STAR-BETTER ADDITIVE SOLUTIONS

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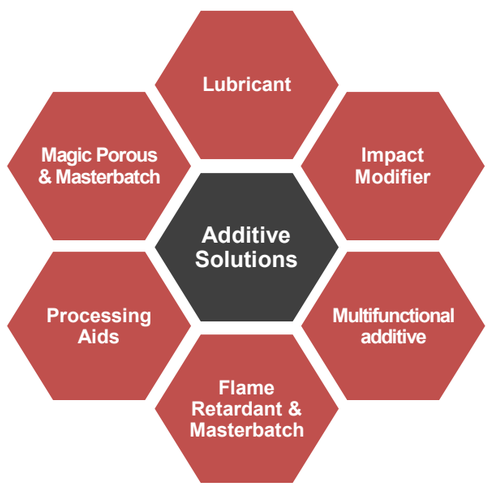

STAR-BETTER CHEM

About Us

STAR-BETTER CHEM was founded in the 1990s. As a professional polymer additive manufacturer, STAR-BETTER owns production bases in Anhui, Hebei, Hunan and Guangdong province. The factories cover an area of 20,000m^2, current capacity is 9,000 tons/year, pass the ISO 9001 & ISO 14001 management system certification. Currently, STAR-BETTER has 110 employees, among which more than 40% have bachelor, graduate and doctoral degrees.

STAR-BETTER products are mainly flame retardants, flame retardant synergist, siloxane processing additives, nucleating agent, chain extender, impact modifier & compatibilizer, magic porous polymer carriers and multifunctional additives and masterbatch, etc. The products are widely used in electronic appliances, automobiles, construction, packaging materials and other fields to meet the industry's strict standards, in line with RoHS, REACH, TSCA and other regulatory requirements.

Polymer Additives Application R&D Center, uses the advantage of breadth and depth serving customers, we actively carry out extensive cooperation with relevant institutions and industry organizations, such as Beijing Technology and Business University, Beijing University of Chemical Industry, Chinese Academy of Sciences, China Flame Retardant Society, China Nonferrous Metals Industry Association, etc. With the cooperation between the platforms to offer more innovative products and solutions for our valued customers.

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Membrane Bioreactor	**MBR**

Melamine Cyanurate (MCA-H+)

Item	Unit	MCA-H20	MCA-H200	MCA-H25
Appearance		White Powder	Granule	White Powder
MCA Content	%	⩾99.5	⩾99.5	⩾99.5
pH Value	%	5.5-7.5	5.5-7.5	5.5-7.5
Particle Size D50	μm	2-6	2-6	4-8
Particle Size D98	μm	4-8	4-8	20-25

Antimony Trioxide (zero carbon dioxide emissions during production)

Item		Unit	Sb_2O_3 99.90	Sb_2O_3 99.80	Sb_2O_3 99.50
Sb_2O_3		%	⩾99.90	⩾99.80	⩾99.50
As_2O_3		%	⩽0.02	⩽0.05	⩽0.06
PbO		%	⩽0.04	⩽0.08	⩽0.10
Average Particle Size (DK)	Fine Grade	μm	⩽1.6	⩽1.6	⩽1.6
	Superfine Grade	μm	⩽0.9	⩽0.9	⩽0.9

ATO Masterbatch

Item		ST-FS-1513	ST-FS-2513	ST-FS-3511	ST-FS-EX6111	ST-FS-8515
Carrier		EBA	EVA	PP	PBT	PE
Particle Size, mm		φ3.5×1.5	φ3.5×1.5	φ3.5×1.5	φ3.5×1.5	φ3.5×1.5
Sb_2O_3, %		90±2	90±2	80±2	80±2	88±2
Sb_2O_3 Chemical %	Sb_2O_3	⩾99.80	⩾99.80	⩾99.80	⩾99.80	⩾99.80
	PbO	⩽0.0450	⩽0.0450	⩽0.0400	⩽0.0400	⩽0.0425
	As_2O_3	⩽0.0450	⩽0.0450	⩽0.0400	⩽0.0400	⩽0.0425

Antimony-based FR Synergist

Item	Unit	ST-FS-A320T	ST-FS-A390T	ST-FS-A2T
Sb_2O_3	%	⩾40	⩾50	⩾50
As_2O_3	%	⩽0.03	⩽0.03	⩽0.03
PbO	%	⩽0.05	⩽0.05	⩽0.05
Application		PVC film	PVC W&C, PVC film	PA, PBT, PET

Sodium Antimonate ST-FS-SA

Item	Unit	Value	Item	Unit	Value
Appearance		White Powder	Pb	%	⩽0.05
Sb	%	＞58	As	%	⩽0.1
Sb^{3+}	%	⩽1.0	Volatile Content（105℃，2hr）	%	⩽0.8

Silicon Based PC FR for Film

ST-SR487 is a Silsesquioxane based halogen-free flame retardant, for Polycarbonate resin especially PC film or sheet. Thanks to high molecular weight, ST-SR487 is easily dispersed with excellent compatibility with PC resin and it brings excellent anti-weathering, hydrolysis resistance and anti-yellowing performance.

