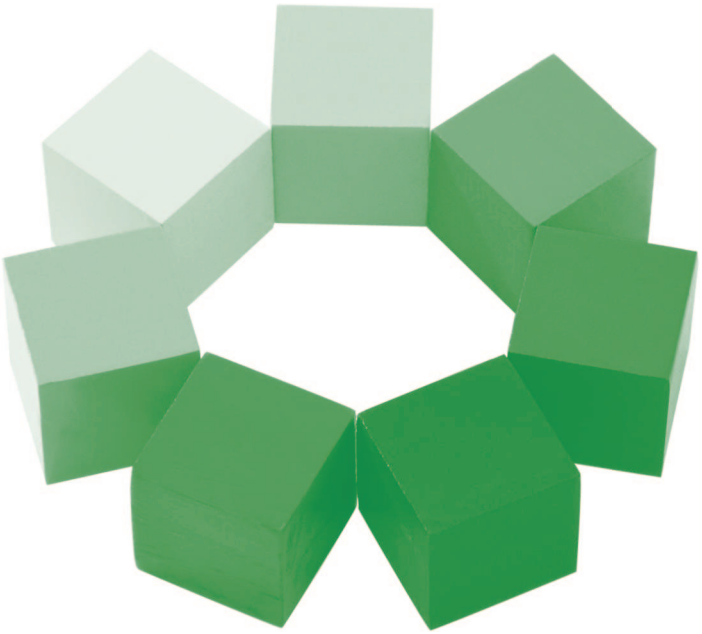
ADEKA

Plastics Additives



CCP CHANG CHIANG CHEMICAL CO., LTD

Plastics Additives

Contents

I Foreword

Chang Chiang Chemical Co., Ltd. (CCC) is a sales company specializing in plastic additives. It was setup in 1989 as a joint venture between ADEKA Corporation of Japan and Chang Chun Plastics Co., Ltd (Chang Chun Group of Taiwan). Chang Chiang Chemical serves as the exclusives sale representative for plastic additive manufactured by both Chang Chun Group and ADEKA. In 2004, a branch office was established in Shanghai, China to enhance product promotion in the Chinese market.

As one of Chang Chiang Chemical's parent companies, ADEKA is a worldwide renowned plastic additive manufacturer. ADEKA manufactures and offers a variety of high performance additives, including special antioxidant, nuclear agent, UV absorber, light stabilizer, flame retardant, metal deactivator, special plasticizer, and PVC stabilizer, etc. to the world.

Chang Chun Group, as the other parent company, is a global leader in the production of commodity chemicals and specialty chemicals that are widely used in major industries. Chang Chun has facilities in Taiwan, China, Singapore, Malaysia, and Indonesia. It is well known for its strength in R&D, expertise operation/technology, and its relentless pursuit of excellence. Chang Chun produces plastic additive at its state-of-the-art and fully automated facilities in Miaoli, Taiwan and ChangSu, China, with manufacturing technology licensed from ADEKA.

Supported by two reputable parent companies in Asia, Chang Chiang Chemical is staffed with professional technical/sales personnel, and it is poised to provide the best technical service and high quality products to its customers.

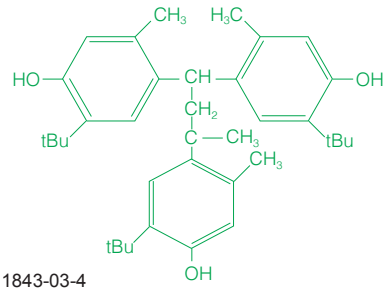
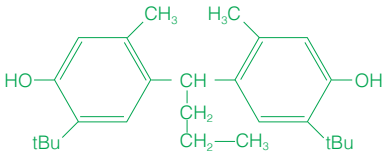
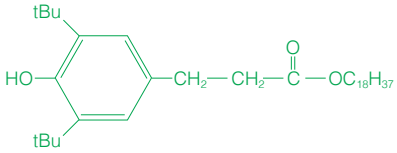
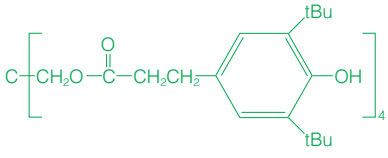
II Products Introduction

