

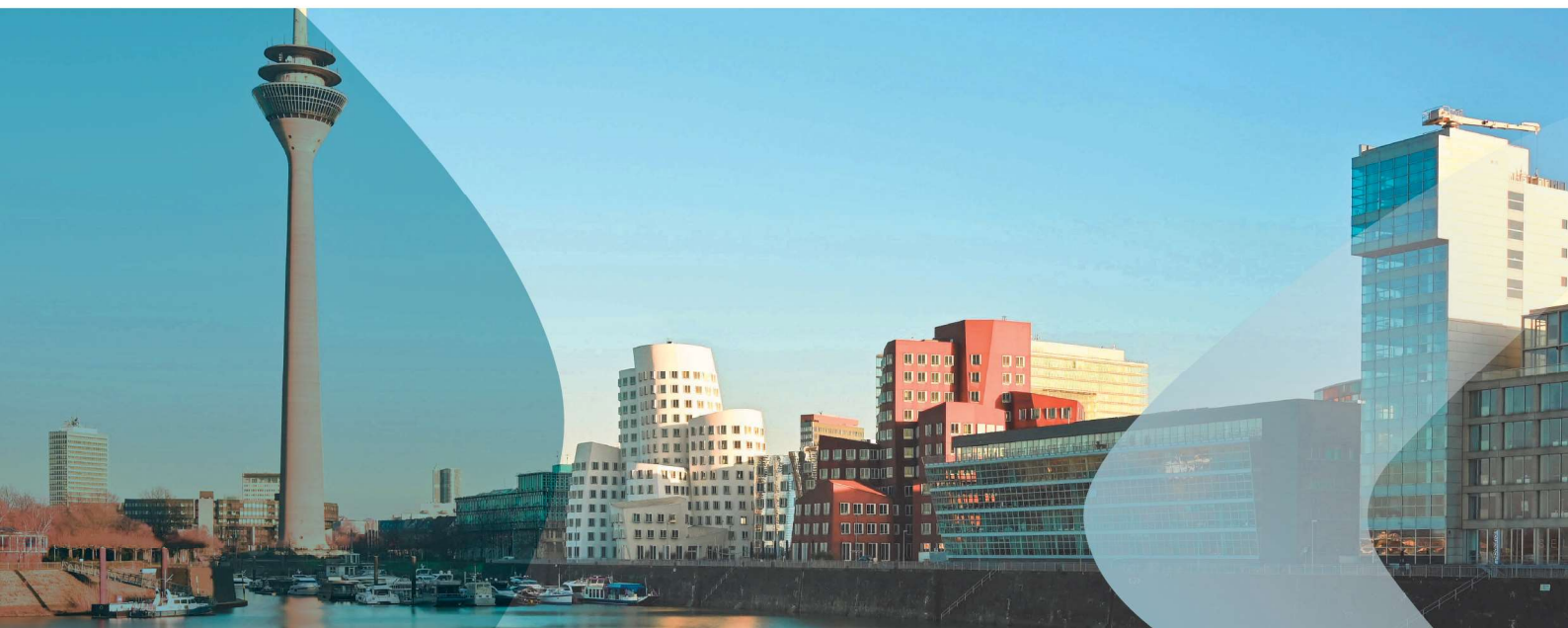


LET YOUR
PLASTICS
ENJOY
SUNSHINE

GLOBAL
LEADER IN
**LIGHT
STABILIZERS**

Corporate Brochure





ABOUT UNITECHEM

The UniteChem Group, with global headquarters in Suqian City, Jiangsu (China), is the world's #1 supplier of high-performance light stabilizers for plastics in a wide range of demanding industrial applications. As one of China's largest specialty chemicals companies, our Group has diversified activities in R&D, application development, production, sales, trading and machine manufacturing. We specialize in the production of light stabilizers, UV absorbers and other related products.

Our group

The Suqian UniteChem Group currently has 8 subsidiaries, incl. our newly opened Shanghai branch office. With our 1650 employees worldwide we are proud to provide the market with a total production capacity of 80,000 tons of intermediates and 40,000 tons of finished products. Based on two state-of-the-art manufacturing plants in China, two further production facilities under construction and a network of warehousing hubs around the world, we are well positioned for growth and meeting the increased demands of global customers for high-performance light stabilizers and other performance additives.

