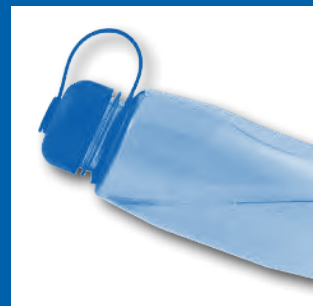
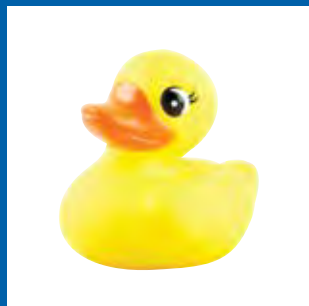


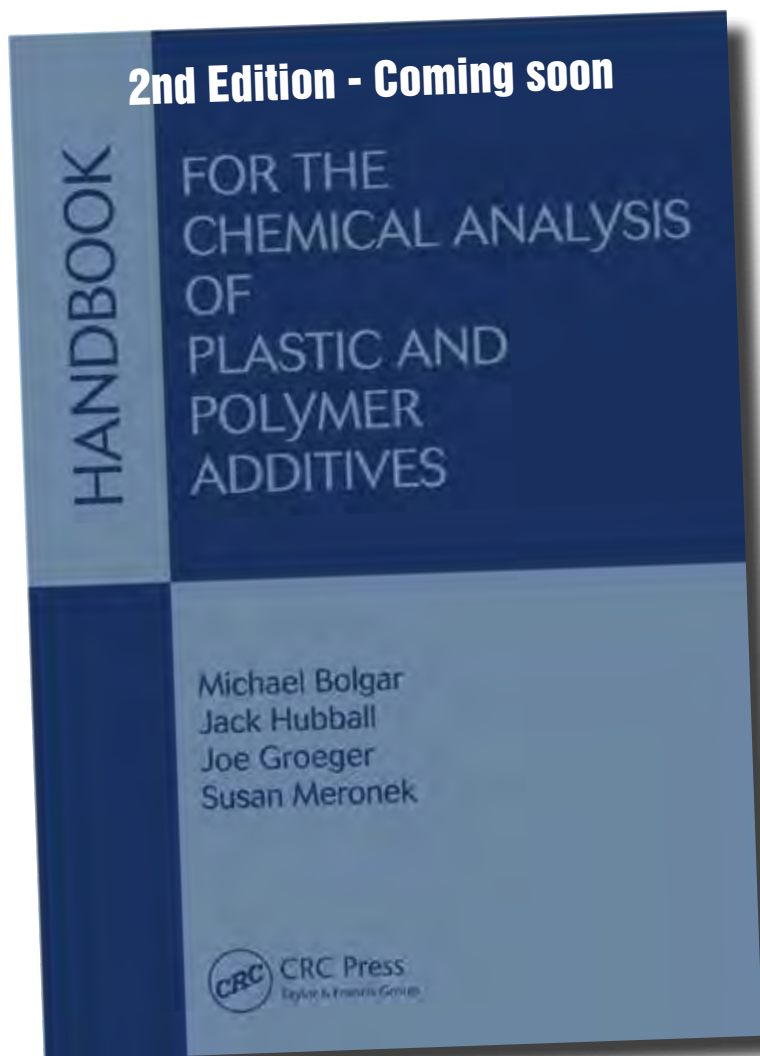
# Plastic Additive Standards Guide



AccuStandard®

# The perfect companion for your analysis!

This reference book contains the compounds in this catalog, with important reference data to aid in testing and compliance.



Each Compound has:

#### **Chemical Information**

- Structure
- CAS Number (where applicable)
- RTECS Number (where available)
- Formula
- Molecular Weight
- IUPAC Name, other common names and some popular brand names

#### **Physical Properties**

- Appearance
- Melting and Boiling Points
- Stability
- Solubilities in several common solvents

#### **Other Important Information**

- Application
- Regulatory
- Environmental Impact
- Point of Release
- Toxicological Data

#### **Analytical Data**

- Mass Spectrum with key Ions tabulated
- Chromatogram with conditions

As well as information to help with real world examples, tips for analysis in challenging matrices, and much, much more!

**PolyAdd**  **Check**<sup>TM</sup>

*Polymer Additive Reference Standards*

**74 New  
Plastic Additive  
Standards**



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AccuStandard has been serving the Analytical Community with high quality Chemical Reference Standards for over 25 years.

Today we are the largest independent manufacturer specializing exclusively in Chemical Reference Standards in the world. We achieved this distinction by concentrating on two goals: to have the widest range of Chemical Reference Standards (over 40,000 solutions and neat), and to have the most responsive customer service (same day shipment and knowledgeable assistance).

We also invite your suggestions for new products, special formulations and mixtures, and synthesis of new or rare compounds.

## **Introduction:**

Plastics and other polymeric materials have become indispensable in our everyday lives. Although they offer many benefits, hazardous chemicals may be present in these materials. These hazardous materials can be introduced either intentionally as additives, or unintentionally as pollutants.

AccuStandard has collected or synthesized many of these polymer adjuncts and is pleased to present them in this newest unique catalog as certified reference standards for monitoring these chemicals.

The occurrence, toxicity and analytical methods used in the detection, monitoring (for both presence and levels) of these chemical classes and individual compounds within these classes are more thoroughly described in the book the "Handbook for the Chemical Analysis of Plastic and Polymer Additives" (published in 2007 by CRC Press). Both manufacturers and distributors of plastic and related polymeric materials will find the CRC book to be an authoritative source of information that compliments this catalog.

This catalog contains a comprehensive list of Certified Reference Materials for Additive Analysis available for analysis. Calibrating with certified standards adds an additional layer of confidence in the analysis that can aid in meeting regulations, protecting in challenges from governmental regulations, and providing protection from legal issues that could be raised by consumers of your products.

Below find a list of regulations that require analysis of many of these additives:

- EU Directive 2002/96/EC WEEE (Waste Electrical and Electronic Equipment) that establishes limits for the content of a product that must be recyclable or reusable.
- EU Directive 2003/11/EC ROHS (Restriction Of the use of certain Hazardous Substances) restricting the use of six toxins from most electronic and electrical equipment
- EU Directive 90/128/EC for monomers and additives for plastics intended for food contact
- EU Directive 2002/72/EC relating to plastic materials and articles intended to come in contact with foodstuffs
- EU Directive 2002/61/EC Aryl Amine Breakdown Products in Azo Dyes
- EU Directive 67/548/EEC Carcinogenic and Regulated Dyes
- FDA and The United States Code of Federal Regulations (CFR) – 21 CFR Parts 175-178 that regulate adhesives, components of coatings, paper and paperboard components, polymers and adjuvants and production aids.
- United States Environmental Protection Agency (USEPA) – Methods 606, 506-1 and 8061 regulating Phthalates and Adipates

Both the catalog and book are organized into classes by additive type. Manufacturers can easily find Standards that match their particular application and product formulation for the following product categories:

- Medical Devices
- Food Packaging
- Pharmaceutical Packaging
- Toys
- Wire and Cable
- etc.

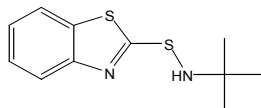
# Plastic Additive Standards

## Accelerants

Accelerators are additives that, as the name implies, accelerate or speed up the chemical reaction or the curing of the polymers into the final plastic. Accelerators are also sometimes called promoters. In rubbers, accelerators are used to increase the crosslinking reaction with sulfur in the vulcanization of rubber.

### Accelerator BBTS

N-(1,1-dimethylethyl)-2-benzothiazolesulfenamide



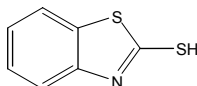
Akrochem Corporation

CAS 95-31-8 MF C<sub>11</sub>H<sub>14</sub>N<sub>2</sub>S<sub>2</sub> MW 238.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AC-003S	1 mL
NEAT	PLAS-AC-003N	50 mg

### Accelerator MBT, MBT/MG

2-Mercaptobenzothiazole



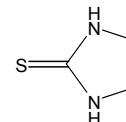
Akrochem Corporation

CAS 149-30-4 MF C<sub>7</sub>H<sub>5</sub>S<sub>2</sub>N MW 167.25

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AC-001S	1 mL
NEAT	PLAS-AC-001N	50 mg

### Akroform ETU-22 PM

Ethylene thiourea



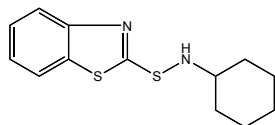
Akrochem Corporation

CAS 96-45-7 MF C<sub>3</sub>H<sub>6</sub>N<sub>2</sub>S MW 102.11

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AC-002S	1 mL
NEAT	PLAS-AC-002N	50 mg

### Accelerator CBTS NEW

N-cyclohexyl-2-benzothiazole sulfenamide

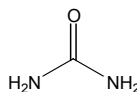


CAS 95-33-0 MF C<sub>13</sub>H<sub>16</sub>N<sub>2</sub>S<sub>2</sub> MW 264.41

Matrix	Cat. No.	Unit
NEAT	PLAS-AC-007N	50 mg

### Activator OT Urea

Urea



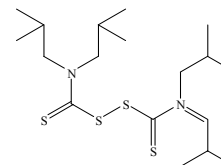
Akrochem Corporation

CAS 57-13-6 MF CH<sub>4</sub>N<sub>2</sub>O MW 60.07

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-AC-005S-A	1 mL
NEAT	PLAS-AC-005N	50 mg

### Cure-Rite® IBT

tetraisobutylthiuram disulfide



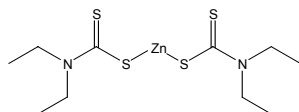
Noveon, Inc.

CAS 3064-73-1 MF C<sub>18</sub>H<sub>36</sub>N<sub>2</sub>S<sub>4</sub> MW 408.76

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AC-004S	1 mL
NEAT	PLAS-AC-004N	50 mg

### Accelerator EZ & EZ-SP

Zinc diethyldithiocarbamate



Akrochem Corporation

CAS 14324-55-1 MF C<sub>10</sub>H<sub>20</sub>N<sub>2</sub>S<sub>4</sub> • Zn MW 361.93

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AC-006S	1 mL
NEAT	PLAS-AC-006N	50 mg

#### Property Key

CAS Chemical Abstract Service Number MF Molecular Formula MW Molecular Weight

# Plastic Additive Standards

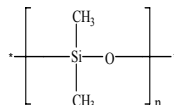
## Antifoams

Antifoaming agents (sometimes called defoamers) act to stop foaming during processing. Foaming can cause both processing problems as well as weak spots in the final product.

Antifoaming agents typically work by reducing surface tension breaking up the foam. There are many different types of antifoaming agents such as silicones, polysiloxane oils, surfactants, or fatty acids.

### SF100

Dimethyl silicone fluid



GE Silicons

CAS 9016-00-6 MF (C<sub>2</sub>H<sub>6</sub>OSi)<sub>n</sub> MW N/A

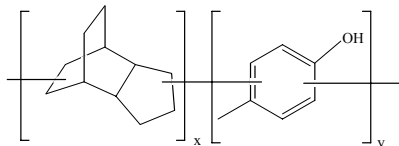
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AF-001S	1 mL
NEAT	PLAS-AF-001N	50 mg

## Antidegradants

Antidegradants include a broad category of additives used in compounding to slow deterioration that can occur due to oxidation, ozone, light or any combination of these conditions. It is basically a generic term for additives that include antioxidants, antiozonants, and UV Stabilizers.

### Akrochem Antiox 12

Butylated reaction product of p-cresol and dicyclopentadiene



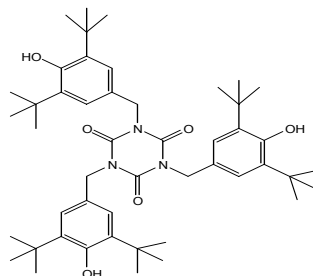
Goodyear Tire & Rubber Company

CAS 68610-51-5 MF C<sub>11</sub>H<sub>20</sub>OH • C<sub>12</sub>H<sub>23</sub>OH] <sub>n</sub> C<sub>4</sub>H<sub>9</sub> MW 600-800

Matrix	Cat. No.	Unit
1000 µg/mL in HexaneAcetone 8:2	PLAS-AD-001S	1 mL
NEAT	PLAS-AD-001N	50 mg

### Ethanox® 314

1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione



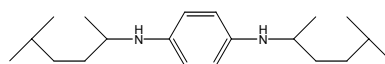
Akrochem Corporation

CAS 27676-62-6 MF C<sub>48</sub>H<sub>69</sub>N<sub>3</sub>O<sub>6</sub> MW 784.08

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-084S	1 mL
NEAT	PLAS-AX-084N	50 mg

### Santoflex® 77PD

N,N'-bis(1,4-Dimethylpentyl)-p-phenylenediamine



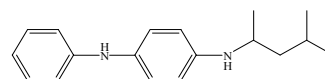
Flexsys

CAS 3081-14-9 MF C<sub>20</sub>H<sub>36</sub>N<sub>2</sub> MW 304.51

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AD-002S	1 mL
NEAT	PLAS-AD-002N	50 mg

### Santoflex® IPPD

N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine



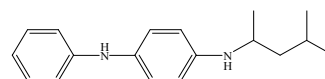
Flexsys

CAS 793-24-8 MF C<sub>18</sub>H<sub>24</sub>N<sub>2</sub> MW 268.40

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 8:2	PLAS-AD-003S	1 mL
NEAT	PLAS-AD-003N	50 mg

### Santoflex® 6PPD

N-(1,3-Dimethylbutyl)-N'-phenyl-p-phenylenediamine



Flexsys

CAS 793-24-8 MF C<sub>18</sub>H<sub>24</sub>N<sub>2</sub> MW 268.40

Matrix	Cat. No.	Unit
NEAT	PLAS-AD-004N	50 mg

#### Property Key

CAS Chemical Abstract Service Number MF Molecular Formula MW Molecular Weight

# Plastic Additive Standards

## Antioxidants

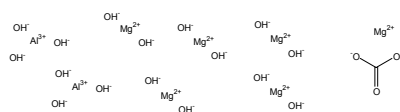
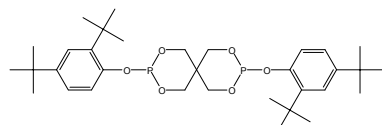
Oxidation during compounding or processing can cause problems such as: loss of strength, breakdown or discoloration. Oxidation can also occur in the final product causing discoloration, scratching, and loss of strength, flexibility, stiffness or gloss.

Antioxidants are used in most hydrocarbon polymers including polyethylene, polypropylene, polystyrene, and ABS.

Antioxidants work to slow down the oxidation cycle, usually by scavenging free radicals. Some types of antioxidants are: organophosphites, sterically hindered phenols, amines, and thioesters.