It enables PC, UL 94 V0 at ultra-low thickness and delivers mild effect of mechanical properties and transparency of PC.

Item	Unit	MCA-H20
Appearance		White flowing powder
Silicon Content	%	30-40
Hydroxyl Value	%	4-7
pH Value		6.8-7.1
Melting Point	℃	169-203
Decomposition Temperature	℃	355(1%)

Application Cases

Item	ST-SR487		
Flame Retardant Grade (UL94 V-0)	1.6mm	1.0mm	0.43mm
Dosage	0.1%	0.35-0.45%	0.7-0.8%
PTFE Anti-dripping Agent	0.2%	0.5%	0.5-0.6%
Requirement on PC Selection	No specific	PC: MI=8-10	PC: MI=5-7

Item		ST-SR487			
Dosage of ST-SR487 (w/w)%		0.1	0.2	0.3	0.4
Dripping		No	No	No	No
Burning Stops Within Time (T1+T2)	1.6mm	35s	24s	35s	37s
	2.0mm	32s	32s	28s	29s
	3.2mm	35s	28s	22s	19s
Combustion Observed		Formation of charring			

Flow improver has the functions of increasing melt flow index, enhancing dispersion, improving compatibility and increasing loading content. The comprehensive performance is much better than CBT, EBS, silicone, Montan wax, and traditional lubricants.

Flow Improver for PA

ST-PA9 series additives are innovative lubricants for polyamide PA application.

Item	Unit	Value
Appearance		Solid powder
Odor		No
Active Ingredient Content	%	⩾98
Melting Point	℃	100

Flow Improver for PE

ST-PA204 series additives are innovative lubricants for polyolefin applications. It is widely used in PE including HDPE, LDPE, LLDPE, Fiber/Filler reinforced PE.

Item	Unit	Value
Appearance		White powder
Odor		No
Active Ingredient Content	%	⩾98
Melting Point	℃	100

Flow Improver for PC & PC/ABS

ST-PA208 series additives are innovative lubricants for Polycarbonate and PC/ABS alloy applications. It is widely used in PC, Glass fiber/Filler/Fire retardant reinforced PC and PC/ABS alloy.

Item	Unit	Value
Appearance		White powder
Odor		No
Active Ingredient Content	%	⩾98

Flow Improver for PET & PLA

ST-PA210 series additives are innovative lubricants for PET, PLA, PCL and other biodegradable polyester or polyester application.

Item	Unit	Value
Appearance		Solid powder
Odor		No
Active Ingredient Content	%	⩾95
Melting Point	℃	140-160

Flow Improver & Lubricant

Flow Improver for PP

CHEMS® PK010 is a peroxide masterbatch containing 10% of organic peroxide in polypropylene.

Item	Unit	Value
Appearance		White granule
Assay	%	8.0-12.0
SADT	℃	Approx. 80
Storage Temperature	℃	⩽40

Lubricant for PC

ST-PETS can be used as processing additive, surface modifier and a mold release agent in PC and other thermoplastics. It can improve the flowability, surface glossiness and reduce the friction factor.

Item	Unit	Value
Acid Value		⩽5
Melting Point	℃	55-65

Oleamide ST-OLD

ST-OLD is a refined oleamide in microbeads form. ST-OLD provides excellent slip effect and moderate anti-blocking performance. It is the most frequently used slip additive for PE film applications.

ST-OLD can be applied in a wide range of thermoplastic polymers. The addition level varies from 0.05 to 0.3% depending on the slip effect needed and the presence of other additives.

Item	Unit	Value
Appearance		Off-white microbead
Smell		No smell
Acid Value	mgKOH/g	<0.8
Iodine Value		80-90
Melting Point	℃	70-80

Erucamide ST-EMD

ST-EMD is refined erucamide. It acts as slip and antiblocking additive. Possesses lower volatility and better high temperature stability than oleamide. ST-EMD can be applied in a wide range of thermoplastic polymers. The addition level varies from 0.05 to 0.3% depending on the slip effect needed and the presence of other additives.