20+	2,000+	€ 300	8	80,000	40,000
Years of Experience	Employees Worldwide	Million Turnover	Subsidiaries Currently	Tons of Intermediates	Tons of Finished Products

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Our new European headquarters

In 2020 we opened our European subsidiary in Düsseldorf, Germany. Our new Düsseldorf office will enable closer partnerships with customers to benefit from UniteChem's advanced product offering by enhanced local support in stabilizer selection and processing. UniteChem is collaborating with Leschaco Group - a major logistics provider for specialty chemicals - to meet its logistics needs across the continent, including new warehousing in Antwerp (Belgium) to ensure reliable and rapid deliveries.

Customers across Europe are served by a very committed and agile team with long-standing market experience and industry focus, accelerating the time-to-market of innovative new applications.

Advanced Products
Global Technical Support

Collaboration
with Global Logistics Supplier

Professional
Marketing Services

"To ensure full financing capabilities as UniteChem continues its growth journey, the Suqian UniteChem group will go public and be listed on the main Shanghai Stock Exchange by the end of 2022"



3

OUR TECHNICAL STRENGTH

Our laboratories are equipped with the latest and most advanced equipment for sample preparation, aging, testing and analysis. To keep up-to-date with all latest research we work closely with renowned technical institutions across China, incl. Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Fudan University, Tongji University, Shanghai University, Wuhan University of Technology, East China University of Science and Technology, Sichuan University, Shaanxi University of Science and Technology, Beijing University of Chemical Technology, Xi'an University of Technology, etc.

We are proud of our extensive technical capabilities, both in providing our customers with the most advanced technical support as well as our leading R&D efforts.

UniteChem has a long history of driving the development of efficient and sustainable additive solutions, including in particular hindered amine light stabilizers, for use in all major applications areas of the plastics industry. As part of our commitment to invest in future solutions for our customers, we regularly allocate 5 % of our total revenue to R&D. We operate 5 independent laboratories 5 outdoor exposure facilities as well as 1 outdoor experimental research facility.

In 2021 we announced major investments to further expand the availability of our technical support capabilities for customers in Europe and worldwide. As part of this we have opened a second R&D and Innovation Center in Shanghai. The new Shanghai Center provides extensive testing, analysis and process evaluation support for global polymer and masterbatch producers, major OEM brands as well as local plastic converters and compounders. Staffed with technical and industry specialists who combine more than 30 years of dedicated experience in plastic additives, it more than doubles our existing R&D and innovation capacity and has been purpose-designed to accelerate the time of dedicated sampling for customers worldwide.

Next to injection molding, film blowing and casting machines, the advanced equipment at our new R&D Center is spearheaded by a high-performance twin-screw extruder serving a wide range of compounding tasks at screw speeds of up to 1,000 rpm. A Xenon and thermal oxygen aging chamber with large water-cooled instruments and a rotating rock unit enable comprehensive accelerated weathering tests. A multi-element analyzer for intermediates facilitates product modifications and process adjustments while featuring excellent reproducibility. An array of molecular weight samplers helps in running simultaneous tests e.g. to improve the control of analyte retention, enhance mass spectral sensitivity, minimize cross-contamination and investigate various different chromatographic options. Further devices also include a torque rheometer, a plate vulcanizer and a UV/VIS spectrophotometer.

UNITECHEM PLASTIC ANTI-AGING R&D CENTER

The UniteChem Plastic Anti-Aging Center was established in 2012 by Professor Ye Yongcheng, an anti-aging polymer expert of the Chinese Academy of Sciences. It integrates the development of anti-aging products, the detection and analysis of additives, and the anti-aging evaluation of polymer materials. It is one of the leading domestic enterprise research centers specializing in the anti-aging of polymer materials.

Synthesis R&D

- Synthesis of new products
- New technology research

Application R&D

- Application research of various anti-aging additives
- Development of anti-aging solutions for polymer

QUALITY CONTROL & CERTIFICATIONS

Our dedicated Quality Control team follows the principles of transparency, science and honesty, focusing on consistently providing high-quality products and services to our customers worldwide.