### Alkanox® P27

bis(2,4-di-tert-butylphenyl)pentaerythritol diphosphate and magnesium aluminum hydroxy carbonate hydrate



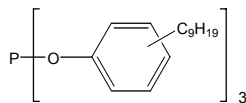
Chemtura Corporation

CAS 26741-53-7 / 11097-59-9 MF C<sub>33</sub>H<sub>50</sub>O<sub>6</sub>P<sub>2</sub> • H<sub>16</sub>Al<sub>2</sub>Mg<sub>6</sub>O<sub>19</sub> MW N/A

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-032N	50 mg

### Alkanox® TNPP

tris(monononylphenyl) phosphite with up to 1% triisopropanol amine



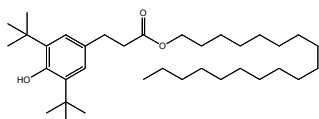
Chemtura Corporation

CAS 26523-78-4 MF C<sub>45</sub>H<sub>69</sub>O<sub>3</sub>P MW 689

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-077S	1 mL
NEAT	PLAS-AX-077N	50 mg

### Alox® PP18 NEW

Octadecyl 3-(3,5-ditert-butyl-4-hydroxyphenyl) propanoate

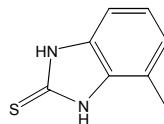


CAS 2082-79-3 MF C<sub>35</sub>H<sub>62</sub>O<sub>3</sub> MW 530.86

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-114N	50 mg

### Antioxidant 60

2H-benzimidazole-2-thione, 1,3-di-hydro-4(or 5)-methyl



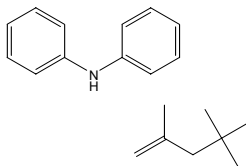
Akrochem Corporation

CAS 53988-10-6 MF C<sub>8</sub>H<sub>8</sub>N<sub>2</sub>S MW 164.23

Matrix	Cat. No.	Unit
1000 µg/mL in Methanol	PLAS-AX-019S-M	1 mL
NEAT	PLAS-AX-019N	50 mg

### Antioxidant S

Benzenamine, N-phenyl, reaction products with 2,4,4-trimethylpentene



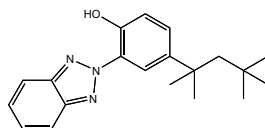
Akrochem Corporation

CAS 68411-46-1 MF C<sub>12</sub>H<sub>11</sub>N • C<sub>8</sub>H<sub>16</sub> MW 393.66

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-057S	1 mL
NEAT	PLAS-AX-057N	50 mg

### 2-(2H-Benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl)phenol NEW

2-Hydroxy-5-tert-octylphenyl benzotriazole

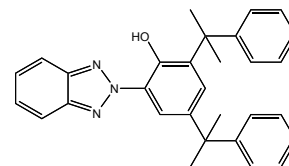


CAS 3147-75-9 MF C<sub>20</sub>H<sub>25</sub>N<sub>3</sub>O MW 323.43

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-094N	50 mg

### BLS® 234 NEW

2-[2-Hydroxy-3,5-di-(1,1-dimethylbenzyl)]-2H-benzotriazole

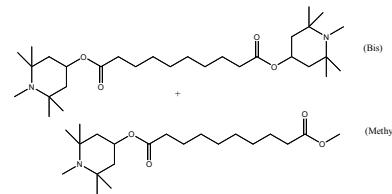


CAS 70321-86-7 MF C<sub>30</sub>H<sub>29</sub>N<sub>3</sub>O MW 447.57

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-088N	50 mg

### BLS® 292 NEW

bis(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate and Methyl(1,2,2,6,6-pentamethyl-4-piperidiny)sebacate

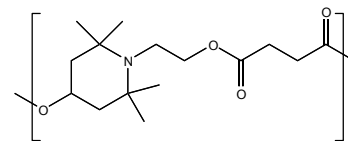


CAS 41556-26-7/8219-37-7 MF C<sub>30</sub>H<sub>56</sub>N<sub>2</sub>O<sub>4</sub> / C<sub>21</sub>H<sub>39</sub>NO<sub>4</sub> MW 508.78/369.54

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-089N	50 mg

### BLS® 1622 NEW

Dimethyl sebacate polymer with 4-hydroxy-2,2,6,6-tetramethyl-1-piperidine ethanol



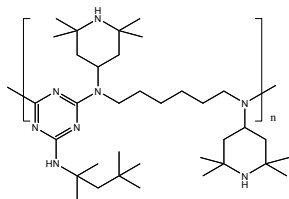
CAS 65447-77-0 MF (C<sub>15</sub>H<sub>25</sub>NO<sub>4</sub>)<sub>n</sub> MW (283.35)<sub>n</sub>

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-096N	50 mg

## Antioxidants (continued)

### BLS® 1944 NEW

Poly[[6-[(1,1,3,3-tetramethylbutyl)aminol]-s-triazine-2,4-diy]][(2,2,6,6-tetramethyl-4-piperidyl)imino] hexamethylene[(2,2,6,6-tetramethyl-4-piperidyl)imino]

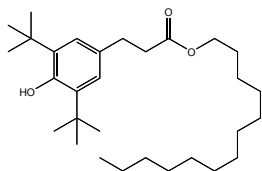


CAS 70624-18-9 MF  $C_{35}H_{66}N_8$  MW (599.09)<sub>n</sub>

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-090N	50 mg

### BNX 1077 NEW

Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, isotridecyl ester

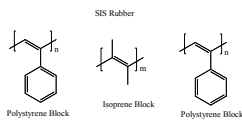
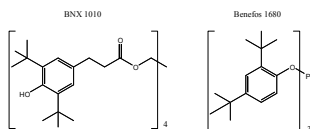


CAS 847488-62-4 MF  $C_{30}H_{52}O_3$  MW 460.73

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-087N	50 mg

### BNX 1225TPR NEW

Blend of BNX®1010, Benefos®1680 and SIS Block Copolymer

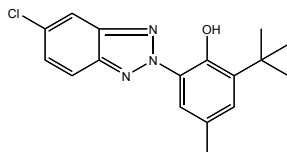


CAS 6683-19-8/31570-04-4/25038-32-8 MF N/A MW N/A

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-091N	50 mg

### 2-tert-Butyl-6-(5-chloro-2H-benzotriazol-2-yl)-4-methylphenol NEW

2-tert-butyl-6-(5-chlorobenzotriazol-2-yl)-4-methylphenol

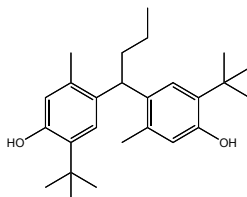


CAS 3896-11-5 MF  $C_{17}H_{18}ClN_3O$  MW 315.80

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-093N	50 mg

### 4,4'-Butylidenebis(6-tert-butyl-m-cresol) NEW

6,6'-di-tert-butyl-4,4'-butylidene di-m-cresol

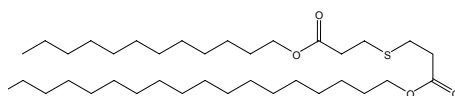


CAS 85-60-9 MF  $C_{26}H_{38}O_2$  MW 382.58

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-105N	50 mg

### Cyanox® 1212

lauryl stearylthiopropionate



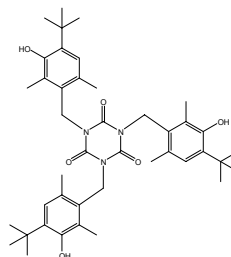
Cytec Technology

CAS 13103-52-1 MF  $C_{36}H_{70}O_4S$  MW 599.00

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-047S	1 mL
NEAT	PLAS-AX-047N	50 mg

### Cyanox® 1790

1,3,5-tris(4-tert-butyl-3-hydroxy-2,6-dimethylbenzyl)-1,3,5-triazine-2,4,6-(1h, 3h,5h)-trione



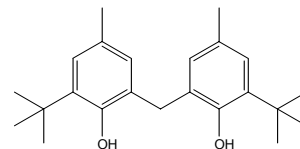
Cytec Technology

CAS 40601-76-1 MF  $C_{42}H_{57}N_3O_6$  MW 699.92

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-005S	1 mL
NEAT	PLAS-AX-005N	50 mg

### Cyanox® 2246

2,2'-methylene-bis-(4-methyl-6-tert-butyl-phenol)



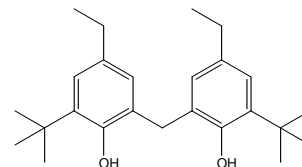
Cytec Technology

CAS 119-47-1 MF  $C_{23}H_{32}O_2$  MW 340.55

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-013S	1 mL
NEAT	PLAS-AX-013N	50 mg

### Cyanox® 425

2,2'-methylene-bis-(4-ethyl-6-tert-butyl-phenol)



Cytec Technology

CAS 88-24-4 MF  $C_{25}H_{36}O_2$  MW 368.55

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-012S	1 mL
NEAT	PLAS-AX-012N	50 mg

### Property Key

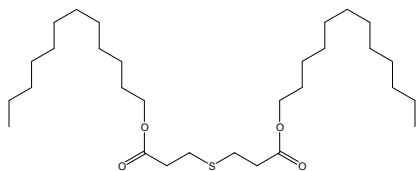
CAS	Chemical Abstract Service Number	MF	Molecular Formula
		MW	Molecular Weight



## Antioxidants (continued)

### Cyanox® LTDP

dilaurylthiopropionate



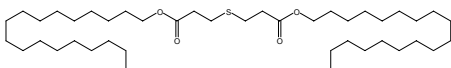
Cytec Technology

CAS 123-28-4 MF C<sub>30</sub>H<sub>58</sub>O<sub>4</sub>S MW 514.85

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-041S	1 mL
NEAT	PLAS-AX-041N	50 mg

### Cyanox® STDP

distearylthiopropionate

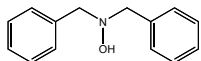


Cytec Technology

CAS 693-36-7 MF C<sub>42</sub>H<sub>82</sub>O<sub>4</sub>S MW 683.3

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-044S	1 mL
NEAT	PLAS-AX-044N	50 mg

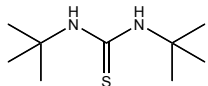
### Dibenzylhydroxylamine NEW



CAS 621-07-8 MF C<sub>14</sub>H<sub>15</sub>NO MW 213.28

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-092N	50 mg

### N,N'-Dibutylthiourea NEW

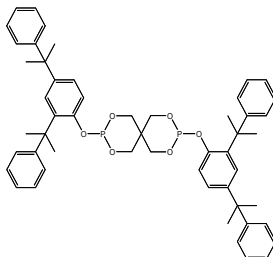


CAS 109-46-6 MF C<sub>9</sub>H<sub>20</sub>N<sub>2</sub>S MW 188.33

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-102N	50 mg

### 3,9-bis(2,4-Dicumylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5,5]undecane NEW

3,9-bis[2,4-bis(2-phenylpropan-2-yl)phenoxy]-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5,5]undecane

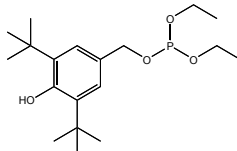


CAS 154862-43-8 MF C<sub>53</sub>H<sub>58</sub>O<sub>6</sub>P<sub>2</sub> MW 852.97

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-111N	50 mg

### Diethyl 3,5-Di-tert-butyl-4-hydroxybenzylphosphonate NEW

2,6-ditert-butyl-4-(diethoxyphosphorylmethyl)phenol

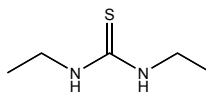


CAS 976-56-7 MF C<sub>19</sub>H<sub>33</sub>O<sub>4</sub>P MW 356.44

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-110N	50 mg

### N,N'-Diethylthiourea NEW

1,3-Diethyl-2-thiourea

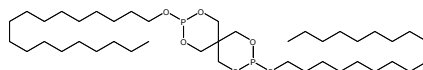


CAS 105-55-5 MF C<sub>5</sub>H<sub>12</sub>N<sub>2</sub>S MW 132.23

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-103N	50 mg

### 3,9-Bis(octadecyloxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane NEW

Distearyl pentaerythritol bis(phosphite)

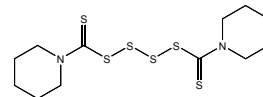


CAS 3806-34-6 MF C<sub>41</sub>H<sub>82</sub>O<sub>6</sub>P<sub>2</sub> MW 733.03

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-108N	50 mg

### Dipentamethylenethiuram tetrasulfide NEW

Piperidine, 1,1'-(tetra-thiodicarbonthioyl)-bis-

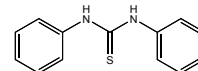


CAS 120-54-7 MF C<sub>12</sub>H<sub>20</sub>N<sub>2</sub>S<sub>6</sub> MW 384.70

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-104N	50 mg

### 1,3-Diphenyl-2-thiourea NEW

1,3-di(phenyl)thiourea

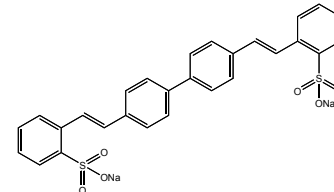


CAS 102-08-9 MF C<sub>13</sub>H<sub>12</sub>N<sub>2</sub>S MW 228.31

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-100N	50 mg

### Distyryl biphenyl NEW

Disodium 4,4'-Bis(2-sulfonatostyryl)biphenyl

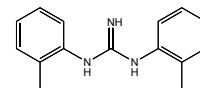


CAS 27344-41-8 MF C<sub>28</sub>H<sub>20</sub>Na<sub>2</sub>O<sub>6</sub>S<sub>2</sub> MW 562.57

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-099N	50 mg

### 1,3-Di-o-tolylguanidine NEW

1,2-bis(2-methylphenyl)guanidine

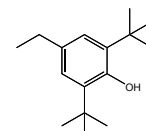


CAS 97-39-2 MF C<sub>15</sub>H<sub>17</sub>N<sub>3</sub> MW 239.32

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-101N	50 mg

### 2,6-Di-tert-butyl-4-ethylphenol NEW

2,6-Bis(1,1-dimethylethyl)-4-ethylphenol



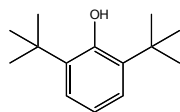
CAS 4130-42-1 MF C<sub>16</sub>H<sub>26</sub>O MW 234.38

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-107N	50 mg

## Antioxidants (continued)

### 2,6-Di-tert-butylphenol **NEW**

2,6-di-tert-butylphenol

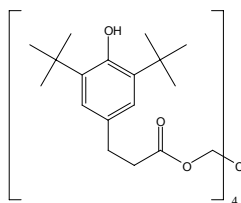


CAS 128-39-2 MF C<sub>14</sub>H<sub>22</sub>O MW 206.32

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-112N	50 mg

### Ethanox<sup>®</sup> 310

penterythritol tetrakis (3-(3,5-di-*t*-butyl-4-hydroxyphenyl)propionate)



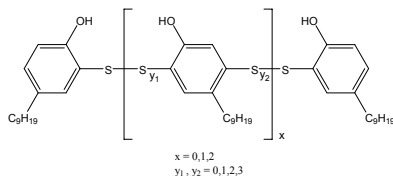
Albemarle Corporation

CAS 6683-19-8 MF C<sub>73</sub>H<sub>108</sub>O<sub>12</sub> MW 1177.65

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-086S	1 mL
NEAT	PLAS-AX-086N	50 mg

### Ethanox<sup>®</sup> 323

nonylphenol disulfide oligomer



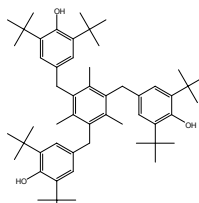
Albemarle Corporation

CAS MF MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-082S	1 mL
NEAT	PLAS-AX-082N	50 mg

### Ethanox<sup>®</sup> 330

1,3,5-trimethyl-2,4,6-tris(3,5-di-*t*-butyl-4-hydroxybenzyl) benzene



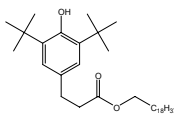
Albemarle Corporation

CAS 1709-70-2 MF C<sub>34</sub>H<sub>78</sub>O<sub>3</sub> MW 775.32

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-021S	1 mL
NEAT	PLAS-AX-021N	50 mg

### Ethanox<sup>®</sup> 376

3,5-di-*t*-butyl-4-hydroxyhydrocinnamic acid, octadecyl ester



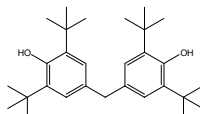
Albemarle Corporation

CAS 2082-79-3 MF C<sub>35</sub>H<sub>62</sub>O<sub>3</sub> MW 530.87

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-054S	1 mL
NEAT	PLAS-AX-054N	50 mg

### Ethanox<sup>®</sup> 702

4,4'-methylene bis(2,6-di-*t*-butylphenol)



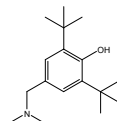
Albemarle Corporation

CAS 118-82-1 MF C<sub>29</sub>H<sub>44</sub>O<sub>2</sub> MW 424.66

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-025S	1 mL
NEAT	PLAS-AX-025N	50 mg