Item	Unit	Value
Appearance		Powder/granule
Smell		No odor
Acid Value	mgKOH/g	⩽0.2
Iodine Value	%	74-78
Melting Point	℃	78-81
Total Amide Content	%	⩾99.5

Magic Porous Polymer Carrier

A new Polymer material with 3D network and opening structure, magic porous polymer carrier (MPC) has excellent adsorption properties which can transform liquid or converted-to-liquid additives into dry & free-flowing masterbatches.

Grade	Matrix Resin	Particle Size	Max Adsorption	Bulk Density
MPC 1002	PP	1-4 mm	15-25 %	270-330 g/cm^3
MPC 1005	PP	1-4 mm	40-60 %	150-250 g/cm^3
MPC 1010	PP	3-5 mm	50-70 %	90-150 g/cm^3
MPC 1020	PP	3-5 mm	65-80 %	50-90 g/cm^3
MPC 2005	PS	1-4 mm	35-55 %	150-250 g/cm^3
MPC 3110	LDPE	3-5 mm	25-40 %	200-300 g/cm^3
MPC 3210	HDPE	2-3 mm	25-40 %	150-300 g/cm^3
MPC 8010	ABS	3-5 mm	25-40 %	250-350 g/cm^3

AO Stabilizer

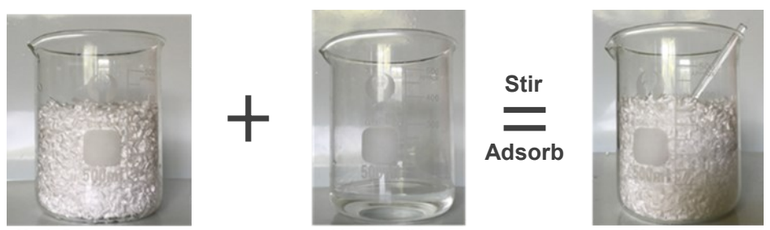
Grade	Appllication
ST-168	It is suitable for polyolefin, PC、TPU、ABS、PMMA、POM、PA、PET、PS, and also suitable for elastomers (Butyl rubber、SBR、SEBS、EPN、EPDM) materials and products. It has good synergistic effect with hindered amine antioxidant ST-1010 and ST-1076, and can improve the stability of polymer material during thermal processing.
ST-1010	It is especially suitable for polyolefin, engineering plastics, elastomers, adhesives, rubber and petroleum products. It can efficiently extend the product service life. It is often used with phosphite ester antioxidant and light stabilizer.
ST-1076	It is widely used in PP, PE, POE, ABS, PS, PVC, engineering plastics, synthetic fibers, elastomers, adhesives, wax, synthetic rubber and petroleum products. It is suitable to be added in the aggregation, production or use. It is often used with auxiliary antioxidant such as 168, and the antioxidant performance is better.
ST-1098	It is highly effective especially in wire and cable applications, suitable for PE, PP, crosslinked polyethylene, EPDM, elastomer, nylon, polyurethane, polyacetal, styrene copolymer. It is often used with auxiliary antioxidant to protect polymer color during manufacturing, spinning or thermal fixation.
ST-3114	It is especially suitable for PP, PE, polystyrene, ABS, PVC, nylon and polyurethane, especially effective for polyolefin. It is also used as a radical scavenger providing stabilization for polyolefins. When used with UV absorbent and phosphite ester, a synergistic effect can be reached, thus enhancing the thermo-stability and light stability.

UV Stabilizer

Grade	Appllication
UV-292	UV-292 is a liquid HALS light stabilizer for use in coatings, printing ink and polyurethane lacquer. Especially developed for coating, preventing coating from blowing-our and surface peering-off, with better effect for mobile coating. UV-292 is typically demonstrates reduced interaction with co-additives such as pigments or other stabilizers. It has comparative effect with UV absorbent.
UV-622	UV-622 is the light stabilizer of choice for all applications calling for low volatility and minimal migration, because of its oligomeric structure with high molecular weight. Furthermore UV-622 is effective as antioxidant and contributes significantly to the long-term heat stability of polyolefins and tackifier resins.
UV-770	It is suitable for polyolefin materials, cross-linked polyethylene, olefin copolymers and other polymer materials. It can often be used with other light stabilizers, antioxidants and UV absorbers, to further improve the anti-aging effect of materials.
UV-944	UV-944 is a high molecular weight hindered amine light stabilizer (HALS). It shows excellent compatibility, high resistance to extraction and low volatility.

Preparation of Liquid Additives Masterbatch

Liquid additives can be transformed into dry & free-flowing masterbatches just by mixing and stirring without any heating process.



Magic Porous Polymer　　Liquid Additive　　Masterbatch

Application Advantages

- Simple process: just mix and stir, without any heating process and dispersant.
- High effective and controlled content: content can be controlled below 80% through changing the porosity and adsorption rate of magic porous polymer.
- Especially for heat sensitive additive: without any heating, reduce performance loss of additives.
- Simple and convenient for use: overcome a series of technical difficulties such as adding, quantifying and dispersing when using liquid additives during compound process.