We strictly adhere to all market access rules, laws and regulations - incl. REACH, SVHV Listings, Food Contact Regulations, HALAL requirements etc.

INDUSTRY APPLICATIONS

With our wide and increasing range of products, we can effectively serve the needs of all our customers' industry applications. Our long experience, modern large-scale production facilities and extensive testing capabilities assures that we can always provide our customers with the most suitable products for their applications.

AGRICULTURE



WOVEN & FIBERS



AUTOMOTIVE, E&E



COATINGS



SPORTS & LANDSCAPE



OTHERS



MARKETING NETWORK

We cover all five continents and sell our products in over 30 countries all around the world. We strictly follow market access rules, laws and regulations in order to provide customers with quality products and services.

Professional Certifications

ISO9001, ISO 14001, GB/T45001, REACH, RoHS, SVHC List, Food Contact Laws and Regulations, etc.



GLOBAL LOGISTICS LOCAL WAREHOUSING AND SUPPLY

UniteChem is continuing to expand its logistics sites in other EU countries, e.g. Italy, to improve the availability of product samples and accelerate the time-to-market of innovative new applications.

- Global and local (Antwerp) warehousing facilities
- Multiple back-up logistics options from China

Apart from building a network of local warehouses, security of supply is backed by shipments from several different key ports in China, including Guangzhou, where UniteChem operates a major warehouse, as well as Shanghai, Qingdao, Tianjin and Lianyungang.

OUR COMMITMENT TO SUSTAINABILITY

We are fully committed to our global responsibility to manage all our operations in a safe and sustainable manner. The protection of our environment is at the forefront of our sustainability efforts. We operate advanced wastewater treatment plants, RTO exhaust gas heat storage and combustion facilities and regularly welcome regulatory audits in our dedicated chemical parks.

Green Enterprise

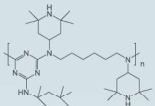
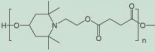

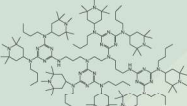
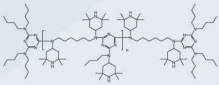
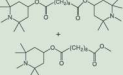
We are officially recognized by the local government as a green enterprise, demonstrating the highest levels of environmental control, guaranteeing stable and continuous production.

Safety Standards

We are fully certified according to the highest Safety Standards to ensure safety for our employees and secure production at all times.


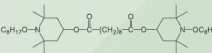
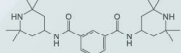


HINDERED AMINE LIGHT STABILIZER

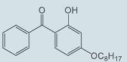
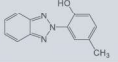
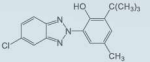
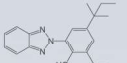
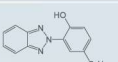
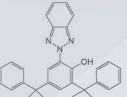
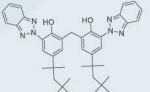
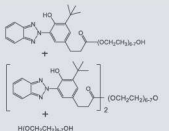
Product Name	Structure	Molecular WT	Melting Range	Application
LS-944 CAS NO.: 70624-18-9		2000-3000	110-130	PP, PE TPE, PU PA, PS
LS-622 CAS NO.: 65447-77-0		≥ 3000	50-70	PP, PE TPU, TPE, POM, PA EVA, PU Polyacetals
LS-770 CAS NO.: 52829-07-9		481	81-86	PP, TPO, PS EPDM, EVA, ABS, SAN ASA, PU, PA SBS, SIS TPE, TPU POM, PMMA Polyacetals
LS-119 CAS NO.: 106990-43-6		2286	120-135	PE, EVA, ABS TPE, TPO, PP PET, PBT, POM PA, PU, EPDM PS, PVC
LS-2020 CAS NO.: 192268-64-7		2600-3400	120-135	PP, PE, PA TPE, PU PVC, EVA Polyacetals
LS-292 CAS NO.: 41556-26-7 82919-37-7		509 369	/	PU, TPU, PVC ABS, ASA, PS PP, TPE, SBS Adhesives Coating

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HINDERED AMINE LIGHT STABILIZER