I Antioxidant

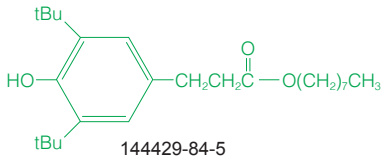
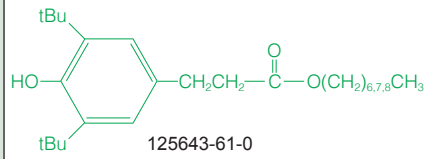
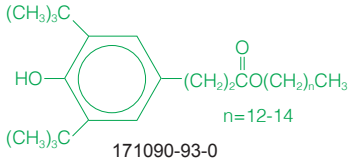
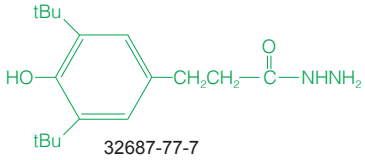
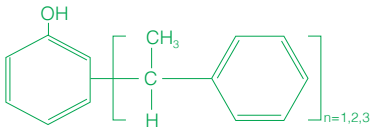
Antioxidants are the most important additives to the products like polyolefin, plastics, resins and rubbers. The applicable products include PE, PP, ABS, PVC, PS, engineering plastics, PU resins, adhesives, and rubbers for many daily and industrial use goods. Because these products can be deprived their properties and lost their utilizing value by affection of light, heat, metal ion and oxygen. The purpose of antioxidants is to prevent or delay the oxidation as well as to secure processing and utilization quality of the products.

CCC's antioxidants offer four major categories of antioxidants: Hinder Phenols Type, A-series Blending Type, Phosphite Type and One Pack System.

1.Hindered Phenol Antioxidants

ADK STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
AO-30	 1843-03-4	White Powder M.P.186℃ M.W.545	Highly effective antioxidant Excellent synergism with thioethers Extraction resistance Also called CA	Polyolefins ABS and Others	*	20KG Bag
AO-40	 85-60-9	White Powder M.P.210℃ M.W.383	Highly effective antioxidant Excellent synergism with thioethers Extraction resistance Also called 4425	ABS and Rubbers	*	20KG Bag
AO-50 AO-50F AO-50RG AO-50T	 2082-79-3	White Powder White Flake White Granule White Tablet M.P.50℃ M.W.531	Effective antioxidant Substitute for BHT Good compatibility with polymers Also called 1076	Plastics and Elastomers	*	40KG Carton / 20KG Bag
AO-60 AO-60RG	 6683-19-8	White Powder White Granule M.P.115℃ M.W.1178	Versatile and highly effective antioxidant Also called 1010	Plastics, Elastomers and Fibers	*	20KG Bag

F.P.A.：Food Packaging Application　　*：JHOSPA registered & Listed in US FDA's CFR

CCP STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
390	 144429-84-5	Clear Liquid Vis.375cps M.W.390	Versatile Liquid type and easy to operate	Elastomers and PU		190KG Iron Drum
390E	 125643-61-0	Clear Liquid Vis.375cps M.W.390	Versatile Liquid type and easy to operate Also called 1135	Elastomers and PU		190KG Iron Drum
35	 171090-93-0	Clear Liquid Vis.250cps M.W.485	Liquid type Versatile and easy to operate Also called 1315	Elastomers and PU		190KG Iron Drum
291	 32687-77-7	White Powder M.P.>145°C	High Efficiency Reactive Type Resistant to NOx	Elastomers and PU		20KG Bag
SP	 61788-44-1	Clear Liquid Vis.3000~8000cps M.W.300~330	Versatile Liquid type and easy to operate	Elastomers and PU		200KG Iron Drum