Application Cases

Liquid Additives	Capsule Masterbatches
Deodorant	Deodorant Masterbatches: LDV 1035T, LDV 2040, LDV 3040
Silicone	Silicone Masterbatches: SIM 1060
Light Stabilizer	Light Stabilizer Masterbatches: ST-LST0850, ST-LST5350

Applicable additives: light stabilizer, antistatic agent, flame retardant, antiblocking agent, antifogging agent, antioxidant, coupling agent, deodorant, lubricant, foaming agent, flavouring agent, release agent, maleic anhydride, silicone, peroxide, etc.

Siloxane-based Processing Aids for Thermoplastics

ST-LS series is mainly made from high molecular weight polysiloxane. It can be used as processing additive and surface modifier for thermoplastics. It can improve the flowability and surface glossiness, reduce the friction factor.

Item	Siloxane Powder ST-LS100	Siloxane Masterbatch ST-LS301 / 302	Anti-scratch Siloxane Masterbatch ST-LS302SAS / 310
Appearance	White powder	White pellet	White pellet / White flaked solid
Active Ingredient	⩾99%	⩾50%	⩾55% / ⩾99%
Whiteness	⩾96	-	-
Average Particle Size	10-20μm	-	-
Carrier Resin	-	LDPE / PP	PP / -
Application	Suitable for different basic resins: polyolefin, ABS, POM, TPU, PA, PC, PBT, PPO, PPS. It can be used in products: modified engineering plastics, halogen-free FR cable, anti-block masterbatch, etc.	Suitable for modified resins such as LDPE, HDPE, PP, PA, TPE, and PP alloy etc. It can be used in products such as cross-link PE cable, halogen-free FR cable, silicone core duct, PP/PE pipe, PE film, HDPE bottle, PP injection parts, pipe, BOPP film, etc.	Suitable for modified resins such as PP, TPE and PP alloy, etc. Can be used in scratch resistance products such as PP injection parts, PP pipe, BOPP film, etc.

Feature

1. Improve the lubricating properties, mould releasing and flowability; reduce the torque of screws, consumption and final products' defect rate.
2. Obviously reduce the friction factor of product surface.
3. Improve the surface glossiness of reinforced/filled products.
4. Has good thermal stability and migration-resistance, can be used for high processing temperature engineering plastics, and doesn't affect the post processing (such as spraying, printing) .
5. Improve flame-retardant property and reduce smoke density.

Silicone Liquid Masterbatches

ST-LS1050 is a functional masterbatch with high loading of silicone fluids. ST-LS1050 is available in pellet form, used as an additive to improve lubricity, demould properties, water-repellent and production efficiency for plastic compounders and cable & wire manufacturers.

Item	Unit	Value
Appearance		White Granual
Active Ingredient Content	%	50±2.5
Average Pellet Size	mm	1-3

Feature

1. 1. ST-LS1050 masterbatch uses polypropylene as a carrier. ST-LS1050 implement high functioning porous polymers to load and deliver liquid additives with maximum consistency and low VOC emission as to eliminate thermal process to prepare masterbatch.
2. ST-LS1050 maintains high efficiency of silicone masterbatch-properties, and can maximize maintaining material properties. ST-LS1050 can also be added to resin for compounding process, with advantages in dust free, easy to feed, and excellent dispersion.

Anti-scratch Agent for PP/TPO

Interior instrument and door panels, and exterior bumpers of automobile need to improve scratch and mar resistance. So we developed anti-scratch agent for automotive TPO/PP. **CHEMS® ER570** is designed to enhance scratch and mar resistance for Interior and Exterior of Car.

Item	Unit	Value
Appearance(25℃)		Pale yellow powder
Melting Point	℃	160±10
SAP Number (Saponification)	Mg KOH/g	25±5

Processing Aids for PA

ST-PA219 series additives are innovative processing aid for glass fiber reinforced plastic especially nylon. It reduces/prevents the glass fiber-rich surface.

Item	Unit	Value
Appearance(25℃)		Solid powder
Active Ingredient Content	%	⩾94.0
Odor		No

Benefits of ST-PA219 also include:

1. Make the glass fibers and resins more compatible.
2. Make the dispersed phase and continuous phase more uniform.
3. Increase the interface bonding strength.
4. Reduce the separation of glass fiber and resin.

