



## PVC Calcium Zinc Heat Stabilizers Brochure

**We Simply Plastic Compounding** - Dongguan Baoxu Chemical Technology Ltd offers Most Comprehensive Plastic Additives, as your additives solution partner,

Baoxu provide **Price, Service, Technical** support to achieve the goal of true reliable partner.

Baoxu **Calcium zinc Heat stabilizers** product application include six series: HP resistant wire & cable series, transparent plastic series, foam processing series, calendering processing series, rigid extrusion processing series, rigid injection molding series. Also application are wire and cable, pipes and fittings, doors and windows, wpc, rigid packaging sheet, medical, toys, shoes, hose, film, automotive interior, curtain, carpet, food conveyor equipment, roto cast products, etc.

All Baoxu Ca-Zn heat stabilizer products comply with RoHS, EN1122, EPA3050B, EN71-3, REACH, PAHS, NP and so on. Its core technology products, has a independent intellectual property rights.

### Heat Stabilizer by Applications(table of content)

Heat Stabilizer for PVC Forming .....	2
Heat Stabilizer for Rigid PVC Extrusion .....	4
Heat stabilizer for Calendered packaging .....	6
Heat Stabilizer for RPVC Injection.....	8
Heat Stabilizer for Transparent PVC .....	10
Heat Stabilizer for opaque PVC .....	12
Frequently Asked Questions.....	13

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## Heat Stabilizer for PVC Forming



BAOXU heat stabilizer system can provide comprehensive technical solutions for customers to realize the conversion of PVC processing to cadmium-free and lead-free, and ensure plastic technology fields, such as integrated wall panel industry, door panels, cabinet panels, high-elastic inflatable shoes, etc.

BAOXU heat stabilizer system cleverly assembles the lubrication system required for rigid PVC processing into the system, making it a wide range of processing. This combination package can meet the special needs of different equipment of customers. In addition, due to the introduction of a special foaming accelerator in the combination package, the foaming temperature of the foaming agent can be significantly reduced, and the amount of gas generation can be increased. Combined with the function of the foaming regulator, the cells are dense and the melt strength is significantly increased.

Heat Stabilizer for Foaming	Product description
BX CZ-3048W	Complete thermal stability and lubricant system, excellent initial coloring, good long-term stability; good weather resistance and sulfuration resistance, suitable for indoor and outdoor micro-foaming products. Good dispersibility and pressure analysis resistance, can balance the color fastness of outdoor products. The coupling effect of the stabilization system itself endows the material with early plasticization and good melt fluidity, and improves the melt strength. The intervention of special foaming accelerators promotes foaming, fine cells, and enhanced melt strength. Recommended dosage: 3.5-5.0phr
BX CZ-1048W	Suitable for medium and high-rate foaming products, recommended dosage: 4.5-5.5phr
BX CZ-9012	It is suitable for soft high-elastic air-blowing sole materials, with uniform and fine cells, smooth product surface, no precipitation, stable color and good weather resistance. Recommended dosage: 2.0-3.0phr (100phr PVC meter)

**Product Features:**

- Improved melt consistency, plasticization control, metal release and dry powder flow for improved production
- Production speed and product shape and dimension stability
- Reduce extruder current, improve thermal stability, save energy consumption and improve production efficiency
- Optimize melt temperature, improve surface appearance, balance color fastness, and achieve the best initial coloring

**Baoxu Values**

- ✓ In order to meet the special needs of customers' products and equipment, BAOXU has combined its excellent thermal stability system with a lubricant system to ensure a good processing environment. Through continuous efforts, we can customize products for customers.
- ✓ In order to realize the excellent processing of polyolefin foam products, BAOXU is continuously developing new environmentally friendly heat stabilizers and integrated package technologies to meet the needs of market development.

## Heat Stabilizer for Rigid PVC Extrusion

BAOXU Heat Stabilizer for Rigid Extrusion System can provide customers with a comprehensive technical solution for the conversion of PVC processing to cadmium-free and lead-free, ensuring plastic technology fields, such as pipeline fluid delivery systems, electrical casings, furniture edge banding. The production of extruded products such as strips, door and window profiles, and outdoor fences.



Baoxu physically assembles high-quality hydrocarbon-based synthetic waxes and precise auxiliary internal and external lubricants and auxiliary heat stabilizers. These components can optimize the plasticizing properties, flow properties, heat-continuous properties and Metal peeling performance can meet the special needs of customers for different equipment.