### Ethanox<sup>®</sup> 703

2,6-di-*t*-butyl-N,N-dimethylamino-p-cresol



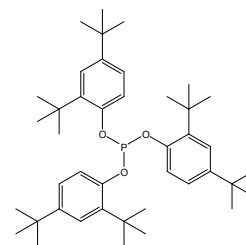
Albemarle Corporation

CAS 88-27-7 MF C<sub>17</sub>H<sub>29</sub>NO MW 263.42

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-085S	1 mL
NEAT	PLAS-AX-085N	50 mg

### Ethaphos<sup>®</sup> 368

tris(2,4-di-*t*-butylphenyl) phosphite



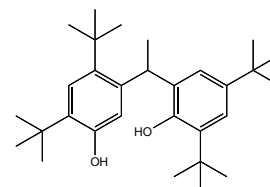
Albemarle Corporation

CAS 31570-04-4 MF C<sub>42</sub>H<sub>63</sub>O<sub>3</sub>P MW 646.92

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-074S	1 mL
NEAT	PLAS-AX-074N	50 mg

### 2,2'-Ethylidene-bis(4,6-di-*t*-butylphenol) **NEW**

Phenol, 2,2'-ethylidenebis[4,6-bis(1,1-dimethylethyl)-

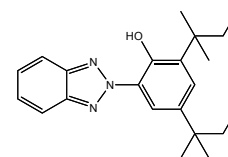


CAS 35958-30-6 MF C<sub>30</sub>H<sub>46</sub>O<sub>2</sub> MW 438.69

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-106N	50 mg

### 2-(2'-Hydroxy-3',5'-di-*t*-butylphenyl) benzotriazole **NEW**

2-(benzotriazol-2-yl)-4,6-bis(2-methylbutan-2-yl) phenol



CAS 25973-55-1 MF C<sub>22</sub>H<sub>29</sub>N<sub>3</sub>O MW 351.49

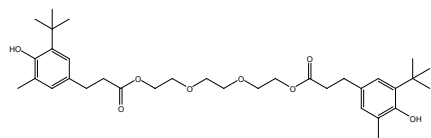
Matrix	Cat. No.	Unit
NEAT	PLAS-AX-095N	50 mg

# Plastic Additive Standards

## Antioxidants (continued)

### Irganox® 245

triethyleneglycol bis[3-(3'-tert-butyl-4'-hydroxy-5'-methylphenol)propionate]



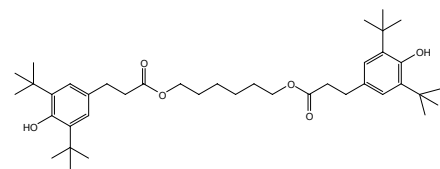
Ciba Specialty Chemicals

CAS 36443-68-2 MF C<sub>34</sub>H<sub>50</sub>O<sub>8</sub> MW 586.76

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-070S	1 mL
NEAT	PLAS-AX-070N	50 mg

### Irganox® 259

hexamethylene bis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)



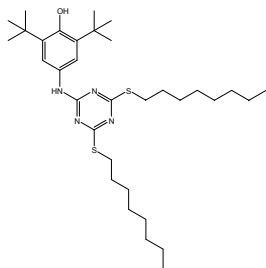
Ciba Specialty Chemicals

CAS 35074-77-2 MF C<sub>40</sub>H<sub>62</sub>O<sub>6</sub> MW 638.92

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-045S	1 mL
NEAT	PLAS-AX-045N	50 mg

### Irganox® 565

2,4-bis(n-octylthio)-6-(4-hydroxy-3,5-di-tert-butylanilino)-1,3,5-triazine



Ciba Specialty Chemicals

CAS 991-84-4 MF C<sub>33</sub>H<sub>56</sub>N<sub>4</sub>OS<sub>2</sub> MW 588.96

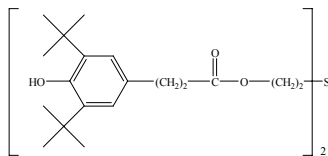
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-014S	1 mL
NEAT	PLAS-AX-014N	50 mg

#### Property Key

CAS	Chemical Abstract Service Number	MF	Molecular Formula
MW		MW	Molecular Weight

### Irganox® 1035

thiodiethylene bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamate)



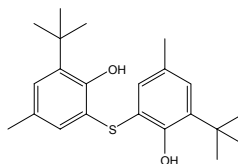
Ciba Specialty Chemicals

CAS 41484-35-9 MF C<sub>38</sub>H<sub>58</sub>O<sub>6</sub>S MW 642.93

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-069S	1 mL
NEAT	PLAS-AX-069N	50 mg

### Irganox® 1081

6,6'-di-tert-butyl-2,2'-thiodi-p-cresol



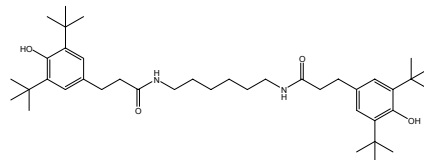
Ciba Specialty Chemicals

CAS 90-66-4 MF C<sub>22</sub>H<sub>30</sub>O<sub>2</sub>S MW 358.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-080S	1 mL
NEAT	PLAS-AX-080N	50 mg

### Irganox® 1098

N,N'-1,6-hexanediy bis[3,5-bis(1,1-dimethylethyl)-4-hydroxy-benzenepropanamide]



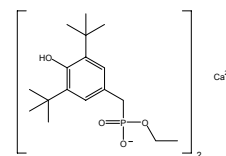
Ciba Specialty Chemicals

CAS 23128-74-7 MF C<sub>40</sub>H<sub>64</sub>N<sub>2</sub>O<sub>4</sub> MW 636.95

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 8:2	PLAS-AX-050S	1 mL
NEAT	PLAS-AX-050N	50 mg

### Irganox® 1425 WL

ethyl 3,5-di-tert-butyl-4-hydroxybenzylphosphonate, calcium salt and polyethylene-wax mixture



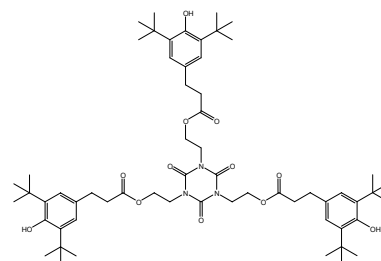
Ciba Specialty Chemicals

CAS 65140-91-2 / 9002-88-4 MF 2C<sub>17</sub>H<sub>29</sub>O<sub>4</sub>P • Ca(C<sub>2</sub>H<sub>4</sub>)<sub>x</sub> MW 695

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-079N	50 mg

### Irganox® 3125

3,5-di-tert-butyl-4-hydroxyhydrocinnamic ester with 1,3,5-tris[2-hydroxyethyl]-s-triazine-2,4,6-[1H,3H,5H]-trione



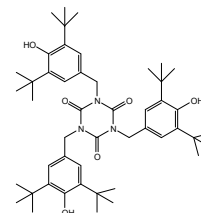
Ciba Specialty Chemicals

CAS 34137-09-2 MF C<sub>60</sub>H<sub>87</sub>N<sub>3</sub>O<sub>12</sub> MW 1042.35

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone (95:5)	PLAS-AX-020S	1 mL
NEAT	PLAS-AX-020N	50 mg

### Irganox® 3144 FF

1,3,5-Tris(3,5-di-tert-butyl-4-hydroxybenzyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione



Ciba Specialty Chemicals

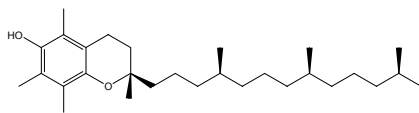
CAS 27676-62-6 MF C<sub>48</sub>H<sub>69</sub>N<sub>3</sub>O<sub>6</sub> MW 784.08

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-078S	1 mL
NEAT	PLAS-AX-078N	50 mg

## Antioxidants (continued)

### Irganox® E 201

alpha-tocopherol



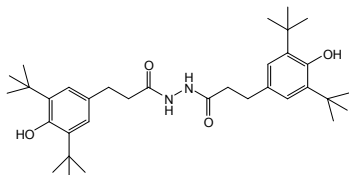
Ciba Specialty Chemicals

CAS 10191-41-0 MF C<sub>29</sub>H<sub>50</sub>O<sub>2</sub> MW 430.71

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-027S	1 mL
NEAT	PLAS-AX-027N	50 mg

### Irganox® MD 1024

1,2-bis(3,5-di-tert-butyl-4-hydroxyhydrocinnamoyl)hydrazide



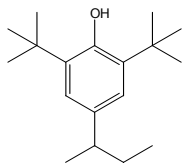
Ciba Specialty Chemicals

CAS 32687-78-8 MF C<sub>34</sub>H<sub>52</sub>N<sub>2</sub>O<sub>4</sub> MW 552.79

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 8:2	PLAS-AX-001S	1 mL
NEAT	PLAS-AX-001N	50 mg

### Isonox® 132

2,6-di-tert-butyl-4-sec-butylphenol



SI Group Incorporated

CAS 17540-75-9 MF C<sub>18</sub>H<sub>30</sub>O MW 262.43

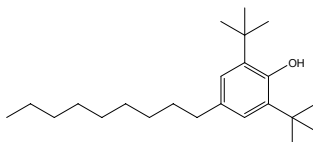
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-018S	1 mL
NEAT	PLAS-AX-018N	50 mg

#### Property Key

CAS Chemical Abstract Service Number MF MW Molecular Formula Molecular Weight

### Isonox® 232

2,6-di-tert-butyl-4-nonylphenol



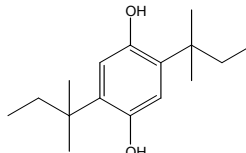
SI Group Incorporated

CAS 4306-88-1 MF C<sub>23</sub>H<sub>40</sub>O MW 262.43

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-063S	1 mL
NEAT	PLAS-AX-063N	50 mg

### Lowinox® AH25

2,5-bis(1,1-dimethylpropyl)-1,4-benzenediol



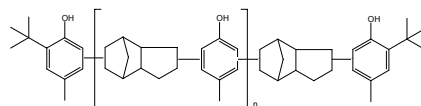
Chemtura Corporation

CAS 79-74-3 MF C<sub>16</sub>H<sub>26</sub>O<sub>2</sub> MW 250.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-016S	1 mL
NEAT	PLAS-AX-016N	50 mg

### Lowinox® CPL

Polymeric sterically hindered phenol



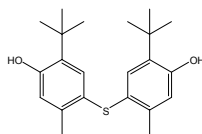
Chemtura Corporation

CAS 68610-51-5 MF MW 600-700

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-059S	1 mL
NEAT	PLAS-AX-059N	50 mg

### Lowinox® TBM-6

4,4'-thiobis(2-tert-butyl-5-methylphenol)



Chemtura Corporation

CAS 96-69-5 MF C<sub>22</sub>H<sub>30</sub>O<sub>2</sub>S MW 358.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone(9:1)	PLAS-AX-024S	1 mL
NEAT	PLAS-AX-024N	50 mg

### Markstat® 60

Polyethylene glycol ether - contain < 20% sodium perchlorate

N/A

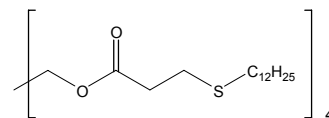
Chemtura Corporation

CAS N/A MF N/A MW N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-028S	1 mL
NEAT	PLAS-AX-028N	50 mg

### Naugard® 412S

beta-laurylthiopropionate



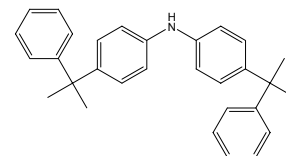
Chemtura Corporation

CAS 29598-76-3 MF C<sub>65</sub>H<sub>124</sub>O<sub>8</sub>S<sub>4</sub> MW 1161.94

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-030S	1 mL
NEAT	PLAS-AX-030N	50 mg

### Naugard® 445

4,4'-bis(alpha,alpha-dimethylbenzyl)diphenylamine



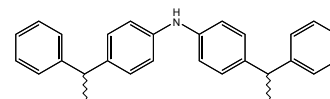
Chemtura Corporation

CAS 10081-67-1 MF C<sub>30</sub>H<sub>31</sub>N MW 405.57

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-022S	1 mL
NEAT	PLAS-AX-022N	50 mg

### Naugard® 635 NEW

4-(1-phenylethyl)-N-[4-(1-phenylethyl)phenyl]aniline



CAS 68442-68-2 MF C<sub>38</sub>H<sub>27</sub>N MW 377.52

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-113N	50 mg

# Plastic Additive Standards

## Antioxidants (continued)

### Naugard® 956

proprietary blend of primary and secondary antioxidants

N/A

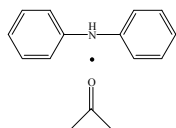
Chemtura Corporation

#### CAS MF MW

Matrix	Cat. No.	Unit
1000 µg/mL in Toluene	PLAS-AX-060S	1 mL
NEAT	PLAS-AX-060N	50 mg

### Naugard® A

acetone diphenylamine condensation products



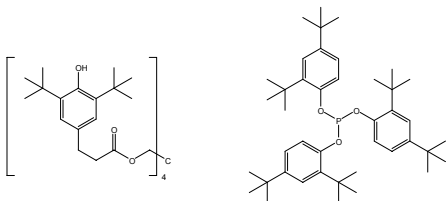
Chemtura Corporation

#### CAS 68412-48-6 MF C<sub>12</sub>H<sub>11</sub>N • C<sub>3</sub>H<sub>6</sub>O MW 227.31

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone (8:2)	PLAS-AX-026S	1 mL
NEAT	PLAS-AX-026N	50 mg

### Naugard® B-25

1:1 blend of Naugard 10 & Naugard 424



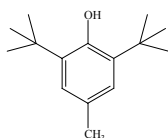
Chemtura Corporation

#### CAS 6683-19-8/31570-04-4 MF C<sub>73</sub>H<sub>108</sub>O<sub>12</sub> • C<sub>42</sub>H<sub>63</sub>O<sub>3</sub>P MW 1177.65 / 646.92

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-061S	1 mL
NEAT	PLAS-AX-061N	50 mg

### Naugard® BHT

2,6-di-tert-butyl-4-methylphenol



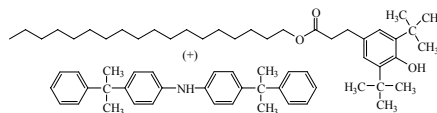
Chemtura Corporation

#### CAS 128-37-0 MF C<sub>15</sub>H<sub>24</sub>O MW 220.35

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-017S	1 mL
NEAT	PLAS-AX-017N	50 mg

### Naugard® HM-22

blend of phenolic primary and diphenylamine secondary antioxidants (Naugards 76 and 445)



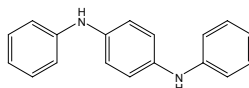
Chemtura Corporation

#### CAS 10081-67-1/2082-79-3 MF C<sub>30</sub>H<sub>31</sub>N / C<sub>35</sub>H<sub>62</sub>O<sub>3</sub> MW 405.57/530.86

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-033S	1 mL
NEAT	PLAS-AX-033N	50 mg

### Naugard® J

N,N'-diphenyl-p-phenylenediamine



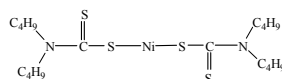
Chemtura Corporation

#### CAS 74-31-7 MF C<sub>18</sub>H<sub>16</sub>N<sub>2</sub> MW 260.36

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone(1:1)	PLAS-AX-048S	1 mL
NEAT	PLAS-AX-048N	50 mg

### Naugard® NBC

nickel dibutyl dithiocarbamate



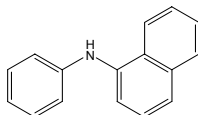
Chemtura Corporation

#### CAS 13927-77-0 MF C<sub>18</sub>H<sub>36</sub>N<sub>2</sub>NiS<sub>4</sub> MW 467.45

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-051S	1 mL
NEAT	PLAS-AX-051N	50 mg