Application Cases

Heat Stabilizer for PA

ST-AY16 is outstanding heat stabilizer/anti yellowing additive for polyamide PA application. It not only reduced yellowing during melt compounding, but also worked as a long-term protection of polyamide against heat, aging, UV light and in contact with gasoline/oil. It is superior to traditional antioxidants due to its high and comprehensive performance. Typical dosage is 0.2-0.5% processed by twin-screw extruder.

Specification

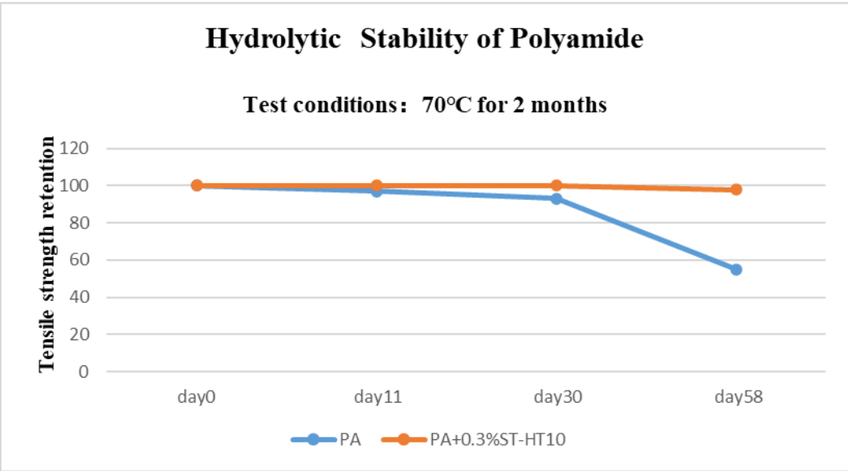
Item	Unit	Value
Appearance		White crystalline powder
Thermal decomposition temperature (5%)	℃	＞320
Volatile content (105℃/2hr)	%	≤0.3
Ash content	%	＜0.1

Hydrolysis Stabilizer

ST-HT10 is antihydrolysis agent for urethane (PU coating/adhesive) and thermoplastic polyester polyurethanes (TPU) as well as polyester polymers (PET, PBT, TPEE) and polyamides (PA).

Specification

Item	Unit	Value
Chemical Composition		Polymeric carbodiimide
Physical Form	℃	Slightly yellowish powder
Melting Range	℃	70-79
Solubility	%	Soluble in organic solvents, e.g. DMF, THF



Stabilizer

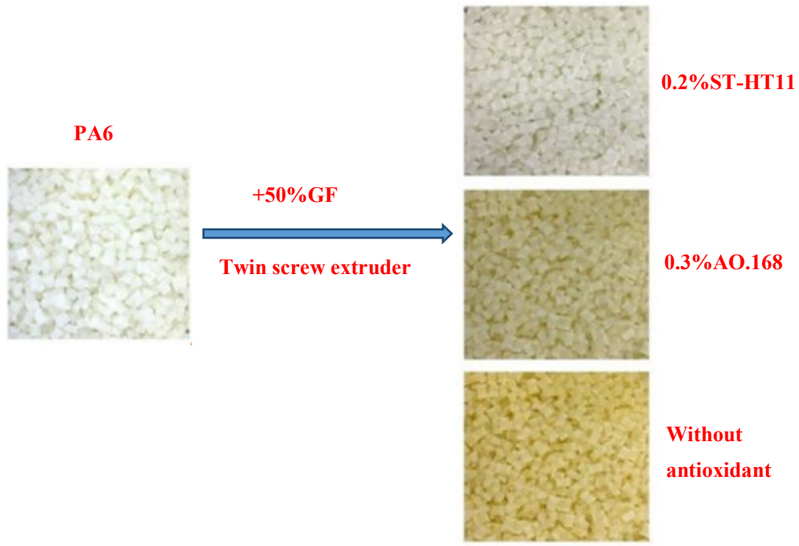
Heat Stabilizer ST-HT11

Heat stabilizer ST-HT11 is a formulated phosphorus based processing stabilizer additive, white powder, with high temperature resistance and excellent solvent extraction resistance.

Applications

Heat stabilizer ST-HT11 is widely used in nylon (PA6, PA66, PPA, etc.), polyester (PBT, PET) and PC. Particularly for waste materials recycling, it provides very good anti-yellowing effect. It can also be used in halogen-free flame retardant systems to solve the problem of yellowing.

P1. ST-HT11 effectively protects polymer against yellowing caused by shear and thermal stress during twin-screw compounding.



Heat Stabilizer ST-HT312

Heat stabilizer ST-H312 is a mixture of copper compounds, lubricants and synergists, in powder form.

Applications

These improved properties of the finished nylon parts are typically parts of automotive engines, automotive front-end modules, nylon ties, parts of home appliance and other industries.