Heat Stabilizer for RPVC Extrusion	product description
BX CZ-8021G	Complete thermal stability and lubricant system, excellent initial coloring, good long-term stability; good weather resistance and resistance to sulfuration pollution, suitable for pipeline fluid delivery systems (various diameters) and electrical conduits, etc. Recommended dosage: 3.0-4.0phr
BX CZ-3033P	It is suitable for the processing of special-shaped materials that require general shearing, such as furniture edge banding, wall panels, etc. Recommended dosage: 4.5-5.0phr
BX CZ-2033P	It is suitable for processing high-shear and strong plasticized door and window profiles. It has good pressure analysis performance, long length and good stability. The coupling enhancement effect of the stabilizer itself endows the mixing link with uniform plasticization and high-speed melt fluidity, the surface of the product is bright and smooth, and it has excellent weather resistance. Recommended dosage: 4.5-5.5phr (100phr PVC meter)

**Product Features:**

- Improved melt consistency, metal release and dry powder flow for increased productivity
- Traditional stabilizing systems have longer plasticizing time and smaller plasticizing torque, which will result in poor physical properties. BAOXU rigid extrusion has higher plasticizing torque, which ensures sufficient mixing of materials, plasticizing to achieve better physical properties
- Advance plasticization, optimize melt temperature, improve surface appearance, balance color fastness, and achieve the best initial coloring

**Baoxu Values**

- ✓ BAOXU heat stabilizer systems are available in standard products and customized solutions to achieve the best performance in high shear or high output applications.
- ✓ Baoxu has developed a series of special stabilizer products to meet the continuous new requirements in the production of pipes, home decoration, doors and windows profiled materials.

## Heat stabilizer for Calendered packaging

BAOXU heat-resistant system for calendered packaging materials can provide comprehensive technical solutions for customers to realize demethylation and tinning of PVC processing, and ensure plastic technology fields, such as hard and environmentally friendly PVC calendered films (blister, folding, printing), IC card base, advertising film, floor film, heat shrinkable film and other products.



This product is made by ion exchange saturated co-precipitation method and supramolecular assembly magnesium aluminum salt metal-layered metal material, which promotes the ultra-transparency of PVC and assists excellent thermal stability of PVC. This auxiliary heat-resistant additive solves the problems of conventional barium-zinc stabilizers, which are excellent in transparency and lack of heat resistance, and traditional calcium-zinc-based heat stabilizers are transparent, poorly dispersed, easy to yellow, and methyl mercaptan tin heat stabilizers are pungent. Defects such as bad smell.

Heat Stabilizer for Calendered packaging	
	Product Description
T553R	GV value 97+, high -gloss transparency, no crystal point, no flow pattern, etc, suitable for 0.02mm-0.6mm calendered film (blister, folding, printing), heat shrinkable film, etc. Recommended dosage: 1.0-2.0phr (should be Equipment complexity usage varies)
BX CZ-6059	Good heat resistance, excellent dispersibility and plasticizing property, no crystal point, suitable for IC card base, advertising film, floor film and other products, recommended dosage: 1.5-2.5phr (100phr PVC)

**Product Features:**

- Environmentally friendly, non-toxic, anti-yellowing, transparent and good dispersion
- Migration resistance, good plasticizing stability during dynamic processing
- Can effectively reduce the total amount of lubricant in the production formula
- It can reduce the processing temperature by 0-5°C in a timely manner, and can replace the full amount or half of the stabilizer products with unpleasant odors in the middle and high-grade products, such as organotin series, which has excellent mold release properties and saves considerable formulation costs for manufacturers.
- There is no peculiar smell on the job site, improving the environment, protecting the health of employees, and being rational and people-oriented.

**Application scenarios**

Element	/phr
PVC resin	100
Plasticizer	2-10
Methyl tin stabilizer	0.8-1.6
Or/auxiliary heat-resistant additive	1.0-2.0
modifier	4-6
calcium carbonate	0-15
Processing aids	1.5-2.5
lubricant	Self-tuning
Toner	Self-tuning

## Heat Stabilizer for RPVC Injection

BAOXU heat stabilizer for injection molding system can provide comprehensive technical solutions for customers to realize the conversion of PVC processing to cadmium-free and lead-free, and ensure plastic technology fields, such as U-PVC injection molding parts, CPVC injection molding parts, PVC/ABS alloys, etc. Product production is green and environmentally friendly.



