a uniform cell structure and a smooth surface. It is widely used in sports equipments, insulation materials and shoe materials.	
<b>DOSAGE</b>	3-10 Phr	
<b>APPLICATION</b>	Widely used in the foaming of rubber and plastic, such as PE, PS, EVA, PVC and rubber foam products	
<b>PACKING</b>	25 kg in carton box with polyethylene bag liner	
<b>STORAGE</b>	A cool and dry condition, the storage period of one year.	

①Azobisformamide:

Chemical Name	Azobisformamide
Molecular Formula	C <sub>2</sub> H <sub>4</sub> N <sub>2</sub> O <sub>2</sub>
Molecular structure	



Molecular weight	116.08
CAS number	123-77-3
Technical indicators	Appearance: Orange powder Decomposition temperature: ≥200°C Heating loss: ≤0.15% Particle size μm: 8-10 Residue on 38μm sieve: ≤0.1% Purity: ≥97%

AC3000 is a foaming agent with superior performance, and a wide range of uses. It is used in PVC, polypropylene, polystyrene, polyamide, ABS, various rubber and other synthetic materials. It has the characteristics of stable performance, non-flammable, non-polluting, non-toxic and odorless, non-corrosive to the mold, and non-dyeing to the product. This product can be normal pressure foaming, or pressure foaming.

JXBHgran OBSH-75 Blowing Agent Masterbatch

**PRODUCT DESCRIPTION** Composition 75% Oxy-dibenzene sulphonyl hydrazine①  
20% Carriers and dispersing agent  
Appearance Gray-white particles  
Density About 1.25g/cm<sup>3</sup>

**FUNCTION** JXBHgran OBSH-75 is an excellent foaming agent that starts foaming at 150°C and releases N<sub>2</sub>. It can be used for foaming products with uniform foaming and stable physical properties. It can be uniformly dispersed in rubber products, and can be used with other foaming agents.

**DOSAGE** 2-15 phr

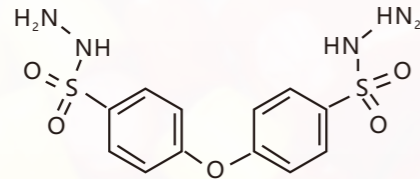
**APPLICATION** It is an organic foaming agent commonly used in all foaming products.

**PACKING** 25 kg in carton box with polyethylene bag liner

**STORAGE** A cool and dry condition, the storage period of one year.

①Oxy-dibenzene sulphonyl hydrazine:

Chemical Name Oxy-dibenzene sulphonyl hydrazine  
molecular Formula C<sub>12</sub>H<sub>14</sub>N<sub>4</sub>O<sub>5</sub>S<sub>2</sub>  
molecular structure



molecular weight 358.39  
CAS number 80-51-3  
Technical indicators Appearance: white powder  
Decomposition temperature: 150-164 °C  
Heating loss: ≤0.5%  
Residue on 45µm sieve: ≤0.50%  
Purity :≥97%

OBSH foaming agent has the advantages of low decomposition temperature, suitable for various synthetic materials, good electrical insulation properties, and fine and uniform cell characteristics.

JXBHgran APM40

Aramid Pulp Reinforcing Masterbatch

PRODUCT DESCRIPTION

Product specifications	Aramid pulp fiber content%	Carrier and dispersing agent content %	Appearance	Application
APM40/EPDM	40	60	Yellow particles	Pre-dispersed aramid pulp, natural rubber, synthetic rubber and thermoplastic rubber play a reinforcing effect, used in belts, hoses and other rubber products.
APM40/NBR	40	60	Yellow particles	Pre-dispersed aramid pulp, natural rubber, synthetic rubber and thermoplastic rubber play a reinforcing effect, used in rubber roller, hose, washers and other rubber products.
APM40/NR	40	60	Yellow particles	Pre-dispersed aramid pulp, natural rubber, synthetic rubber and thermoplastic rubber play a reinforcing effect, used in special tires and other rubber products.
APM40/CR	40	60	Yellow particles	Pre-dispersed aramid pulp, natural rubber, synthetic rubber and thermoplastic rubber play a reinforcing role, used in belts, hoses, washers and other rubber products.

Dosage 2.0-20.0 phr

Packing 15 kg in carton box with polyethylene bag liner

Storage A cool and dry condition, the storage period of one year.