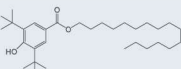
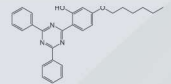
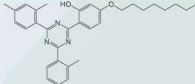
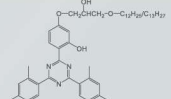
Product Name	Structure	Molecular WT	Melting Range	Application
LS-3853 CAS NO.: 167078-06-0		/	≥ 28	PP, TPO ABS, ASA, PS PA, POM, PU
LS-123 CAS NO.: 129757-67-1		737	/	Coating PU, PS, ABS PE, PVC, PVB PP, TPO, TPE Polyester
LS-114 CAS NO.: 106990-43-6 42774-15-2		443	268-275	PA
LS-610 CAS NO.: 106990-43-6 65447-77-0	Compound HALS	/	70-150	PE, PA PP, TPO EPDM, PU
LS-611 CAS NO.: 106990-43-6 65447-77-0	Compound HALS	/	70-150	PE, PA PP, TPO EPDM, PU
LS-783 CAS NO.: 70624-18-9 65447-77-0	Compound HALS	/	55-140	PP, PE TPE, PU PA, PS
LS-791 CAS NO.: 70624-18-9 52829-07-9	Compound HALS	/	90-110	PP, TPO, PS EPDM, POM PU, PA SBS, SIS TPE, TPU

ULTRAVIOLET ABSORBER

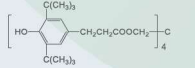

Product Name	Structure	Molecular WT	Melting Range	Application
UV - 531 CAS NO.: 1843-05-6		326	47-50	PE, PP, PVC EVA, TPU, TPE ABS, PS, PC Coating
UV - P CAS NO.: 2440-22-4		225	125-130	ABS, PS, PVC SBS, SIS, PU
UV - 326 CAS NO.: 3896-11-5		316	137-142	PP, PE, PVC ABS, Polyester TPU, TPE PC, PMMA
UV - 328 CAS NO.: 25973-55-1		351	79-87	PE, PP, TPE PS, ASA, ABS SBS, SIS PU, TPU, PVB Coating
UV - 329 CAS NO.: 3147-75-9		323	103-105.3	PP, PE, EVA TPE, PVC, PVB PC, PC/ABS, PS PMMA, Epoxy
UV - 234 CAS NO.: 70321-86-7		448	137-141	PP, PS, TPE PC, PC/ABS PA, PET, PBT PMMA, PPS PU, TPU, PVC Polyacetals
UV - 360 CAS NO.: 103597-45-1		659	195-198	PC, PA, POM PET, PBT PMMA
UV - 1130 CAS NO.: 104810-48-2 104810-47-1 25322-68-3		637 975 300	/	Coating

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ULTRAVIOLET ABSORBER

Product Name	Structure	Molecular WT	Melting Range	Application
UV - 2908 CAS NO.: 67845-93-6		475	59-64	PP, PE, TPO ABS, TPE PET, PBT PC, PVC
UV - 1577 CAS NO.: 147315-50-2		425	147-151	PC, PC/ABS PBT, PC/PBT PET, PPE/IPS PA, PPE/PA PMMA, PE
UV - 1164 CAS NO.: 2725-22-6		509	89-92	PP, TPO, PC PA, PMMA PET, PBT ABS, ASA Polyacetals
UV - 400 CAS NO.: 153519-44-9		≈ 647	/	Coating PVC

ANTIOXIDANT

Product Name	Structure	Molecular WT	Melting Range	Application
AO - 1010 CAS NO.: 6683-19-8		1178	110-125	PP, PE, EVA PVC, EPDM ABS, PA, SBS PU, TPU, POM PET, PBT
AO - 1076 CAS NO.: 2082-79-3		531	50-55	PP, PE, PVC, PC ABS, PS, SBS POE, EVA EPDM, TPE TPU, PMMA