BAOXU physically assembles high-quality hydrocarbon-based synthetic waxes and precise auxiliary internal and external lubricants and auxiliary heat stabilizers. These components can optimize the plasticizing properties, flow properties, heat-continuous properties and Metal peeling performance can meet the special needs of customers for different equipment.

Heat Stabilizer for injection molding	Product Description
BX CZ-2024F	Comprehensive thermal stability and lubricant system, suitable for water supply and drainage U-PVC injection molding pipe fittings (various diameters), switch panels, junction boxes, etc. Recommended dosage: granulation 4.0-4.5phr, direct mixing 3.5-4.0phr
BX CZ-2024A	Complete thermal stability and lubricant system, excellent initial coloring, good long-term stability; good weather resistance and vulcanization pollution resistance, suitable for PVC/ABS alloy, engineering resin CPVC pipe fittings, high-demand use of Vicat. Recommended dosage: 4.5-5.5phr (100phr PVC meter)



**Product Features:**

- Short melting and plasticizing time period, strong metal peeling property
- The ability to maintain lubrication balance is strong, which solves the shortcoming of general lubrication of stabilizer
- The product is bright, the flow pattern/butterfly spot phenomenon at the glue port slows down or avoids the system from intervening in low molecular weight wax homopolymer and oxidized wax, improves high temperature dynamic stability, and has no migration problems

**Baoxu Value**

- ✓ With the development of the plastic industry, BAOXU can always provide new technologies and upgrade new products to meet new industry needs.
- ✓ In order to meet the current demand for heat stabilizers in this industry, Baoxu technicians have developed a new series of high-performance environmentally friendly heat stabilizers, 2024 series, to help polyolefin processors meet the high requirements for product and processing performance levels.

## Heat Stabilizer for Transparent PVC

BAOXU stabilizer series for ultra-transparent PVC can provide customers with comprehensive technical solutions for the processing of semi-rigid (10P+), soft (40P+) and soft (100P+) ultra-transparent PVC, ensuring transparent plastic technology fields, such as LED lighting, food preservation film, toy material, fiber elastic/steel pipe, blowing material, soft door curtain, soft glass, crystal shoe, jelly bag, car mat, bathroom non-slip mat, emulsified powder processing series, medical diversion.



BAOXU ultra-transparent products, through the ion exchange saturated co-precipitation method, the "auxiliary heat-resistant additive" with BAOXU 's independent intellectual property rights is skillfully assembled with calcium zinc salt component supermolecules to form a material, which promotes the transparency of PVC significantly strengthen. Excellent coloring in the early stage, and obvious advantages in thermal stability in the later stage.

Heat Stabilizer  
for transparent PVC

Product Description

BX CZ-1059 series (A, B, C, S)	Recommended dosage: 1.0-3.5phr, transparency will not be affected (depending on the product processing technology, the dosage will vary)
BX CZ-5059 series (NP, S)	Under semi-rigid injection molding conditions, the effect of using BX CZ-5059 series is better. Recommended dosage: soft 1.2-2.5phr, semi-rigid 2.5-3.5phr, transparency will not be affected (100phr PVC)

**Product Features:**

- ✓ Good plasticizing fluidity, suitable for special fluidity requirements of large injection molded parts
- ✓ No precipitation, no oil emission, progressive methyl tin heat stabilizer in transparency and heat resistance
- ✓ No odor, balanced VOC control, and remarkable weather resistance
- ✓ Food grade, medical grade requirements
- ✓ Small amount in non-transparent products, the surface brightness of the product will be significantly enhanced, and the product quality will be significantly improved

## Heat Stabilizer for Opaque PVC

BAOXU heat stabilizer for opaque PVC can provide comprehensive technical solutions for customers to realize the conversion of PVC processing to lead-free and cadmium-free, and ensure plastic technology fields, such as wire/cable particles, automotive interior leather VOC, toys The production of PVC, shoe materials, hoses, seals.



BAOXU has surface activated fatty acid salts, auxiliary heat stabilizers, alcohol esters, anti-aging and other additives, and then through physical assembly, the mixture can optimize PVC processing, with good processing fluidity, no precipitation, strong color retention, and finished products The surface is bright, and the heat resistance effect is obviously improved in the later stage. Toys have good adhesion fastness, oil spray is not easy to fall off, and the environmental protection complies with the new requirements of EU EN71-part3.