Impact Modifier & Compatibilizer

Impact Modifier for PBT/PET

Item	Unit	ST-2000	ST-2020	ST-2011
Feature		High reaction activity	High toughness	High cost performance
Density (23℃)	g/cm^3	0.94	0.89	0.87
MI	g/10min	20-30 (190℃, 2.16kg)	1.6-3.0 (190℃, 2.16kg)	3-6 (230℃, 10kg)
GMA Content	%	＞1.5	＞1.0	0.8-1.2
Dosage		For common FR PBT and PET: 3-6%; for super tough PBT and PET: 15-20%.		

Impact Modifier for PA

Item	Unit	ST-4001	ST-S4100	ST-4182M2	ST-H4100
Feature		Universal type	Excellent impact strength under low temp.	Excellent impact strength under room & low temp.	High Flowability
Density (23℃)	g/cm^3	0.87	0.88	0.87	0.89
MI	g/10min	0.2-0.5 (190℃, 2.16kg)	1-2 (190℃, 2.16kg)	0.1-0.4 (190℃, 2.16kg)	11-18 (190℃, 2.16kg)
MAH Content	%	0.5-0.7	0.3-0.5	0.8-1.2	0.3-0.5
Dosage		For common FR PA6 and PA66: 3-6%; for super tough PA6 and PA66: 15-20%.			

Compatibilizer & Impact Modifier

Item	Unit	ST-SAG2030	ST-G-PP30LO	ST-G-PE	ST-MS19
Feature		Styrene, acrylonitrile, GMA and the fourth monomer	Super low odor grade MAH grafted PP	MAH grafted PE	MAH grafted SEBS
Density	g/cm^3	1.07	0.90-0.92	0.95	-
MI	g/10min	15-35 (200℃, 5kg)	30-80 (190℃, 2.16kg)	2 (190℃, 2.16kg)	1-2 (190℃, 5kg)
Grafting Ratio	%	2.0	High	0.6-0.8	High

Compatibilizer & Impact Modifier

Item	Unit	ST-4802	ST-SMA4018	ST-HA7	ST-V84	ST-MBS7
Feature		MAH modified MBS	Polystyrene compatibilizer	ABS powder	MAH grafted EPDM	Modifying MBS
Density	g/cm^3	1.05-1.1	1.06-1.09	0.32	-	0.2-0.4
MI	g/10min	-	5-12 (230℃, 2.16kg)	-	0.1-1.0 (190℃, 2.16kg)	-
Grafting Ratio	%	＞1.5	16-20	-	0.4-0.6	-

We also have various silane coupling agents.

Nucleating Agent

Nucleating Agent for PP

Item	Unit	ST-NAPF4	ST-NAP6	ST-NC38
Appearance		White powder	White powder	White powder
Melting Point	℃	＞300	＞210	250-265
Dosage	%	0. 05-0.15	0. 05-0.15	0.1-0.3
Application		PP+GF	PP	Transparent PP

Nucleating Agent for PA/PBT/PET

Item	Unit	ST-NA12A	ST-NA22A	ST-NA22D	ST-NA25B
Appearance		White powder	White powder	Off white	Pale yellow-white
Melting Point	℃	110	Infusible		＞200
Dosage	%	0.1-0.5	0.05-0.3	0.15-0.4	0.6-0.9
Application		Filled PA	PA	Filled PA	PET/PBT

Nucleating Agent for PLA

Item	Unit	ST-NAB3
Appearance		White or yellow powder
Melting Point	℃	⩾200
Dosage	%	0. 5-1.5

Nucleating Agent / Processing Aids NanOsil ASD

Item	Index	Item	Index
SiO_2	99.99%	Na	0. 0051%
Al	0.000081%	Fe	＜100ppm
Mg	0.00015%	Moisture Content	0.07-0.5%
Bulk Density	15.5lbs/cft	Specific Gravity	2.2g/cm^3
Refractive Index	1.46	Ignition Loss (1000℃)	0. 54%
Behavior in Water	Hydrophilic	pH (5% Aqueous Slurry)	4.9-5.5
Appearance	White powder	B.E.T, Surface Area	24-34m^2/g
Primary Particle Diameter	0. 02-0. 55μm	Agglomerate	0.1-1.0μm

Rheological Additive

ST-OB19 is an organic bentonite based rheological additive, used with low, middle polarity solvent borne system. It demonstrates easier dispersibility compared to conventional organoclays. It provides good thixothropy, sag resistance, and anti settling properties.

ST-OB34 is also an organic bentonite based rheological additive. This additive is designed for low to intermediate polarity organic systems.

