

# WE ADD PERFORMANCE WITH ADDITIVE BLENDS FOR POLYMER STABILIZATION



## Antioxidants & Processing Stabilizers

### Primary Antioxidants

	ABS	Acrylic	Elastomers	Nylon	PBT	PET	Polycarbonate	Polyethylene	Polypropylene	Polystyrene	Polyurethane	PVC
Dovernox® 10		X	X	X	X	X	X	X	X	X	X	X
Dovernox 76	X	X	X		X	X	X	X	X	X	X	X
Dovernox 3114								X				

### Secondary Antioxidants

Doverphos® HiPure 4	X	X	X		X	X	X	X	X	X	X	X
Doverphos S-480	X	X	X	X	X	X	X	X	X	X	X	X
Doverphos S-680	X	X	X	X	X	X	X	X	X	X	X	X
Doverphos S-682	X	X	X	X	X	X	X	X	X	X	X	X
Doverphos S-9228		X	X	X	X	X	X	X	X	X	X	X

### UV Light Stabilizers

Ultra V-301	X	X	X	X	X	X	X	X	X	X	X	X
Ultra V-77	X						X	X	X	X		

### Processing Aids

Doverlube® CA			X				X	X		X	X	
Doverlube ZN			X				X	X	X	X	X	

### Product

### Chemical Name

Dovernox 10	Tetrakis methylene (3,5-di-t-butyl-4-hydroxyhydrocinnamate ) methane
Dovernox 76	Octadecyl 3,5-di-t-butyl-4-hydroxyhydrocinnamate
Dovernox 3114	1,3,5-tris (3,5-di-t-butyl-4-hydroxybenzyl )-s-triazine-2,4,6- (1H, 3H, 5H ) trione
Doverphos HiPure 4	Trisnonylphenyl Phosphite
Doverphos S-480	Tris ( 2,4-di-t-butylphenyl ) Phosphite
Doverphos S-680	Distearyl Pentaerythritol Diphosphite
Doverphos S-682	Distearyl Pentaerythritol Diphosphite
Doverphos S-9228	Bis ( 2,4-dicumylphenyl ) Pentaerythritol Diphosphite
Ultra V-301	2-Hydroxy-4-n-octyloxybenzophenone
Ultra V-77	Bis ( 2,2,6,6-tetramethyl-4-piperidiny ) sebacate
Doverlube CA	Calcium stearate
Doverlube ZN	Zinc stearate

# WHEN POLYMERS NEED TO TAKE THE HEAT...

Doverphos® S-9228 compared to various commercial phosphites after heating at 280 °C for 120 minutes

Doverphos® S-9228  
Bis (2,4-dicumylphenyl) pentaerythritol diphosphite  
CAS Registry No. 154862-43-8  
U.S. Patent No. 5,364,895 and 5,438,086

Bis (2,4-di-t-butylphenyl) pentaerythritol diphosphite

Doverphos® HiPure 4  
Trisnonylphenyl Phosphite

Phosphorus trichloride, reaction products with 1,1'-biphenyl and 2,4-bis (1,1-dimethylethyl) phenol

Tris (2,4-di-t-butylphenyl) phosphite

Bis (2,6-di-t-butylphenyl-4-methyl) pentaerythritol diphosphite

## ...THE DOVER DIFFERENCE IS CLEAR.

Get improved color in your polymer and more precise additive ratios with Dovernox® D-Blends using our patented Doverphos® S-9228 phosphite.

Doverphos S-9228's high molecular weight, low volatility and high phosphorous content provide superior thermal stability, giving you outstanding processing protection against discoloration and thermal degradation. Extremely good hydrolytic stability prevents the formation of black specs and keeps blends uniform.

Dovernox® D-Blends are available in a variety of compositions containing antioxidants, phosphites and processing aids. Our exclusive blends employ Doverphos S-9228, and we also offer many blends comprised of standard industry formulations. Powder is the standard physical form, but blends can be special ordered as granular products.

Dovernox D-Blend ratios and applications are listed in the following chart. If you don't see what you need, we can develop proprietary blends to meet your requirements.

Dover also offers specially blended Add\*Packs based on calcium stearate and waxes for PVC applications.