2. A-series blending Antioxdants

ADK STAB Trade Name	Chemical Structure	Properties	Features	Application	F.P.A.	Packaging
A-611 A-611RG	AO-60/2112=1:1	White Powder White Granule	Different Ration of AO-60 in 2112 Versatile and highly effective antioxidant A-611 Called B225 A-612 Called B215 A-613 Called B220 A-614 Called B561	Plastics and Polyolefins	*	20KG Bag
A-612 A-612RG	AO-60/2112=1:2	White Powder White Granule				
A-613 A-613RG	AO-60/2112=1:3	White Powder White Granule				
A-614 A-614RG	AO-60/2112=1:4	White Powder White Granule				
A-511	AO-50/2112=1:1	White Powder	Different Ration of AO-50 in 2112 Versatile and highly effective antioxidant A-512 Called B921 A-514 Called B900	Plastics and Polyolefins	*	20KG Bag
A-512	AO-50/2112=1:2	White Powder				
A-514	AO-50/2112=1:4	White Powder				

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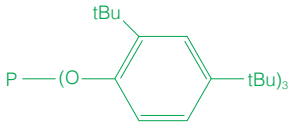
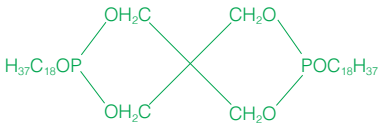
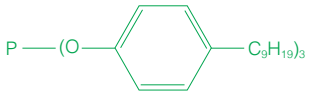
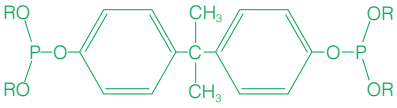
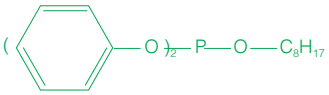
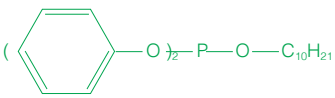
3.Phosphite Antioxidant

(1) Solid Phosphites

ADK STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
2112 2112RG	 31570-04-4	White Powder White Granule M.P.183°C M.W.647	Excellent Hydrolytic Stability Excellent Process Stability Also called 168	Polyolefines, ABS, PS & Engineering Plastics	*	20KG Bag
PEP-8T	 3806-34-6	WhiteFlake Softening Point:52°C	Excellent Color Improvement High Process Stability Also called 618	Polyolefins, ABS, PS & Others	*	20KG Carton

(2) Liquid Phosphites

ADK STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
1178	 26523-78-4	Clear Liquid Vis.5000cps M.W.689	Also called TNPP	Polyolefins, ABS, PS, and Engineering Plastics	*	200KG Drum
1500	 96152-48-6 R=C12~C15 ALKYL GROUP	Clear Liquid Vis.1000cps M.W.ab1112	Excellent Thermal and Color Stability Also called 439	ABS, PVC	*	190KG Drum
C	 15647-08-2	Clear Liquid Vis.10cps M.W.346	Color Improvement High Heat Stability Also called DPOP	ABS, PVC, Engineering Plastics		200KG Drum
135A	 26544-23-0	Clear Liquid Vis.15cps M.W.375	Color Improvement High Heat Stability Also called DPDP	ABS, PVC, Engineering Plastics		200KG Drum