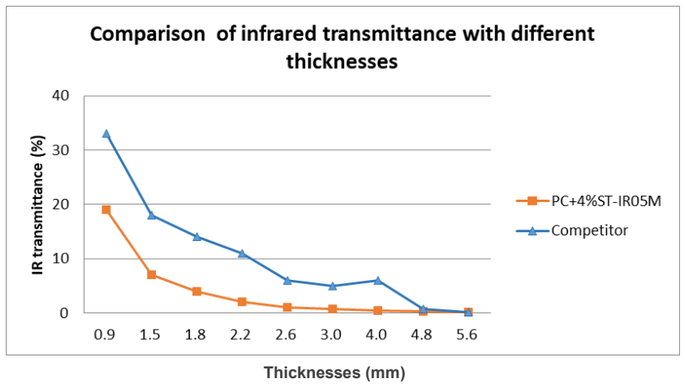
Item	Unit	ST-OB19	ST-OB34
Appearance		White powder	Off yellow powder
Loss on Ignition	%	34.5-37.5	30-33
Fineness, 45um (325mesh)	%	⩾95	⩾95
Moisture Content	%	0.8-3.5	0.8-3.5
Viscosity	Pa.s	⩾1.5	⩾1.5
Density	g/cm^3	1.65	1.65

Infrared Absorbing Masterbatch

Infrared absorbing masterbatch ST-IR05M is a polycarbonate concentrate with nanoscale primary particles loading 5%, which formulate stable dispersion and eliminate tendency to agglomerate. This product shows great processability, and it offers an excellent dispersibility in the polymer melt during the extrusion process. ST-IR05M enables polycarbonate with infrared absorbing performance, for IR -Cut / Solar protection films for automotive and residential applications.

Item	Unit	Value
Appearance		Light Blue Pellet
Additives Loading	%	5
Base Resin		PC MFI 10

Application Data



Specialty Additives

Low Molecular Weight SMA

Item	Unit	ST-SMA5325	ST-SMA5330	ST-SMA5350	ST-SMA5250
Styrene : MA Ratio		3:1	2:1	1:1	2:1
Acid Number	mg KOH/g	290	345	470	345
Glass Transition Temperature	℃	120	145	155	165
Molecular Weight	g/mol	7500	7500	5000	21000
Volatile Content	%	＜0.5	＜0.5	＜0.5	＜0.5

Product Properties	Applications
Low VOC	Overprint varnish & inks
Low molecular weight	Leather retanning
Low viscosity	Adhesives
High glass transition temperature	Paper sizing
High heat resistance	Pigment treatment
Ability to form aqueous	Coating
High reactivity	Carpet cleaners
High gloss	Wax emulsion
High resolubility	Recycled Polyamide

Water Based Crosslinker

ST-V9L14 is polycarbodiimide crosslinker, very efficient crosslinking agent for carboxylic group containing polymers such as polyurethane, acrylic, polyester coatings, inks, leather finishers and other coating systems.

Item	Unit	ST-V9L14
Appearance		Light yellow liquid
Solid Content	%	40
System		Deionized water
Viscosity	mPa•s	100

Laser Marking Additives

Item	Unit	ST-85D	ST-83B
Form		Powder	Powder
Color		Black	Grey white
pH Value/Potential of Hydrogen		7.5	7
Density	g/cm^3	1.3-2.1	4-4.5
Suitable Laser Wavelength	nm	355-1064	355-1064

Application

ST-85D and ST-83B are laser additives for dark and bright markings respectively in polyolefins (PE, PP) and aromatic polymers (e.g. PC, ABS, SAN, PBT). In aliphatic polymers (e.g. PMMA, POM, PA) the use of laser additives is recommended at dosage level between 0.3%-0.5%.

Application Cases

Dark marking

Bright marking

Chain Extender for PET

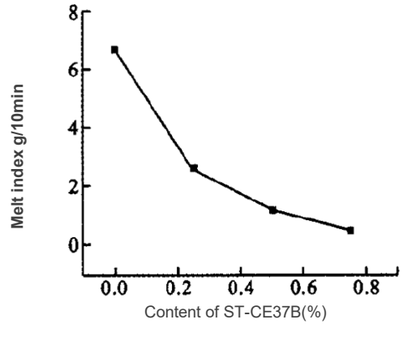
Chain extender ST-CE37 is a polymeric epoxy functional chain extender. In its structure, the epoxy functional group can realize the expansion chain of the polymer through reacting with the terminal hydroxyl groups, terminal carboxyl groups and terminal amino groups of polycondensation resin. Thus, achieving the purpose of improving polycondensation resin viscosity characteristics, mechanical properties and inhibiting the hydrolysis of polymers.