### Naugard® PANA

N-phenyl-1-naphthylamine



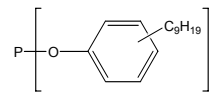
Chemtura Corporation

#### CAS 90-30-2 MF C<sub>16</sub>H<sub>13</sub>N MW 219.28

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-058S	1 mL
NEAT	PLAS-AX-058N	50 mg

### Naugard® PHR

tris(mono-nonylphenyl) phosphite with up to 1% triisopropanol amine



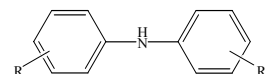
Chemtura Corporation

#### CAS 26523-78-4 MF C<sub>45</sub>H<sub>69</sub>O<sub>3</sub>P MW 689.00

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-076S	1 mL
NEAT	PLAS-AX-076N	50 mg

### Naugard® PS-30

Benzenamine, N-phenyl, reaction products with 2,4,4-trimethylpentene



Chemtura Corporation

#### CAS 68411-46-1 MF C<sub>12</sub>H<sub>11</sub>N • C<sub>8</sub>H<sub>16</sub> MW N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-038S	1 mL
NEAT	PLAS-AX-038N	50 mg

### Naugard® PS-35

Butylated, octylated diphenylamine-2,6 di-tert-butyl-4-sec-butyl phenol

N/A

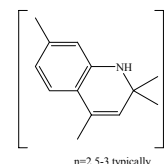
Chemtura Corporation

#### CAS N/A MF N/A MW N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-046S	1 mL
NEAT	PLAS-AX-046N	50 mg

### Naugard® Q Extra

1,2-dihydro-2,2,4-trimethylquinoline (polymerized)



Chemtura Corporation

#### CAS 26780-96-1 MF (C<sub>12</sub>H<sub>15</sub>N)<sub>n</sub> MW (173.25)<sub>n</sub>

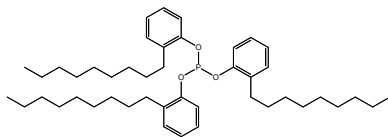
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-002S	1 mL
NEAT	PLAS-AX-002N	50 mg

# Plastic Additive Standards

## Antioxidants (continued)

### Naugard® RM-51

Tris(mono-nonylphenyl)phosphite, 2,2'-methylene bis(4-methylene bis(4-methyl-6-nonylphenol))



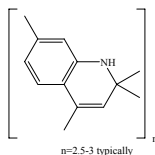
Chemtura Corporation

CAS 26523-78-4 MF C<sub>45</sub>H<sub>69</sub>C<sub>3</sub>P MW 689.00

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-034S	1 mL
NEAT	PLAS-AX-034N	50 mg

### Naugard® Super Q

1,2-dihydro-2,2,4-trimethylquinoline (polymerized)



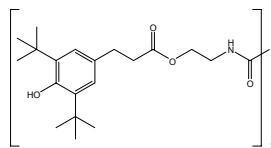
Chemtura Corporation

CAS 147-47-7 MF (C<sub>12</sub>H<sub>15</sub>N)<sub>n</sub> MW (173.25)<sub>n</sub>

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-003S	1 mL
NEAT	PLAS-AX-003N	50 mg

### Naugard® XL-1

2,2'-oxamidobis[ethyl-3-(3,5-di-tert-butyl-4-hydroxy-phenyl)propionate]



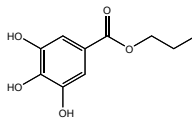
Chemtura Corporation

CAS 70331-94-1 MF C<sub>40</sub>H<sub>60</sub>N<sub>2</sub>O<sub>8</sub> MW 697.00

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 8:2	PLAS-AX-008S	1 mL
NEAT	PLAS-AX-008N	50 mg

### Propyl gallate NEW

propyl 3,4,5-trihydroxybenzoate

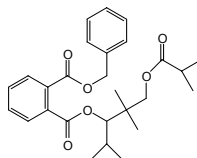


CAS 121-79-9 MF C<sub>10</sub>H<sub>12</sub>O<sub>5</sub> MW 212.20

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-109N	50 mg

### Santicizer® 278

benzyl 3-isobutyroxy-1-isopropyl-2,2-dimethylpropyl phthalate



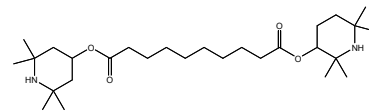
Chemtura Corporation

CAS 16883-83-3 MF C<sub>27</sub>H<sub>34</sub>O<sub>6</sub> MW 454.56

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-029S	1 mL
NEAT	PLAS-AX-029N	50 mg

### Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate NEW

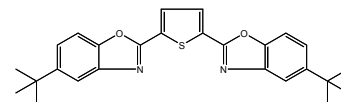
bis(2,2,6,6-tetramethylpiperidin-4-yl) decanedioate



CAS 52829-07-9 MF C<sub>28</sub>H<sub>52</sub>N<sub>2</sub>O<sub>4</sub> MW 480.72

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-097N	50 mg

### 2,2'-(2,5-thiophenediyl)bis(5-tert-butylbenzoxazole) NEW

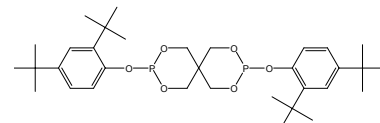


CAS 7128-64-5 MF C<sub>26</sub>H<sub>26</sub>N<sub>2</sub>O<sub>2</sub>S MW 430.56

Matrix	Cat. No.	Unit
NEAT	PLAS-AX-098N	50 mg

### Ultrinox® 626

bis(2,4-di-tert-butylphenyl)pentaerythritol di-phosphite



Chemtura Corporation

CAS 26741-53-7 MF C<sub>33</sub>H<sub>50</sub>O<sub>6</sub>P<sub>2</sub> MW 604.62

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-031S	1 mL
NEAT	PLAS-AX-031N	50 mg

#### Property Key

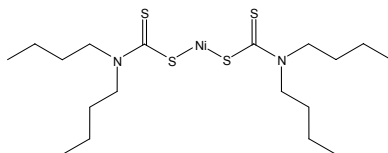
CAS Chemical Abstract Service Number MF Molecular Formula MW Molecular Weight

## Antiozonants

Antiozonants are materials added to plastics to slow the deterioration of the finished product that occurs from exposure to ozone. Antiozonants typically work by migrating to the surface of the product and then create an ozone-impermeable barrier or skin on the surface.

### Akrochem® NIBUD

nickel dibutyl dithiocarbamate



Akrochem Corporation

CAS 13927-77-0 MF C<sub>18</sub>H<sub>36</sub>N<sub>2</sub>NiS<sub>4</sub> MW 467.45

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AZ-001S	1 mL
NEAT	PLAS-AZ-001N	50 mg

### Akrowax™ 195 NEW

A highly refined petroleum wax which is comprised of long chain saturated hydrocarbon molecules

CAS 121-79-9 MF N/A MW N/A

Matrix	Cat. No.	Unit
NEAT	PLAS-AZ-002N	50 mg

**PolyAdd**  **Check™**

*Polymer Additive Reference Standards*

# Plastic Additive Standards

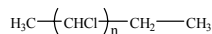
## Blowing Agents

Blowing agents are sometimes also called chemical foaming agents. They are used to release gas into the plastic or resin. Blowing agents can be used to reduce weight, improve softness, provide insulation, add shock absorption properties or add resilience in the final product.

Chemical blowing agents (as opposed to physical blowing agents such as nitrogen gas) are principally organic chemicals that decompose at elevated temperatures to release a gas during decomposition that can add a cellular structure in the plastic.

### CPW-100

chlorinated paraffin wax



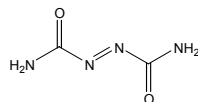
Harwick Standard

CAS 63449-39-8 MF Unspecified MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-BA-001S	1 mL
NEAT	PLAS-BA-001N	50 mg

### Celogen® AZ

carbamoyliminourea



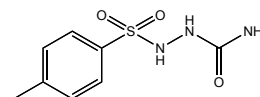
Chemtura Corporation

CAS 123-77-3 MF C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>O<sub>2</sub> MW 116.08

Matrix	Cat. No.	Unit
1000 µg/mL in DMSO	PLAS-BA-002-DMSO	1 mL
NEAT	PLAS-BA-002N	50 mg

### Celogen® RA NEW

[(4-methylphenyl)sulfonylamino]urea



CAS 10396-10-8 MF C<sub>8</sub>H<sub>11</sub>N<sub>3</sub>O<sub>3</sub>S MW 229.26

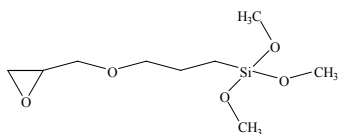
Matrix	Cat. No.	Unit
NEAT	PLAS-BA-003N	50 mg

## Coupling Agents

Coupling agents promote the physical or chemical interaction with the polymer.

### Silquest® A-187

gamma-glycidoxypropyltrimethoxysilane



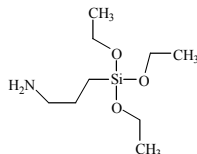
Chemtura Corporation

CAS 2530-83-8 MF C<sub>9</sub>H<sub>20</sub>O<sub>5</sub>Si MW 236.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CA-004S	1 mL
NEAT	PLAS-CA-004N	50 mg

### Silquest® A-1102

gamma-aminopropyltriethoxysilane (Tech grade)



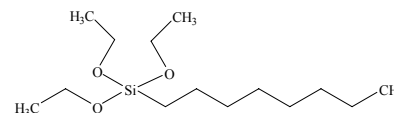
General Electric

CAS 919-30-2 MF C<sub>9</sub>H<sub>23</sub>NO<sub>3</sub>Si MW 221.37

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CA-003S	1 mL
NEAT	PLAS-CA-003N	50 mg

### Silquest® A-137

octyltriethoxysilane



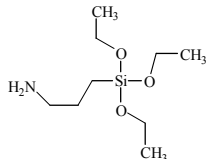
General Electric

CAS 2943-75-1 MF C<sub>14</sub>H<sub>32</sub>O<sub>3</sub>Si MW 276.55

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CA-005S	1 mL
NEAT	PLAS-CA-005N	50 mg

### Silquest® A-1100

gamma-aminopropyltriethoxysilane



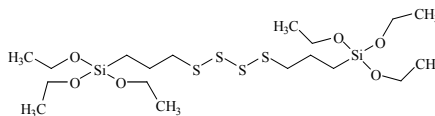
Chemtura Corporation

CAS 919-30-2 MF C<sub>9</sub>H<sub>23</sub>NO<sub>3</sub>Si MW 221.37

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CA-002S	1 mL
NEAT	PLAS-CA-002N	50 mg

### Silquest® A-1289

bis-(triethoxysilylpropyl)tetrasulfane



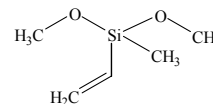
General Electric

CAS 211519-85-6 MF C<sub>18</sub>H<sub>42</sub>O<sub>6</sub>S<sub>4</sub>Si<sub>2</sub> MW 538.94

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CA-001S	1 mL
NEAT	PLAS-CA-001N	50 mg

### Silquest® A-2171

vinylmethyldimethoxysilane



General Electric

CAS 16753-62-1 MF C<sub>5</sub>H<sub>12</sub>O<sub>2</sub>Si MW 132.24

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CA-006S	1 mL
NEAT	PLAS-CA-006N	50 mg



# Plastic Additive Standards

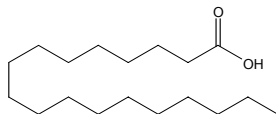
## Cross-Linking Agents

Crosslinking is the polymerization reaction that branches out from the main molecular chain forming a network pattern of chemical bonds. Crosslinking agents enhance this crosslinking and bonding between polymer chains.

Crosslinking adds desirable properties such as: solidity, elasticity, impermeability to gases, and better electrical insulation. Crosslinking can also improve a rubber's resistance to chemicals, heat and abrasion.

### F-300, F-1000, F-1500, F-2000, F-3000

stearic acid



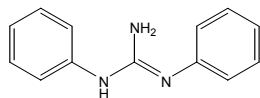
Harwick Standard

CAS 57-11-4 MF C<sub>18</sub>H<sub>36</sub>O<sub>2</sub> MW 284.48

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CL-006S	1 mL
NEAT	PLAS-CL-006N	50 mg

### Perkacit® DPG

N,N'-diphenylguanidine



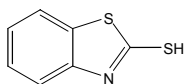
Akzo Nobel Chemicals B.V.

CAS 102-06-7 MF C<sub>13</sub>H<sub>13</sub>N<sub>3</sub> MW 211.27

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone(9:1)	PLAS-CL-004S	1 mL
NEAT	PLAS-CL-004N	50 mg

### Perkacit® MBT

2-Mercaptobenzothiazole



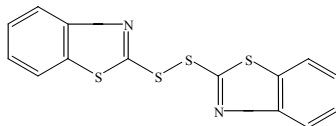
Akzo Nobel Chemicals B.V.

CAS 149-30-4 MF C<sub>7</sub>H<sub>5</sub>S<sub>2</sub>N MW 167.25

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CL-002S	1 mL
NEAT	PLAS-CL-002N	50 mg

### Perkacit® MBTS

2,2'-dithiobis(benzothiazole)



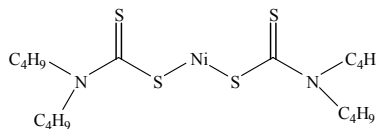
Akzo Nobel Chemicals B.V.

CAS 120-78-5 MF C<sub>14</sub>H<sub>8</sub>N<sub>2</sub>S<sub>4</sub> MW 332.48

Matrix	Cat. No.	Unit
1000 µg/mL in Dichloromethane	PLAS-CL-001S-D	1 mL
NEAT	PLAS-CL-001N	50 mg

### Perkacit® NDBC

nickel dibutyl dithiocarbamate



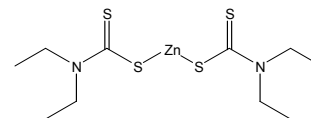
Akzo Nobel Chemicals B.V.

CAS 13927-77-0 MF C<sub>18</sub>H<sub>36</sub>N<sub>2</sub>NiS<sub>4</sub> MW 467.45

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CL-005S	1 mL
NEAT	PLAS-CL-005N	50 mg

### Perkacit® ZDEC

zinc diethyldithiocarbamate



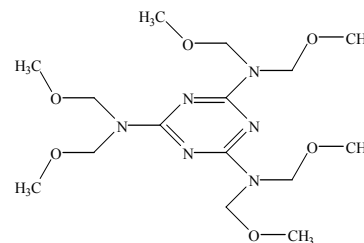
Akzo Nobel Chemicals B.V.

CAS 14324-55-1 MF C<sub>10</sub>H<sub>20</sub>N<sub>2</sub>S<sub>2</sub>Zn MW 361.9

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CL-007S	1 mL
NEAT	PLAS-CL-007N	50 mg

### Resimene® 3520

hexamethoxy methyl melamine



Cytec Surface Specialties

CAS 3089-11-0 MF C<sub>15</sub>H<sub>30</sub>N<sub>6</sub>O<sub>6</sub> MW 390.51

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-CL-003S	1 mL
NEAT	PLAS-CL-003N	50 mg

#### Property Key

CAS Chemical Abstract Service Number MF Molecular Formula MW Molecular Weight

# Plastic Additive Standards

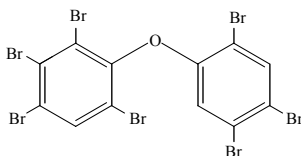
## Flame Retardants

Flame retardants are added to inhibit ignition or the flammability of the end-use product. Flame retardants generally function by inhibiting the mechanisms of burning. Typical chemical elements found in compounds used as flame retardants are: aluminum, bromine, chlorine, fluorine and sulfur.