**DOVER** Chemical Corporation  
A Subsidiary of KCC Industries Inc.

## Antioxidants & Processing Stabilizer Blends & Applications

### Dover Exclusive Blends

			ABS	Acrylic	Elastomers	Nylon	PBT	PET	Polycarbonate	Polyethylene	Polypropylene	Polystyrene	Polyurethane	PVC
Dovernox D-711	1:1	Dovernox 76: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-712	2:1	Dovernox 76: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox DCa-711	1:1:1	Dovernox 76: Doverphos S-9228: Doverlube CA			X				X	X		X	X	
Dovernox DZn-711	1:1:1	Dovernox 76: Doverphos S-9228: Doverlube ZN			X				X	X	X	X	X	
Dovernox D-721	1:2	Dovernox 76: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-731	1:3	Dovernox 76: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-741	1:4	Dovernox 76: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-811	1:1	Dovernox 3114: Doverphos S-9228								X				
Dovernox D-812	2:1	Dovernox 3114: Doverphos S-9228								X				
Dovernox DCa-811	1:1:1	Dovernox 3114: Doverphos S-9228: Doverlube CA								X				
Dovernox DZn-811	1:1:1	Dovernox 3114: Doverphos S-9228: Doverlube ZN								X				
Dovernox D-821	1:2	Dovernox 3114: Doverphos S-9228								X				
Dovernox D-911	1:1	Dovernox 10: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-912	2:1	Dovernox 10: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox DCa-911	1:1:1	Dovernox 10: Doverphos S-9228: Doverlube CA			X				X	X		X	X	
Dovernox DZn-911	1:1:1	Dovernox 10: Doverphos S-9228: Doverlube ZN			X				X	X	X	X	X	
Dovernox D-921	1:2	Dovernox 10: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-931	1:3	Dovernox 10: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-941	1:4	Dovernox 10: Doverphos S-9228	X	X	X	X	X	X	X	X	X	X	X	X

### Industry Standard Blends

Dovernox D-311	1:1	Dovernox 10: Doverphos S-480		X	X	X	X	X	X	X	X	X	X	X
Dovernox DCa-311	1:1:1	Dovernox 10: Doverphos S-480: Doverlube CA			X				X	X		X	X	
Dovernox DZn-311	1:1:1	Dovernox 10: Doverphos S-480: Doverlube ZN			X				X	X	X	X	X	
Dovernox D-321	1:2	Dovernox 10: Doverphos S-480		X	X	X	X	X	X	X	X	X	X	X
Dovernox D-331	1:3	Dovernox 10: Doverphos S-480		X	X	X	X	X	X	X	X	X	X	X
Dovernox D-341	1:4	Dovernox 10: Doverphos S-480		X	X	X	X	X	X	X	X	X	X	X
Dovernox D-411	1:1	Dovernox 3114: Doverphos S-480								X				
Dovernox DCa-411	1:1:1	Dovernox 3114: Doverphos S-480: Doverlube CA								X				
Dovernox DZn-411	1:1:1	Dovernox 3114: Doverphos S-480: Doverlube ZN								X				
Dovernox D-421	1:2	Dovernox 3114: Doverphos S-480								X				
Dovernox D-611	1:1	Dovernox 76: Doverphos S-480	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox DCa-611	1:1:1	Dovernox 76: Doverphos S-480: Doverlube CA			X				X	X		X	X	
Dovernox DZn-611	1:1:1	Dovernox 76: Doverphos S-480: Doverlube ZN			X				X	X	X	X	X	
Dovernox D-621	1:2	Dovernox 76: Doverphos S-480	X	X	X	X	X	X	X	X	X	X	X	X
Dovernox D-641	1:4	Dovernox 76: Doverphos S-480	X	X	X	X	X	X	X	X	X	X	X	X



DOVER CHEMICAL CORPORATION  
3676 Davis Road, NW  
Dover, OH 44622  
USA

[www.doverchem.com](http://www.doverchem.com)  
Phone: 1-330-343-7711  
Toll Free: 1-800-321-8805

**CUSTOMER SERVICE**

Phone: 1-800-753-6837  
Fax: 1-330-602-8921  
Email: [customerservice@doverchem.com](mailto:customerservice@doverchem.com)



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