Item	Unit	ST-CE37
Appearance		White powder or granule
None-volatile-matter content	%	＞98
Epoxy equivalent	g/mol	280-310
Application		PET

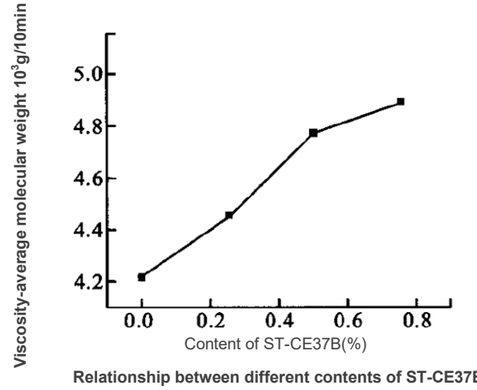
Chain Extender for PLA

Chain extender ST-CE37B is a polymeric epoxy functional chain extender. In its structure, the epoxy functional group can realize the expansion chain of the polymer through reacting with the terminal hydroxyl groups, terminal carboxyl groups and terminal amino groups of polycondensation resin. Thus, achieving the purpose of improving polycondensation resin viscosity characteristics, mechanical properties and inhibiting the hydrolysis of polymers.

Item	Unit	ST-CE37B
Appearance		White powder or granule
None-volatile-matter content	%	＞98
Epoxy equivalent	g/mol	310-330
Application		PLA



Relationship between different contents of ST-CE37B and PLA melt index

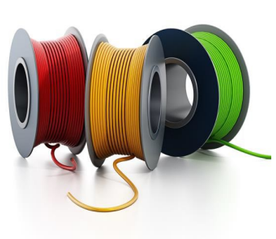


Relationship between different contents of ST-CE37B and PLA viscosity-average molecular weight

Star-Better offers functional masterbatch based on ExxonMobil Elevast™ technique. It provides permanent plasticize for olefinic based materials that will increase flexibility, impact resistance and improve melt flowability, especially for low temp. performance due to its low Tg.

ST-A80PP50

ST-A80PP50 for technically demanding applications



Industrial belts

- **Durability**
  - High cross-link efficiency
  - High heat performance
- **Flexibility and crack**
  - Efficient plasticization
  - Improve hysteresis

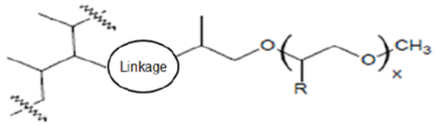
Wiper blades

- **Low temperature performance**
  - Improved flexibility
  - Improved compression & tension set
- **Permanence**
  - Flexibility retention over long exposure
  - Potential to eliminate blooming, bleeding, fogging and/or iridescence

Wire & cable

- **High performance**
  - long-term property retention
- **Processing ease**
  - Higher throughput
  - Less energy

ST-AMGP is a new and unique product derived from specialty amines where Polar amine group is grafted into Polypropylene though proper linking group. The result product resemble surfactant with a typical “head to tail” molecule structure as illustrated as



Specification

Item	Unit	Value
Appearance		Light yellowish powder or flake
Melting Point		⩾135
Viscosity（200℃）	mPa.s	6000-8000
Proportion	g/cm^3	0. 95

Characteristics

1. Increased surface energy, polarity and hydrophilicity.
2. Improved paintability, dyeability, printability and antistatic properties.
3. Improved interpolymer adhesion.

Usage

1. It could be compounded with polyolefins, under extrusion with the twin-screw extruder.
2. Recommended dosage: 5-15% (should adjust according to the actual need).

Package & Storage

25kg/bag (inner PE bag). Store in ventilated, dry place, avoid direct sunlight.

Melt Flow Indexer

Melt Flow Indexer MFI-1211 is a new and affordable tabletop instrument that tests the melt mass-flow rate (MFR) of a wide range of thermoplastic raw materials, in the form of granules, strips of film etc. This test method is particularly useful for quality control tests on thermoplastics. Melt Flow Indexer MFI-1221 tests the melt mass-flow rate (MFR) and melt volume-flow rate (MVR) .

High Accuracy

The built-in microprocessor maintains temperature control to within±0.5℃ with rapid ram-up to the set point. Extruded material is automatically cut off by the built-in scraper mechanism at preset intervals, controllable to±0.1seconds.

Ease to operate!

Testing Melt Flow Rate has never been so economical or easy to do! The tester is supplied completely with the accessories and weights necessary for maintenance and operation. Nothing else to buy--just plug it in and start a test.

Specification

Item	MFI-1211	MFI-1221
Measurements	MFR	MFR & MVR
Display Mode	LCD screen	Touch screen
Measurement Range	(0.1-100)g/10min	(0.1-100)g/10min
		(1-500)cm^3/10min
Working Temperature	120-450℃	100-450℃

NOTE