Brominated flame retardants commonly used in polystyrene, polyesters, polyolefins, polyamides, epoxies and ABS. Decabromodiphenyl oxide is the most frequently used brominated flame retardant. The bromodiphenyl ethers are the most highly regulated of these compounds, and AccuStandard offers the most complete line of individual congeners available anywhere.

Some of these flame retardants are not typically added to polymers in processing, but can be found in a polymer matrix from leaching out of the contents. The largest example of this type is the Aroclors, which can often be found in a plastic matrix from having been in contact with a fluid containing these materials.

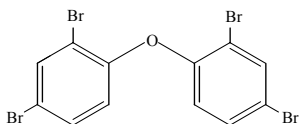
### 2,2',3,4,4',5',6-Heptabromodiphenyl ether



CAS 207122-16-5 MF C<sub>12</sub>H<sub>3</sub>Br<sub>7</sub>O MW 722.48

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-183S	1 mL

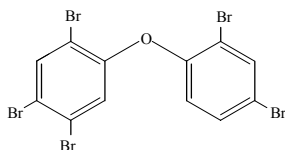
### 2,2',4,4'-Tetrabromodiphenyl ether



CAS 40088-47-9 MF C<sub>12</sub>H<sub>6</sub>Br<sub>4</sub>O MW 485.82

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-047S	1 mL

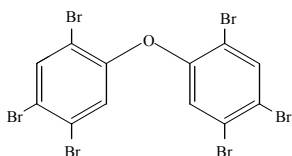
### 2,2',4,4',5-Pentabromodiphenyl ether



CAS 60348-60-9 MF C<sub>12</sub>H<sub>5</sub>Br<sub>5</sub>O MW 564.69

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-099S	1 mL

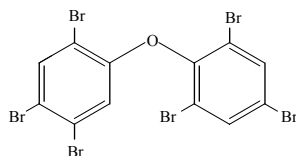
### 2,2',4,4',5,5'-Hexabromodiphenyl ether



CAS 36483-60-0 MF C<sub>12</sub>H<sub>4</sub>Br<sub>6</sub>O MW 643.58

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-153S	1 mL

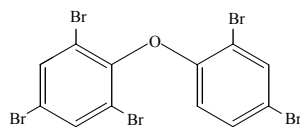
### 2,2',4,4',5,6'-Hexabromodiphenyl ether



CAS 207122-15-4 MF C<sub>12</sub>H<sub>4</sub>Br<sub>6</sub>O MW 643.58

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-154S	1 mL

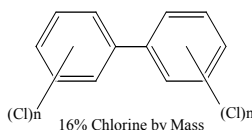
### 2,2',4,4',6-Pentabromodiphenyl ether



CAS 189084-64-8 MF C<sub>12</sub>H<sub>5</sub>Br<sub>5</sub>O MW 564.69

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-100S	1 mL

### Aroclor® 1016

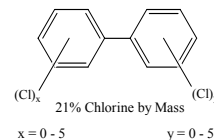


Monsanto

CAS 12674-11-2 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-216S-H-10X	1 mL
NEAT	C-216N	100 mg

### Aroclor® 1221

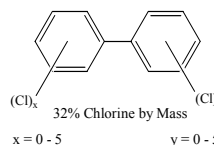


Monsanto

CAS 11104-28-2 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-221S-H-10X	1 mL
NEAT	C-221N-50MG	50 mg

### Aroclor® 1232

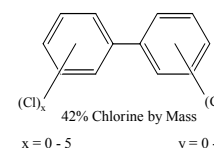


Monsanto

CAS 11141-16-5 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-232S-H-10X	1 mL

### Aroclor® 1242



Monsanto

CAS 53469-21-9 MF Technical Mix MW

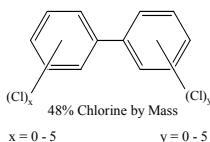
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-242S-H-10X	1 mL
NEAT	C-242N-50MG	50 mg

#### Property Key

CAS	Chemical Abstract Service Number	MF	Molecular Formula
		MW	Molecular Weight

## Flame Retardants (continued)

### Aroclor® 1248

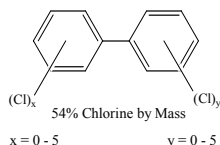


Monsanto

CAS 12672-29-6 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-248S-H-10X	1 mL
NEAT	C-248N-50MG	50 mg

### Aroclor® 1254



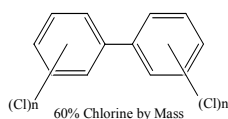
Monsanto

CAS 11097-69-1 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-254S-H-10X	1 mL
NEAT	C-254N-50MG	50 mg

### Aroclor® 1260

Monsanto



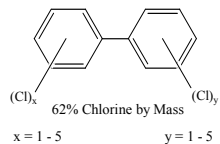
Monsanto

CAS 11096-82-5 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-260S-H-10X	1 mL
NEAT	C-260N-50MG	50 mg

### Aroclor® 1262

Monsanto

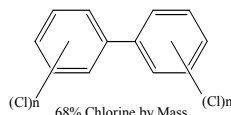


Monsanto

CAS 37324-23-5 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-262S-H-10X	1 mL
NEAT	C-262N-50MG	50 mg

### Aroclor® 1268

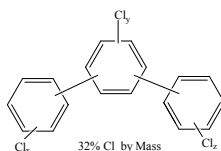


Monsanto

CAS 11100-14-4 MF Technical Mix MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-268S-H-10X	1 mL

### Aroclor® 5432

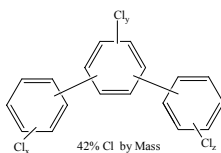


Monsanto

CAS 63496-31-1 MF Technical Mix MW

Matrix	Cat. No.	Unit
35 µg/mL in Toluene	T-432S	1 mL

### Aroclor® 5442

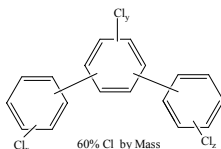


Monsanto

CAS 12642-23-8 MF Technical Mix MW

Matrix	Cat. No.	Unit
35 µg/mL in Toluene	T-442S	1 mL

### Aroclor® 5460

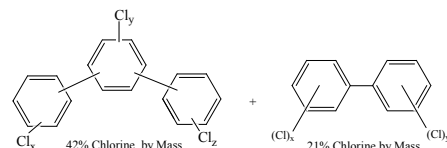


Monsanto

CAS 11126-42-4 MF Technical Mix MW

Matrix	Cat. No.	Unit
35 µg/mL in Toluene	T-460S	1 mL

### Aroclor® 6050

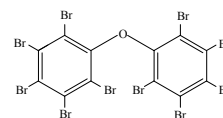


Monsanto

CAS MF Technical Mix MW

Matrix	Cat. No.	Unit
35 µg/mL in Toluene	T-6050S	1 mL

### Decabromodiphenyl ether

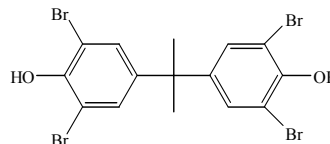


CAS 1163-19-5 MF C<sub>12</sub>Br<sub>10</sub>O MW 959.22

Matrix	Cat. No.	Unit
50 µg/mL in Isooctane	BDE-209S	1 mL

### Firemaster BP4A

4,4'-(1-methylethylidene) bis(2,6-dibromophenol)

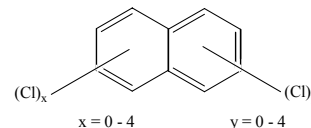


CAS 79-94-7 MF C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub> MW 543.91

Matrix	Cat. No.	Unit
100 µg/mL in Toluene	FRS-006S	1 mL
Neat	FRS-006N	10 mg

### Halowax 1000

Polychlorinated naphthalene



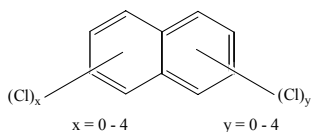
CAS 58718-66-4 MF Technical Mix MW

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	N-1000S	1 mL

# Plastic Additive Standards

## Flame Retardants (continued)

### Halowax 1013

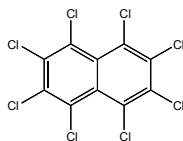


CAS 1321-64-8 MF Technical Mix MW

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	N-1013S	1 mL

### Halowax 1051

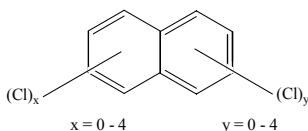
Octachloronaphthalene



CAS 2234-13-1 MF C<sub>10</sub>Cl<sub>8</sub> MW 403.73

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	N-1051S	1 mL

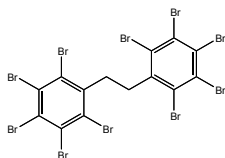
### Halowax 1099



CAS 39450-05-0 MF Technical Mix MW

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	N-1099S	1 mL

### Saytex® 8010 NEW

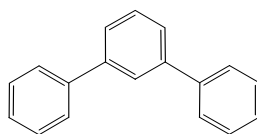


CAS 84852-53-9 MF C<sub>14</sub>H<sub>4</sub>Br<sub>10</sub> MW 971.22

Matrix	Cat. No.	Unit
NEAT	PLAS-FR-001N	50 mg

### m-Terphenyl

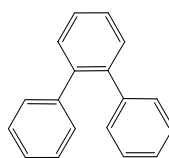
1,3-diphenylbenzene



CAS 92-06-8 MF C<sub>6</sub>H<sub>5</sub>C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>5</sub> MW 230.32

Matrix	Cat. No.	Unit
NEAT	T-002N	100 mg

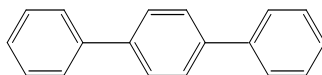
### o-Terphenyl



CAS 84-15-1 MF C<sub>6</sub>H<sub>5</sub>C<sub>6</sub>H<sub>4</sub>C<sub>6</sub>H<sub>5</sub> MW 230.32

Matrix	Cat. No.	Unit
NEAT	T-001N	100 mg

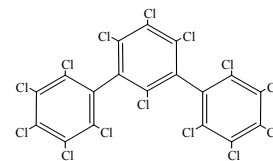
### p-Terphenyl



CAS 92-94-4 MF C<sub>18</sub>H<sub>14</sub> MW 230.32

Matrix	Cat. No.	Unit
NEAT	T-003N	100 mg

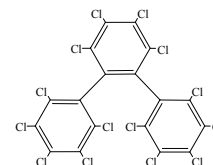
### Tetradecachloro-m-terphenyl



CAS 42429-88-9 MF C<sub>18</sub>Cl<sub>14</sub> MW 712.48

Matrix	Cat. No.	Unit
35 µg/mL in Toluene	T-005S	1 mL

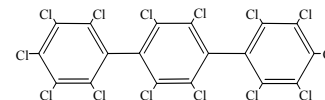
### Tetradecachloro-o-terphenyl



CAS MF C<sub>18</sub>Cl<sub>14</sub> MW 712.48

Matrix	Cat. No.	Unit
35 µg/mL in Toluene	T-004S	1 mL

### Tetradecachloro-p-terphenyl



CAS MF C<sub>18</sub>Cl<sub>14</sub> MW 712.48

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	T-006S	1 mL

#### Property Key

CAS	Chemical Abstract Service Number	MF	Molecular Formula
		MW	Molecular Weight

# Plastic Additive Standards

## Plasticizers

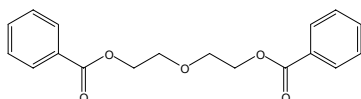
A plasticizer is a compound added to a material, usually a plastic, to make it flexible, resilient and easier to handle. Plasticizers are major components in plastics that determine the physical properties of polymer products.

Plasticizers are generally medium to high molecular weight esters of aliphatic or aromatic carboxylic acids, or sometimes of phosphoric acid. The phosphate esters are often also used for their flame retardant properties. Adipates and phthalates are also very common, but are becoming more highly regulated due to concern that they could act as endocrine disruptors.

The USEPA regulates many Phthalates and Adipates by Methods 606, 506-1 and 8061.

### Benzoflex® 2-45

diethylene glycol, dibenzoate



Velsicol Chemical

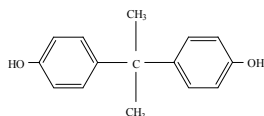
CAS 120-55-8 MF C<sub>18</sub>H<sub>18</sub>O<sub>5</sub> MW 314.33

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-015S	1 mL
NEAT	PLAS-PL-015N	50 mg

See page 21 for all  
Bisphenol Analog Standards

### Bisphenol A (BPA)

4,4'-dihydroxy-2,2-diphenylpropane

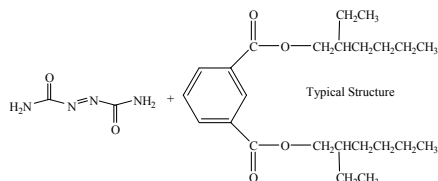


CAS 80-05-7 MF C<sub>15</sub>H<sub>16</sub>O<sub>2</sub> MW 228.29

Matrix	Cat. No.	Unit
1000 µg/mL in Methanol	M-1626-01S	1 mL

### Celogen® SD-125

50% azodicarbonamide in a phthalate plasticizer



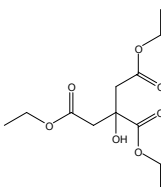
Chemtura Corporation

CAS N/A MF N/A MW N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-009S	1 mL
NEAT	PLAS-PL-009N	50 mg

### Citroflex 2

2-hydroxy-1,2,3-propanetricarboxylic acid, triethyl ester



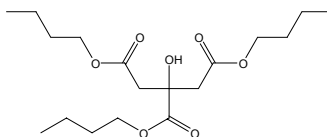
Morflex, Inc.

CAS 77-93-0 MF C<sub>12</sub>H<sub>20</sub>O<sub>7</sub> MW 276.32

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-028S	1 mL
NEAT	PLAS-PL-028N	50 mg

### Citroflex 4

2-hydroxy-1,2,3-propanetricarboxylic acid, tributyl ester



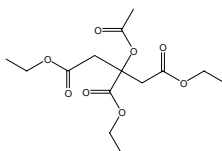
Morflex, Inc.

CAS 77-94-1 MF C<sub>18</sub>H<sub>32</sub>O<sub>7</sub> MW 360.45

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-030S	1 mL
NEAT	PLAS-PL-030N	50 mg

### Citroflex A-2

2-(acetyloxy)-1,2,3-propanetricarboxylic acid, triethyl ester



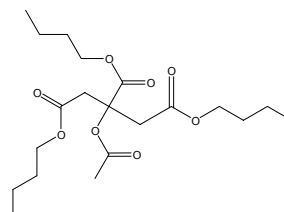
Morflex, Inc.

CAS 77-89-4 MF C<sub>14</sub>H<sub>22</sub>O<sub>8</sub> MW 318.32

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-001S	1 mL
NEAT	PLAS-PL-001N	50 mg

### Citroflex A-4

2-Acetoxy-1,2,3-propanetricarboxylic acid, tributyl ester



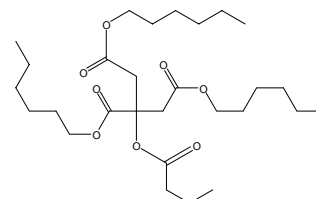
Morflex, Inc.

CAS 77-90-7 MF C<sub>20</sub>H<sub>34</sub>O<sub>8</sub> MW 402.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-002S	1 mL
NEAT	PLAS-PL-002N	50 mg

### Citroflex B-6

n-butyltri-n-hexyl citrate



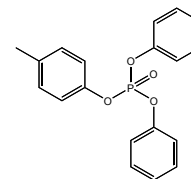
Morflex, Inc.