Heat stabilizer for opaque PVC	Product Description
BX CZ-3112	It has excellent electrical properties, flame retardant properties and mechanical and physical properties, and also has excellent aging resistance properties, suitable for high temperature resistance and special cables, such as heat resistance level 125 ° C / 105 ° C, GB90 insulation, thermal stability time can reach 240 minutes, recommended dosage: granulation 8-15phr
BX CZ-90122	Toys, electronic wire material processing, excellent initial coloring, good processing fluidity, especially in the hardness/90A-100A/toy material processing, the advantages are obvious, the recommended dosage is 3.5-5.0phr
BX CZ-4112	UL60-105°C standard wire material processing, also suitable for foam shoe sole material processing, recommended dosage: 4.5-5.5phr
BX CZ-8012	UL80-90°C standard material/GB70°C insulation, also suitable for hose, film, and artificial leather product processing, recommended dosage: 4.0-5.0phr
BX CZ-3012	UL60-80°C standard material/GB70°C sheath is also suitable for the processing of luggage seals, vacuum cleaners/water dispenser conduits, etc., the recommended dosage is 3.5-5.0phr (100phr PVC)

## Frequently Asked Questions

### 1. Is the color of the heat stabilizer important?

Heat stabilizers packages have a wide range of components, including single components and complex products synthesized from multiple components. The single-component product exists in the state of white or light-yellow solid at room temperature, and when melted at high temperature, it will appear white or transparent according to the different processing requirements of non-transparent and transparent products. Since the proportion of BAOXU heat stabilizer in PVC formula is small, the influence of the color of heat stabilizer on the color of PVC products can be ignored.

### 2. What is the environmental protection degree of BAOXU heat stabilizer?

BAOXU company has been committed to environmental protection. BAOXU heat stabilizer meets the high environmental protection within the scope of international standards. Customers who use BAOXU heat stabilizers can safely promote their products to all over the world.

### 3. What is the main component of BAOXU heat stabilizer?

BAOXU heat stabilizer is composed of long-chain fatty acid metal salt as the main body, supplemented by  $\beta$ -diketone, auxiliary heat-resistant additives, antioxidants, metal chelating agents and other functional synergistic additives. This product is a mixture and has no specific CAS number. This product belongs to the heat stabilizer based on calcium/zinc-based metal salt. Unlike lead-based stabilizers, there is no such thing as the percentage or ratio of calcium/zinc salt in the market.

### 4. What are the processing characteristics of BAOXU stabilizer in the field of hard, soft and ultra-transparent plastics?

(1) In terms of hard plastics, the processing width is wide, the lubrication performance is good, the pressure analysis is resistant, the melt temperature is reasonable, the plasticizing fluidity is promoted, the surface of the product is smooth, and the melt impact strength is high.

(2) In terms of soft plastics, it has excellent initial coloring performance, good long-term stability, vulcanization resistance, no precipitation, no oil emission, no phenol and high degree of environmental protection.

(3) In terms of ultra-transparent plastics, the initial coloring, transparency and thermal stability are close to the properties of methyl tin thermal stabilizers. In toys and printed label films, it has a comprehensive balance of excellent transparency, mold removal cycle and printing fastness. sex.

### 5. Can BAOXU heat stabilizer be modified to suit my processing requirements?

BAOXU heat stabilizer has a wider processing environment and can greatly improve the sensitivity of the formulation. BAOXU can provide high-quality products according to customer needs, and can also customize stabilizers for special materials, such as bottle blowing materials, hard transparent calendaring/extrusion packaging materials, high temperature resistant special cable materials, etc.

### 6. How to evaluate the effect of BAOXU heat stabilizer after introduction?

The engineers and technicians of BAOXU Company will evaluate the static dynamics, rheology and other comparable properties of PVC formulations and recommended BAOXU heat stabilizers, which can help most product manufacturers solve practical problems, to achieve its product goals.

## 7. About packaging and storage and transportation

(1) Packaging: BAOXU compound heat stabilizer in powder form, standard 25KG compound kraft paper bag packaging, cream form compound stabilizer, standard 160KG plastic barrel packaging. BAOXU can provide special packaging according to customer needs.

(2) Transportation: The products in powder form are transported on pallets, with 40 packages per pallet, with a net weight of 1000KG. This product is non-toxic, non-corrosive, and belongs to non-dangerous goods, and the transportation is operated according to non-dangerous goods. Products in the form of creams are transported in plastic barrels. All products are recommended to be stored in dark, dry and other environments.