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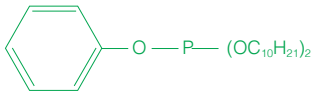
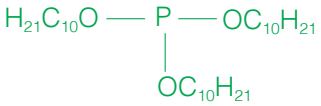
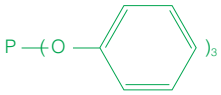
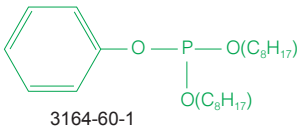
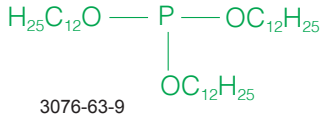
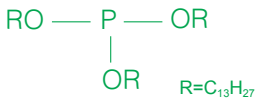
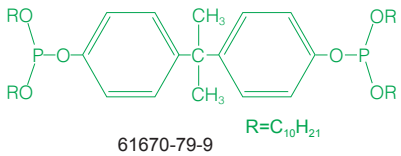
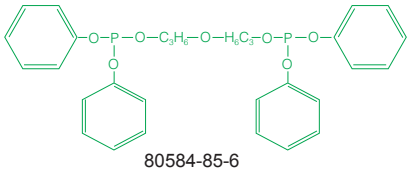
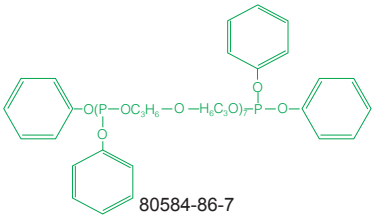
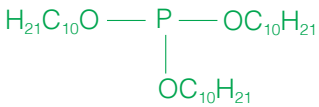
ADK STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
517	 25550-98-5	Clear Liquid Vis.16cps M.W.438	Color Improvement High Heat Stability Also called PDDP	ABS, PVC, Engineering Plastics		190KG Iron Drum
3010	 25448-25-3	Clear Liquid Vis.20cps M.W.502	Color Improvement High Heat Stability Also called TDP	ABS, PVC Engineering plastics		170KG Iron Drum
TPP	 101-02-0	ClearLiquid Vis.18cps M.W.310	Color Improvement High Heat Stability	PU, PVC and Rubbers		200KG Iron/ PE Drum

CCP STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
317	 3164-60-1	ClearLiquid Vis.10cps. M.W.382	Color Improvement High Heat Stability Also called PDOP	ABS, PVC, Engineering Plastics		190KG Drum
3012	 3076-63-9	Clear Liquid Vis.20cps M.W.586	Color Improvement High Heat Stability Also called TLP	PU, PVC Engineering Plastics		170KG Drum
628	 77745-66-5	Clear Liquid Vis.39cps M.W.628	Color Improvement High Heat Stability Also called TTDP	PU, PVC Engineering Plastics		170KG Drum
100	 61670-79-9	Clear Liquid Vis.300cps M.W.916	Color Improvement High Heat Stability Also called 675	PU, PVC Engineering Plastics		190KG Drum
TDD	 80584-85-6	Clear Liquid Vis.80 M.W.566	Color Improvement High Heat Stability Also called THOP	PU, PVC Engineering Plastics		200KG Drum
PDP	 80584-86-7	Clear Liquid Vis.490 M.W.2102	Color Improvement High Heat Stability Also called DHOP	PU, PVC Engineering Plastics		200KG Drum
3010T	 25448-25-3	Clear Liquid Vis.20 M.W.502	Phenol Free Color Improvement High Heat Stability Also called TDP	ABS, PVC, Engineering Plastics		170KG Drum