ANTIOXIDANT

Product Name	Structure	Molecular WT	Melting Range	Application
AO - 3114 CAS NO.: 2767-62-6		784	218-222.5	PP, PE, ABS PS, PA, PU
AO - 1098 CAS NO.: 23128-74-7		637	155-161	PP, PE, PA Elastomer
AO - 1035 CAS NO.: 41484-35-9		643	63-84	PE, PVC, PA, PU ABS, SBS, PS PET, PBT, PVA
AO - 1024 CAS NO.: 32687-78-8		553	224-249	PP, PE, PA, PU Polycetals Elastomer
AO - 168 CAS NO.: 31570-04-4		647	183-187	PP, PE, EVA PA, PC, PC/ABS PS, ABS, PMMA PET, PBT, POM Elastomer
AO - 626 CAS NO.: 26741-53-7		604	170-180	PP, PE, EVA, PS ABS, PA, PC Elastomer
AO - DSTDP CAS NO.: 693-36-7		683	63.5-68.5	PE, PP, PS, ABS PET, PBT, PA
AO - DLTDP CAS NO.: 123-28-4		515	39.5-41.5	PE, PP, ABS PA, PET, PBT

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INHIBITOR / INTERMEDIATE

Product Name	Structure	Melting Range	Appearance	Application
Inhibitor 701 CAS NO.: 2226-96-2		69-72	Orange red solid	The product has good polymerization resistance to acrylate, methacrylate, acrylic acid, acrylonitrile, styrene and butadiene.
Inhibitor 702 CAS NO.: 2896-70-0		/	Orange red solid	The product can be used in acrylate, methacrylate, acrylic acid, acrylonitrile, styrene and butene.
Inhibitor 705 CAS NO.: 2122-49-8		≥ 125	Brownish red powder	It widely applied in the production of hydroxyethyl methacrylate and hydroxypropyl ethacrylate.
Inhibitor 706 CAS NO.: 2516-92-9	NOT PUBLIC	99-102	Orange red solid	The product has good polymerization resistance to acrylate, methacrylate, acrylic acid, acrylonitrile, styrene and butadiene.
TAA CAS NO.: 826-36-8		35-39	Pale yellow to brownish molten mass	An important intermediate in the synthesis of hindered amine light stabilizer and pharmaceutical intermediate.
TAD CAS NO.: 36768-62-4		/	Colorless or yellowish liquid	An important intermediate for hindered amine light stabilizer.
TMP CAS NO.: 2403-88-5		128-132	White crystalline solid	A key intermediate for hindered amine light stabilizer.
PMP CAS NO.: 2403-89-6		70-76	White flaky solid	A key intermediate for hindered amine light stabilizer.

RECOMMENDATION FORM

Product Type	Trademark	PE				PP				EVA	PVC
		Film	Molding	Pipe	Wire & Cable	Film	Molding	Pipe	Wire & Cable		
LS	944	▲	▲	▲	△	△	▲	▲	▲		
	622	△	△	▲	▲	△	△	△	△	▲	
	770					▲	▲	△	△	△	
	119	▲	△	△	△	△	△	△	△	△	
	2020	△	▲	▲	▲		▲	△	▲	▲	△
	3853		△	△							
	292							△			
	123							△			
	114										
	783	▲	▲	▲	▲	▲	▲	▲	▲		
	791					▲		▲		▲	
	610	▲	△	△	△	△	△	▲	▲		
611	▲	△	△	△	△	△	▲				
UV	531	▲	▲	▲	△	△		△	△	▲	△
	UV-P							△	△		▲
	326	▲	▲	▲		▲		▲	△		
	328	△		△		▲		▲			▲
	329					▲		▲	▲		△
	234					△					△
	360										
	1577	△	▲								
	1164	△				△		△			
	1130										
	2908	△	▲	▲	△	▲	△	▲	▲		▲
	400										△
AO	1010	▲	▲	▲	▲	▲	▲	▲	▲	△	▲
	1076	▲	△					△			▲
	3114	△	▲	△			△	▲	△		
	1098				△			△			
	1035				▲						
	1024			△	▲				△		
	168	▲	▲	▲	▲	▲	▲	▲	▲	▲	
	626	△	▲			▲				△	▲
	DSTDP		△	△	△			△			
	DLTDP			△	▲			△			
	B215	▲	▲	▲		▲		▲	▲		
	B225	▲	▲	▲		▲			▲		
▲ Recommended △ Suitable											

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PS	ABS	SBS / SIS	TPE	TPU	TPO	PU	PA	PC	POM	PET / PBT	PMMA	Coating
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GLOBAL LEADER IN LIGHT STABILIZERS

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