CAS 82469-79-2 MF C<sub>28</sub>H<sub>50</sub>O<sub>8</sub> MW 514.7

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-025S	1 mL
NEAT	PLAS-PL-025N	50 mg

### Cresyl diphenyl phosphate NEW

(4-methylphenyl) diphenyl phosphate

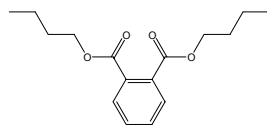


CAS 26444-49-5 MF C<sub>19</sub>H<sub>17</sub>O<sub>4</sub>P MW 340.31

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-059N	50 mg

## Plasticizers (continued)

### Dibutyl phthalate



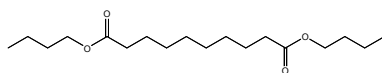
Houghton Chemical

CAS 84-74-2 MF C<sub>16</sub>H<sub>22</sub>O<sub>4</sub> MW 278.34

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-013S	1 mL
NEAT	PLAS-PL-013N	50 mg

### Dibutyl sebacate NEW

Dibutyl decanedioate

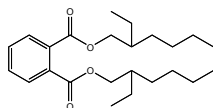


CAS 109-43-3 MF C<sub>18</sub>H<sub>34</sub>O<sub>4</sub> MW 314.46

Matrix	Cat. No.	Unit
Neat	PLAS-PL-062N	50 mg

### Diisooctyl phthalate NEW

bis(6-methylheptyl) benzene-1,2-dicarboxylate

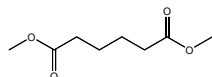


CAS 27554-26-3 MF C<sub>24</sub>H<sub>38</sub>O<sub>4</sub> MW 390.56

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-071N	50 mg

### Dimethyl adipate NEW

Dimethyl hexanedioate

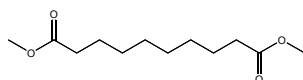


CAS 627-93-0 MF C<sub>8</sub>H<sub>14</sub>O<sub>4</sub> MW 174.19

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-070N	50 mg

### Dimethyl sebacate NEW

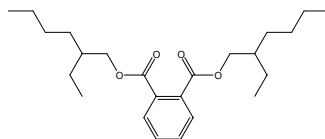
Dimethyl decanedioate



CAS 106-79-6 MF C<sub>12</sub>H<sub>22</sub>O<sub>4</sub> MW 230.30

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-061N	50 mg

### Diocetyl phthalate (DOP)



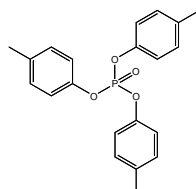
Houghton Chemical

CAS 117-81-7 MF C<sub>24</sub>H<sub>38</sub>O<sub>4</sub> MW 390.56

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-019S	1 mL
NEAT	PLAS-PL-019N	50 mg

### Disflamoll® TKP NEW

Tricresyl phosphate

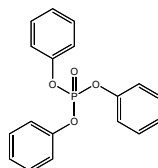


CAS 1330-78-5 MF C<sub>21</sub>H<sub>21</sub>O<sub>4</sub>P MW 368.36

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-053N	50 mg

### Disflamoll TP NEW

Triphenyl phosphate

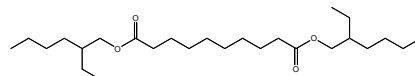


CAS 115-86-6 MF C<sub>18</sub>H<sub>15</sub>O<sub>4</sub>P MW 326.28

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-069N	50 mg

### 2-Ethylhexyl sebacate NEW

bis(2-ethylhexyl) decanedioate

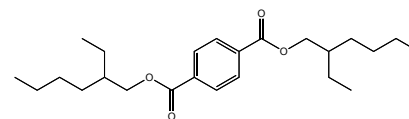


CAS 122-62-3 MF C<sub>26</sub>H<sub>50</sub>O<sub>4</sub> MW 426.67

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-064N	50 mg

### Bis(2-Ethylhexyl) terephthalate NEW

bis(2-ethylhexyl) benzene-1,4-dicarboxylate

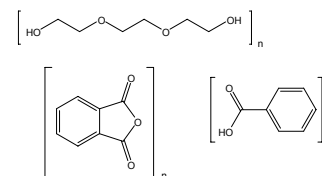


CAS 6422-86-2 MF C<sub>24</sub>H<sub>38</sub>O<sub>4</sub> MW 390.56

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-065N	50 mg

### Hercoflex® 900

1,3-Isobenzofurandione, polymer with 2,2'-(1,2-ethanediylbis(oxy))bis(ethanol), benzoate



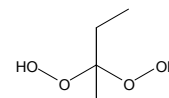
Hercules Incorporated

CAS 68186-30-1 MF (C<sub>8</sub>H<sub>4</sub>O<sub>3</sub>)<sub>n</sub> (C<sub>6</sub>H<sub>14</sub>O<sub>4</sub>)<sub>n</sub> (C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>)<sub>n</sub> MW N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-038S	1 mL
NEAT	PLAS-PL-038N	50 mg

### Hi-Point PD-1

methyl ethyl ketone peroxide (CAS 1338-23-4) solution



Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-024S	1 mL
NEAT	PLAS-PL-024N	50 mg

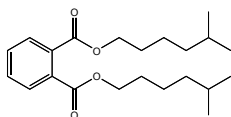
### Property Key

CAS	Chemical Abstract Service Number	MF	Molecular Formula
		MW	Molecular Weight

## Plasticizers (continued)

### Jayflex® 77

diisooheptyl phthalate



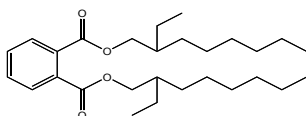
ExxonMobil Corporation

CAS 71888-89-6 MF C<sub>22</sub>H<sub>34</sub>O<sub>4</sub> MW 362.50

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-017S	1 mL
NEAT	PLAS-PL-017N	50 mg

### Jayflex® DIDP

diisodecyl phthalate



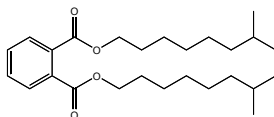
ExxonMobil Corporation

CAS 68515-49-1 MF C<sub>28</sub>H<sub>46</sub>O<sub>4</sub> MW 446.66

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-016S	1 mL
NEAT	PLAS-PL-016N	50 mg

### Jayflex® DINP

diisononyl phthalate



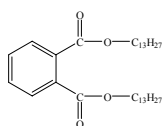
ExxonMobil Corporation

CAS 68515-48-0 MF C<sub>26</sub>H<sub>42</sub>O<sub>4</sub> MW 418.61

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-018S	1 mL
NEAT	PLAS-PL-018N	50 mg

### Jayflex® DTDP

ditridecyl phthalate



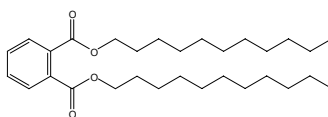
ExxonMobil Corporation

CAS 68515-47-9 MF C<sub>34</sub>H<sub>58</sub>O<sub>4</sub> MW 530.82

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-020S	1 mL
NEAT	PLAS-PL-020N	50 mg

### Jayflex® L11P-E

diundecyl phthalate



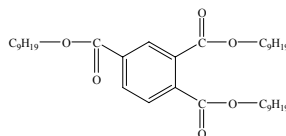
ExxonMobil Corporation

CAS 3648-20-2 MF C<sub>30</sub>H<sub>50</sub>O<sub>4</sub> MW 474.72

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-021S	1 mL
NEAT	PLAS-PL-021N	50 mg

### Jayflex® TINTM

triisononyl trimellitate



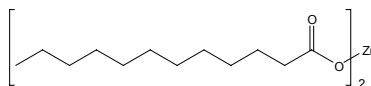
ExxonMobil Corporation

CAS 53894-23-8 MF C<sub>36</sub>H<sub>60</sub>O<sub>6</sub> MW 588.96

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-029S	1 mL
NEAT	PLAS-PL-029N	50 mg

### Laurex®

zinc salt of lauric and related fatty acids



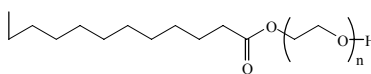
Chemtura Corporation

CAS MF C<sub>24</sub>H<sub>46</sub>O<sub>4</sub>Zn MW 464.01

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-032S	1 mL
NEAT	PLAS-PL-032N	50 mg

### Markstat® 51

poly(ethylene glycol) monolaurate



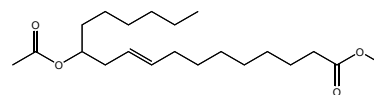
Chemtura Corporation

CAS 9004-81-3 MF (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>C<sub>12</sub>H<sub>24</sub>O<sub>2</sub> MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-003S	1 mL
NEAT	PLAS-PL-003N	50 mg

### Methyl O-Acetylricinoleate NEW

Methyl (Z)-12-acetyloxyoctadec-9-enoate

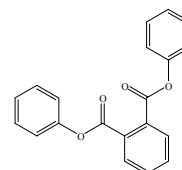


CAS 140-03-4 MF C<sub>21</sub>H<sub>38</sub>O<sub>4</sub> MW 354.52

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-063N	50 mg

### Morfex® 150

dicyclohexyl phthalate



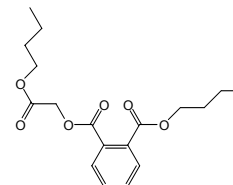
Morfex, Inc.

CAS 84-61-7 MF C<sub>20</sub>H<sub>26</sub>O<sub>4</sub> MW 330.46

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-014S	1 mL
NEAT	PLAS-PL-014N	50 mg

### Morfex® 190

butylphthalyl butyl glycolate



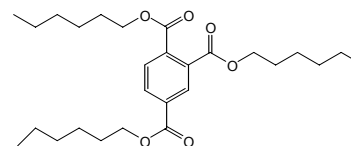
Morfex, Inc.

CAS 85-70-1 MF C<sub>18</sub>H<sub>24</sub>O<sub>6</sub> MW 336.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-008S	1 mL
NEAT	PLAS-PL-008N	50 mg

### Morfex® 560

tri-n-hexyl trimellitate



Morfex, Inc.

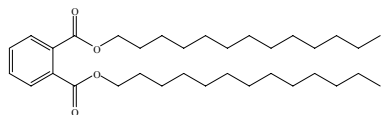
CAS 1528-49-0 MF C<sub>27</sub>H<sub>42</sub>O<sub>6</sub> MW 462.62

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-031S	1 mL
NEAT	PLAS-PL-031N	50 mg

## Plasticizers (continued)

### Morflex® x-1125

1,2-benzenedicarboxylic acid, ditridecyl ester



Morfex, Inc.

CAS 119-06-2 MF C<sub>34</sub>H<sub>58</sub>O<sub>4</sub> MW 530.83

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-033S	1 mL
NEAT	PLAS-PL-033N	50 mg

### Paraplex® G-30

proprietary dibasic acid polyester mixture

N/A

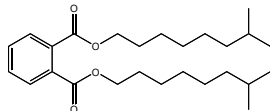
CPH Innovations

CAS MF MW

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-027S	1 mL
NEAT	PLAS-PL-027N	50 mg

### Plasthall® DNP plasticizer **NEW**

Diisononyl phthalate

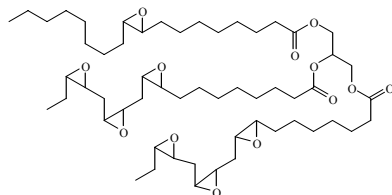


CAS 28553-12-0 MF C<sub>26</sub>H<sub>42</sub>O<sub>4</sub> MW 418.61

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-072N	50 mg

### Plasthall® ESO

epoxidized soybean oil



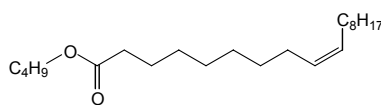
CPH Innovations

CAS 8013-07-8 MF N/A MW N/A

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-035N	50 mg

### Polycizer® butyl oleate

butyl oleate



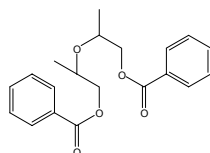
Harwick Chemical

CAS 142-77-8 MF C<sub>22</sub>H<sub>42</sub>O<sub>2</sub> MW 338.57

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-007S	1 mL
NEAT	PLAS-PL-007N	50 mg

### Polycizer® DP 500

Dipropylene glycol dibenzoate



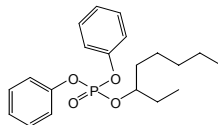
Harwick Chemical

CAS 27138-31-4 MF C<sub>20</sub>H<sub>22</sub>O<sub>5</sub> MW 342.39

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-011S	1 mL
NEAT	PLAS-PL-011N	50 mg

### Santicizer® 141

2-Ethylhexyldiphenyl phosphate



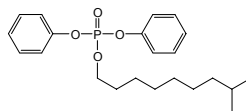
Solutia Inc.

CAS 1241-94-7 MF C<sub>20</sub>H<sub>27</sub>O<sub>4</sub>P MW 362.4

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-026S	1 mL
NEAT	PLAS-PL-026N	50 mg

### Santicizer® 148

Mixture: isodecyl diphenyl phosphate (80-90%) / diisodecyl phenyl phosphate / triphenyl phosphate



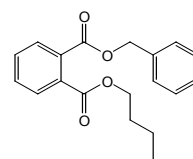
Solutia Inc.

CAS 29761-21-5 MF C<sub>22</sub>H<sub>31</sub>O<sub>4</sub>P MW 390.46

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-022S	1 mL
NEAT	PLAS-PL-022N	50 mg

### Santicizer® 160

benzyl butyl phthalate



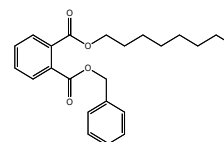
Solutia Inc.

CAS 85-68-7 MF C<sub>19</sub>H<sub>20</sub>O<sub>4</sub> MW 312.37

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-004S	1 mL
NEAT	PLAS-PL-004N	50 mg

### Santicizer® 261

benzyl octyl phthalate



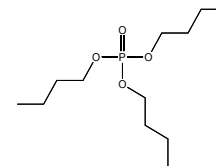
Solutia Inc.

CAS 68519-40-2 MF C<sub>23</sub>H<sub>28</sub>O<sub>4</sub> MW 368.47

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-005S	1 mL
NEAT	PLAS-PL-005N	50 mg

### Tributylphosphate **NEW**

Tributyl phosphate

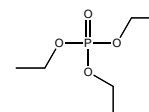


CAS 126-73-8 MF C<sub>12</sub>H<sub>27</sub>O<sub>4</sub>P MW 266.31

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-068N	50 mg

### Triethylphosphate **NEW**

Triethyl phosphate



CAS 78-40-0 MF C<sub>6</sub>H<sub>15</sub>O<sub>4</sub>P MW 182.15

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-067N	50 mg

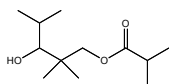


# Plastic Additive Standards

## Plasticizers (continued)

### 2,2,4-Trimethyl-1,3-pentanediol-isobutyrate **NEW**

(3-hydroxy-2,2,4-trimethylpentyl) 2-methylpropanoate

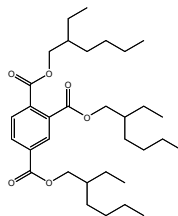


CAS 25265-77-4 MF C<sub>12</sub>H<sub>24</sub>O<sub>3</sub> MW 216.32

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-066N	50 mg

### Trimellitate **NEW**

1,2,4-Benzenetricarboxylic acid, tris(2-ethylhexyl) ester



CAS 3319-31-1 MF C<sub>33</sub>H<sub>54</sub>O<sub>6</sub> MW 546.78

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-060N	50 mg

### Vinsol® powder

N/A

Hercules Incorporated

CAS 8050-09-7

Matrix	Cat. No.	Unit
1000 µg/mL in CH <sub>2</sub> Cl <sub>2</sub>	PLAS-PL-037S-D	1 mL
NEAT	PLAS-PL-037N	50 mg

### Vinsol® resin

gum rosin

N/A

Hercules Incorporated

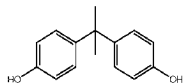
CAS 8050-09-7

Matrix	Cat. No.	Unit
1000 µg/mL in CH <sub>2</sub> Cl <sub>2</sub>	PLAS-PL-036S-D	1 mL
NEAT	PLAS-PL-036N	50 mg

## Bisphenol Analog Standards **NEW**

Bisphenols are endocrine disrupters that exhibit hormone-like properties. This raises concerns about their use in polycarbonate based household products as well as medical devices.