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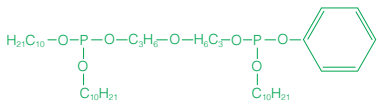
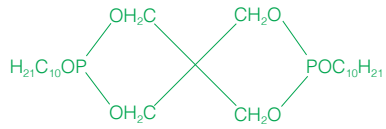
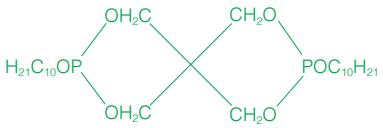
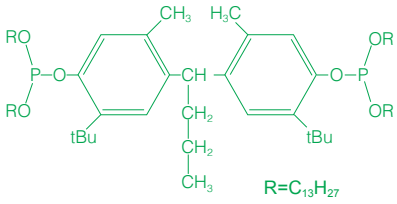
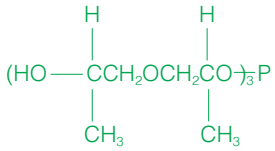
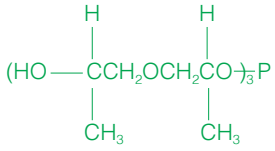
CCP STAB Trade Name	Chemical Structure CAS No.	Properties	Features	Application	F.P.A.	Packaging
IPDP	 115035-49-9	Clear Liquid Vis.31cps M.W.758	Color Improvement High Heat Stability Also called BX877-3	PU, PVC Engineering Plastics		190KG Drum
508	 26544-27-4	Haze Liquid M.W.508	Color Improvement High Heat Stability Also called 600	PU, PVC Engineering Plastics		200KG Drum
508T	 26544-27-4	Clear Liquid M.W.508	Phenol Free Color Improvement and High Heat Stability Also called 600	PU, PVC Engineering Plastics		200KG Drum
AS-4500	 13003-12-8	Clear Liquid Vis.1400cps M.W.1240	Color Improvement High Heat Stability	Polyolefins, ABS, PVC, PS, and Engineering Plastics		170KG Drum
TDPP	 36788-39-3	Clear Liquid M.W. 430	High Heat Stability Also called 430	PU, PVC Engineering Plastics		200KG Drum
TDPP_LF	 36788-39-3	Clear Liquid M.W. 430	Phenol Free High Heat Stability Also called 430	PU, PVC Engineering Plastics		200KG Drum

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4.One Pack System

One-pack system is multi-components formulation of plastic additives/antioxidants in pelletized form. It is formulated to meet each customer's unique needs or requirements. It offers the following advantages:

A.Enhanced production efficiency – reduces number of additives that will need to be handled in the production process, and thereby reduces human errors;

B.Improved safety – Less or no dust is generated, resulting in cleaner and safer work environment;

C.Cost Saving – Reduces the additive dosage and also reduce waste that maybe generated

D.Improved product performance –homogenous composition and pre-dispersed property can consistently deliver desired effects to customer's product

Due to the advantages it offers, one-pack system is a popular choice among polyolefin manufacturers worldwide. Chang Chun Group can custom-made one-pack system that meets each customer's unique requirements.

Antioxidants Selection Guide

Grade	Polyolefins					Styrenics			Engineering Plastics						Others		
	PP	HDPE	LLDPE	LDPE	Others	HIPS	GPPS	ABS	PBT	PET	PC	POM	PPO	PA	PU	PVC	Latex
AO-20	●	○				○	○	●	○	○			○	○	○	○	
AO-30	○	○						○					○	○			○
AO-40	○							●				●				○	●
AO-50	●	●	●	●	○	●	○	●	○	○	●					○	○
AO-60	●	●	●	●	○			○	●	○	○	○		○	●	○	
390						○	○	○	○			○	○		●	○	○
390E						○	○	○	○			○	○		●	○	○
35						○	○	○	○			○	○		●	○	○
291															●		
SP							○	○				○					○
2112	●	●	●	○	○	○		●	○	○	●		●	○			
PEP-8T	●	●	●	●		●		●	○	○	○			○		●	
PEP-36	●	●	○	○	○	●		●	●	●	●		●	○			
1178	○	○	○	○		●	○	●	○	○	○		○		○	●	○
1500						○		●			○					●	
C						○		●								●	
135A						○		●								●	
517															○	●	
3010						○		●			●					●	
2013						○		●			●					●	
TPP															●	●	
317																●	
3012															○	●	
628											○				○	●	
TDD									○	○					●	●	
PDP									○	○					●	●	
IPDP									○	○					●	●	
508									○	○					●	●	
AS-4500	●	○	○	○		●	●	●	○	○	○	○	○	○	●	●	
TDPP									○	○					●	●	
TPD									○	○					●	●	

● Most popular
○ Suitable
■ FDA, JHOSPA Registered
■ JHOSPA Registered

III Service Network

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