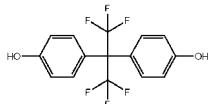
### Bisphenol A (BPA)



CAS 80-05-7 MF C<sub>15</sub>H<sub>16</sub>O<sub>2</sub> MW 228.29

Matrix	Cat. No.	Unit
NEAT	BPA-A-N	50 mg
10 mg/mL in MeOH	BPA-A-S	1 mL

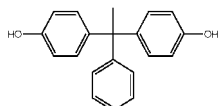
### Bisphenol AF



CAS 1478-61-1 MF C<sub>15</sub>H<sub>10</sub>F<sub>6</sub>O<sub>2</sub> MW 336.23

Matrix	Cat. No.	Unit
NEAT	BPA-AF-N	50 mg
10 mg/mL in MeOH	BPA-AF-S	1 mL

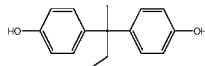
### Bisphenol AP



CAS 1571-75-1 MF C<sub>20</sub>H<sub>18</sub>O<sub>2</sub> MW 290.36

Matrix	Cat. No.	Unit
NEAT	BPA-AP-N	50 mg
10 mg/mL in MeOH	BPA-AP-S	1 mL

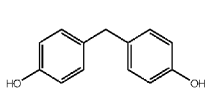
### Bisphenol B



CAS 77-40-7 MF C<sub>16</sub>H<sub>18</sub>O<sub>2</sub> MW 242.31

Matrix	Cat. No.	Unit
NEAT	BPA-B-N-10MG	10 mg
10 mg/mL in MeOH	BPA-B-S	1 mL

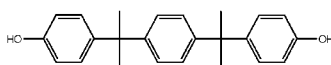
### Bisphenol F



CAS N/A MF C<sub>13</sub>H<sub>12</sub>O<sub>2</sub> MW 200.23

Matrix	Cat. No.	Unit
NEAT	BPA-F-N-10MG	10 mg
10 mg/mL in MeOH	BPA-F-S	1 mL

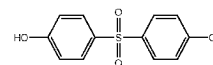
### Bisphenol P



CAS N/A MF C<sub>24</sub>H<sub>26</sub>O<sub>2</sub> MW 346.46

Matrix	Cat. No.	Unit
NEAT	BPA-P-N	50 mg
10 mg/mL in MeOH	BPA-P-S	1 mL

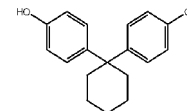
### Bisphenol S



CAS N/A MF C<sub>12</sub>H<sub>10</sub>O<sub>4</sub>S MW 250.27

Matrix	Cat. No.	Unit
NEAT	BPA-S-N	50 mg
10 mg/mL in MeOH	BPA-S-S	1 mL

### Bisphenol Z



CAS N/A MF C<sub>18</sub>H<sub>20</sub>O<sub>2</sub> MW 268.35

Matrix	Cat. No.	Unit
NEAT	BPA-Z-N	50 mg
10 mg/mL in MeOH	BPA-Z-S	1 mL

# Plastic Additive Standards

## Processing Aids

Processing aids are compounding materials that improve the processing of polymers by: creating better dispersion of dry materials, increasing extrusion rates, reducing powder consumption during mixing, promoting compound fusion, adding lubrication, improving knitting and creating a smoother surface on calendered and extruded products.

### Akrochem® Ceresin Wax **NEW**

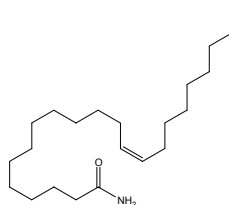
A complex combination of hydrocarbons produced by the purification of Ozocerite with Sulfuric acid and filtration through bone black to form waxy cakes

CAS 8001-75-0 MF N/A MW N/A

Matrix	Cat. No.	Unit
NEAT	PLAS-PA-002N	50 mg

### Kemamide® E ultra

Erucamide



Chemtura Corporation.

CAS 112-84-5 MF C<sub>22</sub>H<sub>43</sub>NO MW 337.58

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PA-001S	1 mL
NEAT	PLAS-PA-001N	50 mg

## Retarders

Retarders are used to delay the onset of crosslinking and can be used to allow for longer processing times. They are also used to reduce scorching.

### Akrochem® Retarder BAX **NEW**

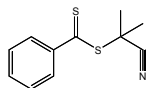
N/A

CAS 65-85-0 MF MW

Matrix	Cat. No.	Unit
NEAT	PLAS-RT-011N	50 mg

### 2-Cyano-2-propyl benzodithioate **NEW**

Benzenecarbodithioic acid, 1-cyano-1-methylethyl ester

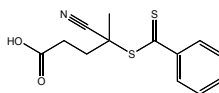


CAS 201611-85-0 MF C<sub>11</sub>H<sub>11</sub>NS<sub>2</sub> MW 221.34

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone(1:1)	PLAS-RT-002S	1 mL
NEAT	PLAS-RT-002N	50 mg

### 4-Cyano-4-(phenylcarbonothioylthio)pentanoic acid **NEW**

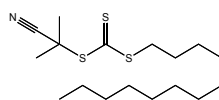
Pentanoic acid, 4-cyano-4-[(phenylthioxomethyl)thio]-



CAS 201611-92-9 MF C<sub>13</sub>H<sub>13</sub>NO<sub>2</sub>S<sub>2</sub> MW 279.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-003S	1 mL
NEAT	PLAS-RT-003N	50 mg

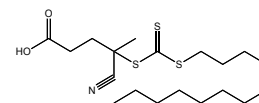
### 2-Cyano-2-propyl dodecyl trithiocarbonate **NEW**



CAS 870196-83-1 MF C<sub>17</sub>H<sub>31</sub>NS<sub>3</sub> MW 345.63

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-004S	1 mL
NEAT	PLAS-RT-004N	50 mg

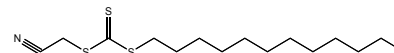
### 4-Cyano-4-[(dodecylsulfanylthiocarbonyl)sulfanyl]pentanoic acid **NEW**



CAS 870196-80-8 MF C<sub>19</sub>H<sub>33</sub>NO<sub>2</sub>S<sub>3</sub> MW 403.67

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-005S	1 mL
NEAT	PLAS-RT-005N	50 mg

### Cyanomethyl dodecyl trithiocarbonate **NEW**



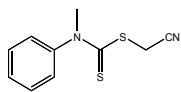
CAS 796045-97-1 MF C<sub>15</sub>H<sub>27</sub>NS<sub>3</sub> MW 317.58

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-006S	1 mL
NEAT	PLAS-RT-006N	50 mg

# Plastic Additive Standards

## Retarders (continued)

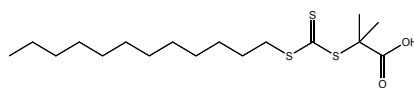
### Cyanomethyl methyl(phenyl)carbamo-dithioate **NEW**



CAS 76926-16-4 MF C<sub>10</sub>H<sub>10</sub>N<sub>2</sub>S<sub>2</sub> MW 222.33

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-009S	1 mL
NEAT	PLAS-RT-009N	50 mg

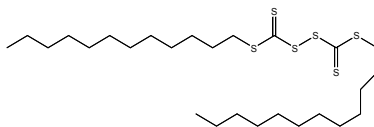
### 2-(Dodecylthiocarbonothioylthio)-2-methylpropionic acid **NEW**



CAS 461642-78-4 MF C<sub>17</sub>H<sub>32</sub>O<sub>2</sub>S<sub>3</sub> MW 364.63

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-010S	1 mL
NEAT	PLAS-RT-010N	50 mg

### Bis(dodecylsulfanylthiocarbonyl) disulfide **NEW**

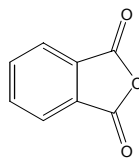


CAS 870532-86-8 MF C<sub>26</sub>H<sub>50</sub>S<sub>6</sub> MW 555.07

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-008S	1 mL
NEAT	PLAS-PL-008N	50 mg

### Retarder AK

phthalic anhydride

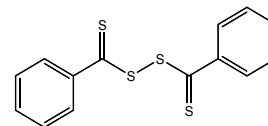


Akrochem Corporation.

CAS 85-44-9 MF C<sub>8</sub>H<sub>4</sub>O<sub>3</sub> MW 148.12

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone(60:40)	PLAS-RT-001S	1 mL
NEAT	PLAS-RT-001N	50 mg

### Bis(thiobenzoyl) disulfide **NEW**



CAS 5873-93-8 MF C<sub>14</sub>H<sub>10</sub>S<sub>4</sub> MW 306.49

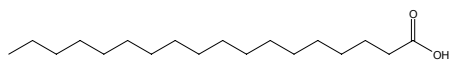
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-RT-007S	1 mL
NEAT	PLAS-RT-007N	50 mg

## Stearates

Stearic acid and the metallic salts of this acid are used for many different applications depending on the polymer system. Stearates can act as lubricants, acid scavengers, anti-tack compounds, vulcanization promoter/accelerator, or a mold release agent.

### Stearic Acid RG (rubber grade)

stearic acid



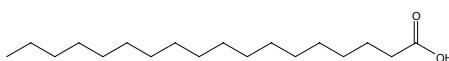
Akrochem Corporation.

CAS 57-11-4 MF C<sub>18</sub>H<sub>36</sub>O<sub>2</sub> MW 284.48

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-ST-001S	1 mL
NEAT	PLAS-ST-001N	50 mg

### Stearic Acid TP

stearic acid



Akrochem Corporation.

CAS 57-11-4 MF C<sub>18</sub>H<sub>36</sub>O<sub>2</sub> MW 284.48

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-ST-002S	1 mL
NEAT	PLAS-ST-002N	50 mg

### Property Key

CAS Chemical Abstract Service Number    MF Molecular Formula    MW Molecular Weight

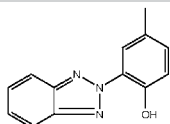
# Plastic Additive Standards

## UV Stabilizers

UV stabilizers, or light absorbers, act to protect the plastic against UV or sunlight damage such as discoloration, cracking, brittleness, or other loss of desirable physical properties.

Typical UV Stabilizers are benzophenones, hindered amines, and benzotriazole. Also used, but not as effective, are salicylate esters, cyanoacrylates and bezilidenes.

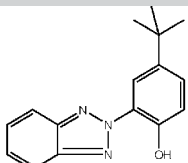
### 2-(2-Hydroxy-5-methylphenyl)benzotriazole **NEW**



CAS 2440-22-4 MF C<sub>13</sub>H<sub>11</sub>N<sub>3</sub>O MW 225.25

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-006S-CN	1 mL
NEAT	PLAS-UV-006N	50 mg

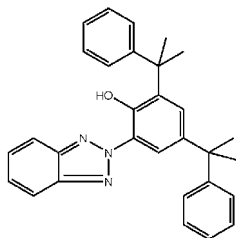
### 2-(5-tert-Butyl-2-hydroxyphenyl)benzotriazole **NEW**



CAS 3147-76-0 MF C<sub>16</sub>H<sub>17</sub>N<sub>3</sub>O MW 267.33

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-007S-CN	1 mL
NEAT	PLAS-UV-007N	50 mg

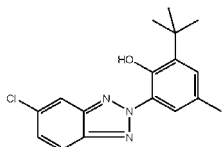
### 2-(2H-Benzotriazol-2-yl)-4,6-bis(1-methyl-1-phenylethyl)phenol **NEW**



CAS 70321-86-7 MF C<sub>30</sub>H<sub>29</sub>N<sub>3</sub>O MW 447.57

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-008S-CN	1 mL
NEAT	PLAS-UV-008N	50 mg

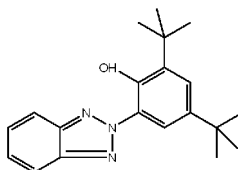
### 2-tert-Butyl-6(5-chloro-2H-benzotriazol-2-yl)-4-methylphenol **NEW**



CAS 3896-11-5 MF C<sub>17</sub>H<sub>18</sub>ClN<sub>3</sub>O MW 315.80

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-009S-CN	1 mL
NEAT	PLAS-UV-009N	50 mg

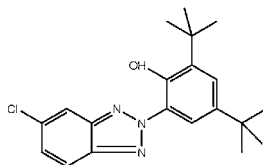
### 2-(3,5-Di-tert-butyl-2-hydroxyphenyl)2H-benzotriazole **NEW**



CAS 3846-71-7 MF C<sub>20</sub>H<sub>25</sub>N<sub>3</sub>O MW 323.43

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-010S-CN	1 mL
NEAT	PLAS-UV-010N	50 mg

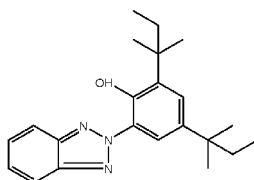
### 2,4-Di-tert-butyl-6-(5-chloro-2H-benzotriazol-2-yl)phenol **NEW**



CAS 3864-99-1 MF C<sub>20</sub>H<sub>24</sub>ClN<sub>3</sub>O MW 357.88

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-011S-CN	1 mL
NEAT	PLAS-UV-011N	50 mg

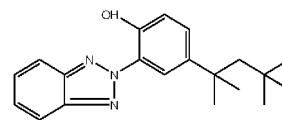
### 2-(2H-Benzotriazol-2-yl)-4,6-di-tert-pentylphenol **NEW**



CAS 25973-55-1 MF C<sub>22</sub>H<sub>29</sub>N<sub>3</sub>O MW 351.49

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-012S-CN	1 mL
NEAT	PLAS-UV-012N	50 mg

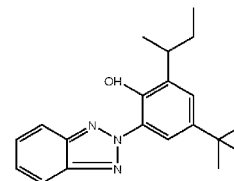
### 2-(2-Hydroxy-5-tert-octylphenyl)benzotriazole **NEW**



CAS 3147-75-9 MF C<sub>20</sub>H<sub>25</sub>N<sub>3</sub>O MW 323.43

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-013S-CN	1 mL
NEAT	PLAS-UV-013N	50 mg

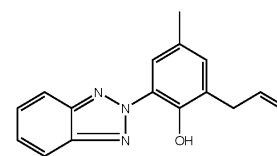
### 2-(3-sec-Butyl-5-tert-butyl-2-hydroxyphenyl)benzotriazole **NEW**



CAS 36437-37-3 MF C<sub>20</sub>H<sub>25</sub>N<sub>3</sub>O MW 323.43

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-014S-CN	1 mL
NEAT	PLAS-UV-014N	50 mg

### 2-(2H-Benzotriazol-2-yl)-4-methyl-6-(2-propenyl)phenol **NEW**



CAS 2170-39-0 MF C<sub>16</sub>H<sub>15</sub>N<sub>3</sub>O MW 265.31

Matrix	Cat. No.	Unit
1000 µg/mL in AcCN	PLAS-UV-015S-CN	1 mL
NEAT	PLAS-UV-015N	50 mg

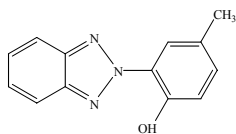
UV Stabilizer Set		10 x 1 mL
Solutions		
PLAS-UV-STAB-SET	PLAS-UV -006S-CN to 015S-CN	

# Plastic Additive Standards

## UV Stabilizers (continued)

### Tinuvin® PED

2-(2-Hydroxy-5-methylphenyl)benzotriazole



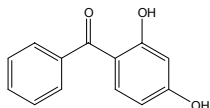
Ciba Specialty Chemicals

CAS 2440-22-4 MF C<sub>13</sub>H<sub>11</sub>N<sub>3</sub>O MW 225.27

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-UV-005S	1 mL
NEAT	PLAS-UV-005N	50 mg

### Uvinul® 3000

2,4-dihydroxybenzophenone



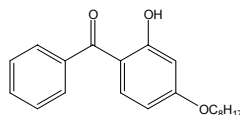
BASF Corporation

CAS 131-56-6 MF C<sub>13</sub>H<sub>10</sub>O<sub>3</sub> MW 214.22

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-UV-001S	1 mL
NEAT	PLAS-UV-001N	50 mg

### Uvinul® 3008

2-hydroxy-4-octyloxybenzophenone



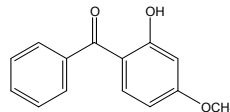
BASF Corporation

CAS 1843-05-6 MF C<sub>21</sub>H<sub>26</sub>O<sub>3</sub> MW 326.43

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-UV-002S	1 mL
NEAT	PLAS-UV-002N	50 mg

### Uvinul® 3040

2-hydroxy-4-methoxybenzophenone



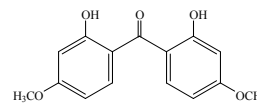
BASF Corporation

CAS 131-57-7 MF C<sub>14</sub>H<sub>12</sub>O<sub>3</sub> MW 228.26

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-UV-003S	1 mL
NEAT	PLAS-UV-003N	50 mg

### Uvinul® 3049

2,2-dihydroxy-4,4-dimethoxybenzophenone



BASF Corporation

CAS 131-54-4 MF C<sub>15</sub>H<sub>14</sub>O<sub>5</sub> MW 274

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-UV-004S	1 mL
NEAT	PLAS-UV-004N	50 mg

## Vegetable Oils

Vegetable oils, typically the epoxide or the ester of the parent oil, are used as plasticizers. They offer the advantage of not only providing flexibility in the final plastic, but also add heat and light stabilizing advantages without the requirements for additional additives. Vegetable oil plasticizers are generally less toxic than their petrochemical counterparts, this makes them very attractive for certain applications like food or toys.

Some of their disadvantages are that they may not mix properly at higher concentrations, may cause brittleness in some applications, and often are only suitable as secondary plasticizers.

### Akrofax™ A

vulcanized vegetable oil

N/A

Akrochem Corporation.

CAS MF MW

Matrix	Cat. No.	Unit
NEAT	PLAS-VA-001N	50 mg

### Akrofax™ B

vulcanized vegetable oil

N/A

Akrochem Corporation.

CAS MF MW

Matrix	Cat. No.	Unit
NEAT	PLAS-VA-002N	50 mg

# Plastic Additive Standards

## Dyes and Breakdown Products

Dyes and colorant products are one of the largest categories of plastic additives and are also used in textiles, leather goods, food and personal care products. They are used for both aesthetic purposes and to alter physical properties of the product, such as to repel light. Many dyes and their breakdown products have been determined to have both adverse health properties and adverse environmental properties, and as such, are being increasingly regulated. EU Directives 67/548/EEC and 2002/61/EC and 76/768/EEC are the most far-reaching regulations for this class of compounds.

### Dye Standards - EU Directive 67/548/EEC

#### Criterion #22 Regulated Dyes - Carcinogenic

Each in 100 µg/mL in MeOH	Cat. No.	Unit
Disperse Blue 1	DYE-001S	1 mL
Disperse Orange 11	DYE-002S	1 mL
Disperse Yellow 3	DYE-003S	1 mL
Basic Violet 14	DYE-012S	1 mL
Direct Black 38	DYE-013S	1 mL
Direct Blue 6	DYE-014S	1 mL

#### Criterion #23 Regulated Dye - Disperse dyes, Sensitizing

Each in 100 µg/mL in MeOH	Cat. No.	Unit
Disperse Blue 3	DYE-004S	1 mL
Disperse Orange 1	DYE-005S	1 mL
Disperse Orange 3	DYE-006S	1 mL
Disperse Red 1	DYE-007S	1 mL
Disperse Yellow 9	DYE-008S	1 mL
Disperse Blue 35	DYE-009S	1 mL
Disperse Blue 124	DYE-010S	1 mL
Disperse Orange 37	DYE-011S	1 mL
Disperse Blue 7	DYE-015S	1 mL
Disperse Blue 26	DYE-016S	1 mL
Disperse Blue 102	DYE-017S	1 mL
Disperse Red 11	DYE-018S	1 mL
Disperse Red 17	DYE-019S	1 mL

### Aryl Amine Breakdown Products in Azo Dyes - EU Directive 2002/61/EC

#### Individual Aryl Amine Standards

Analyte	100 µg/mL in AcCN in 1 mL	1000 µg/mL in AcCN in 1 mL	10 µg/mL in Ethyl acetate in 10 mL
o-Aminoazotoluene (01)	RAC-01	RAC-01-10X	RAC-01-EA-0.1X-10ML
4-Aminobiphenyl (02)	RAC-02	RAC-02-10X	RAC-02-EA-0.1X-10ML
2-Amino-4-nitrotoluene (03)	RAC-03	RAC-03-10X	RAC-03-EA-0.1X-10ML
Benzidine (04)	RAC-04	RAC-04-10X	RAC-04-EA-0.1X-10ML
4-Chloroaniline (05)	RAC-05	RAC-05-10X	RAC-05-EA-0.1X-10ML
4-Chloro-o-toluidine (06)	RAC-06	RAC-06-10X	RAC-06-EA-0.1X-10ML
p-Cresidine (07)	RAC-07	RAC-07-10X	RAC-07-EA-0.1X-10ML
2,4-Diaminoanisole* (08)	RAC-08	RAC-08-10X	RAC-08-EA-0.1X-10ML
4,4'-Diaminodiphenylmethane (09)	RAC-09	RAC-09-10X	RAC-09-EA-0.1X-10ML
2,4-Diaminotoluene (10)	RAC-10	RAC-10-10X	RAC-10-EA-0.1X-10ML
3,3'-Dichlorobenzidine (11)	RAC-11	RAC-11-10X	RAC-11-EA-0.1X-10ML
3,3'-Dimethoxybenzidine (12)	RAC-12	RAC-12-10X	RAC-12-EA-0.1X-10ML
3,3'-Dimethylbenzidine (13)	RAC-13	RAC-13-10X	RAC-13-EA-0.1X-10ML
3,3'-Dimethyl-4,4'-diaminodiphenylmethane (14)	RAC-14	RAC-14-10X	RAC-14-EA-0.1X-10ML
4,4'-Methylenebis(2-chloroaniline) (15)	RAC-15	RAC-15-10X	RAC-15-EA-0.1X-10ML
2-Naphthylamine (16)	RAC-16	RAC-16-10X	RAC-16-EA-0.1X-10ML
4,4'-Oxydianiline (17)	RAC-17	RAC-17-10X	RAC-17-EA-0.1X-10ML
4,4'-Thiodianiline (18)	RAC-18	RAC-18-10X	RAC-18-EA-0.1X-10ML
o-Toluidine (19)	RAC-19	RAC-19-10X	RAC-19-EA-0.1X-10ML
2,4,5-Trimethylaniline (20)	RAC-20	RAC-20-10X	RAC-20-EA-0.1X-10ML
p-Aminoazobenzene (21)	RAC-21	RAC-21-10X	RAC-21-EA-0.1X-10ML
2-Aminobiphenyl (22)	RAC-22	RAC-22-10X	RAC-22-EA-0.1X-10ML
o-Anisidine (23)	RAC-23	RAC-23-10X	RAC-23-EA-0.1X-10ML
3-Chloro-o-toluidine (24)	RAC-24	RAC-24-10X	RAC-24-EA-0.1X-10ML

#### RAC-R1-SET

100 µg/mL

24 x 1 mL (Set includes the above ampules) In Acetonitrile

\* In the form of the Sulfate hydrate 171 µg/mL in Pyridine (100 µg/mL as the base)

#### RAC-R1-10X-SET

1000 µg/mL in AcCN

24 x 1 mL (Set includes the above ampules) In Acetonitrile

\* In the form of the Sulfate hydrate 1,710 µg/mL in Pyridine (1000 µg/mL as the base)

#### Carcinogenic Aryl Amine Mix

##### AE-00049-R1

10 µg/mL in Ethyl acetate

1 x 1 mL

23 comps.

##### AE-00049-SET

Contains AE-00049-R1 (23 comps. Mix) plus

RAC-08 (2,4-Diaminoanisole) listed on the left

##### AE-00049-R1-10ML

10 µg/mL in Ethyl acetate

1 x 10 mL

23 comps.

o-Aminoazotoluene (01)
4-Aminobiphenyl (02)
2-Amino-4-nitrotoluene (03)
Benzidine (04)
4-Chloroaniline (05)
4-Chloro-o-toluidine (06)
p-Cresidine (07)
4,4'-Diaminodiphenylmethane (09)
2,4-Diaminotoluene (10)
3,3'-Dichlorobenzidine (11)
3,3'-Dimethoxybenzidine (12)
3,3'-Dimethylbenzidine (13)
3,3'-Dimethyl-4,4'-diaminodiphenylmethane (14)
4,4'-Methylenebis(2-chloroaniline) (15)
2-Naphthylamine (16)
4,4'-Oxydianiline (17)
4,4'-Thiodianiline (18)
o-Toluidine (19)
2,4,5-Trimethylaniline (20)
p-Aminoazobenzene (21)
2-Aminobiphenyl (22)
o-Anisidine (23)
3-Chloro-o-toluidine (24)

#### Internal Standards

##### RAC-IS

1000 µg/mL in AcCN

1 x 1 mL

##### RAC-IS-EA

1000 µg/mL in Ethyl acetate

1 x 1 mL

3,3',5,5'-Tetramethylbenzidine

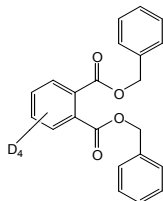
## Deuterated Phthalates

These deuterated compounds can be used as internal standards for method development for determining phthalates in environmental or other types of samples.

**Deuterated Phthalate Solution Set** PHTH-D4S-SET 11 x 1 mL  
**Deuterated Phthalate Neat Set** PHTH-D4N-SET 11 x 5 mg

**Set include 11 Deuterated Phthalates listed below and next page.**  
**Other compounds are available. Contact our Technical Service Department if you require additional deuterated or other labeled compounds.**

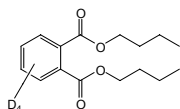
### Dibenzylphthalate-d<sub>4</sub>



**CAS** MF C<sub>6</sub>D<sub>4</sub>(COOCH<sub>2</sub>C<sub>6</sub>H<sub>5</sub>)<sub>2</sub> MW 350.41

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-001S	1 mL
NEAT	PHTH-D4-001N	5 mg

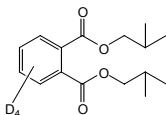
### Di-n-butyl phthalate-d<sub>4</sub>



**CAS** 93952-11-5 MF C<sub>6</sub>D<sub>4</sub>(COOCH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub> MW 282.37

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-002S	1 mL
NEAT	PHTH-D4-002N	5 mg

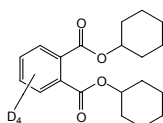
### Di-iso-butyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 358730-88-8 MF C<sub>6</sub>D<sub>4</sub>[COOCH<sub>2</sub>CH(CH<sub>3</sub>)<sub>2</sub>]<sub>2</sub> MW 326.43

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-003S	1 mL
Neat	PHTH-D4-003N	5 mg

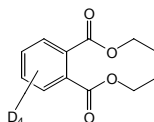
### Diethyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 358731-25-6 MF C<sub>6</sub>D<sub>4</sub>(COOC<sub>2</sub>H<sub>5</sub>)<sub>2</sub> MW 334.45

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-004S	1 mL
NEAT	PHTH-D4-004N	5 mg

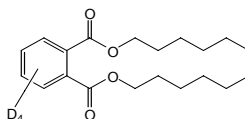
### Diethyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 93952-12-6 MF C<sub>6</sub>D<sub>4</sub>(COOCH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub> MW 226.26

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-005S	1 mL
NEAT	PHTH-D4-005N	5 mg

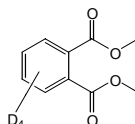
### Di-n-hexyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** N/A MF C<sub>6</sub>D<sub>4</sub>[COO(CH<sub>2</sub>)<sub>5</sub>CH<sub>3</sub>]<sub>2</sub> MW 338.48

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-006S	1 mL
NEAT	PHTH-D4-006N	5 mg

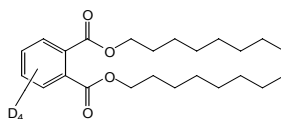
### Di-n-hexyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 93951-89-4 MF C<sub>6</sub>D<sub>4</sub>(COOCH<sub>3</sub>)<sub>2</sub> MW 198.21

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-007S	1 mL
NEAT	PHTH-D4-007N	5 mg

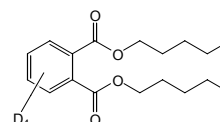
### Di-n-octyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 93952-13-7 MF C<sub>6</sub>D<sub>4</sub>[COO(CH<sub>2</sub>)<sub>7</sub>CH<sub>3</sub>]<sub>2</sub> MW 394.59

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-008S	1 mL
NEAT	PHTH-D4-008N	5 mg

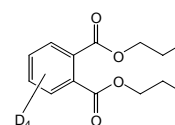
### Di-n-pentyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 358730-89-9 MF C<sub>6</sub>D<sub>4</sub>[COO(CH<sub>2</sub>)<sub>4</sub>CH<sub>3</sub>]<sub>2</sub> MW 310.43

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-009S	1 mL
NEAT	PHTH-D4-009N	5 mg

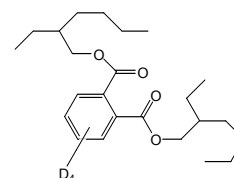
### Di-n-propyl phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 358731-29-0 MF C<sub>6</sub>D<sub>4</sub>(COOCH<sub>2</sub>CH<sub>2</sub>CH<sub>3</sub>)<sub>2</sub> MW 254.32

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-010S	1 mL
NEAT	PHTH-D4-010N	5 mg

### Bis(2-ethylhexyl) phthalate-3,4,5,6-d<sub>4</sub>



**CAS** 93951-87-2 MF D<sub>4</sub>[COOCH<sub>2</sub>CH(CH<sub>2</sub>CH<sub>3</sub>)(CH<sub>2</sub>)<sub>3</sub>CH<sub>3</sub>]<sub>2</sub> MW 394.59

Matrix	Cat. No.	Unit
1000 µg/mL in MeOH	PHTH-D4-011S	1 mL
NEAT	PHTH-D4-011N	5 mg

#### Property Key

**CAS** Chemical Abstract Service Number    **MF** Molecular Formula  
**MW** Molecular Weight

# Plastic Additive Index

- A**
- Accelerator BBTS 1
  - Accelerator CBTS 1
  - Accelerator EZ & EZ-SP 1
  - Accelerator MBT, MBT/MG 1
  - Activator OT Urea 1
  - Akrochem Antiox 12 2
  - Akrochem® Ceresin Wax 22
  - Akrochem® NIBUD 11
  - Akrochem® Retarder BAX 22
  - Akrofax™ A 25
  - Akrofax™ B 25
  - Akroform ETU-22 PM 1
  - Akrowax™ 195 11
  - Alkanox® P27 3
  - Alkanox® TNPP 3
  - Alox® PP18 3
  - Antioxidant 60 3
  - Antioxidant S 3
  - Aroclor® 1016 14
  - Aroclor® 1221 14
  - Aroclor® 1232 14
  - Aroclor® 1242 14
  - Aroclor® 1248 15
  - Aroclor® 1254 15
  - Aroclor® 1260 15
  - Aroclor® 1262 15
  - Aroclor® 1268 15
  - Aroclor® 5432 15
  - Aroclor® 5442 15
  - Aroclor® 5460 15
  - Aroclor® 6050 15
- B**
- Benzoflex® 2-45 17
  - Bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate 10
  - Bis(2-ethylhexyl) phthalate-3,4,5,6-d4 27
  - Bis(2-Ethylhexyl) terephthalate 18
  - Bis(dodecylsulfanylthiocarbonyl) disulfide 23
  - Bisphenol A (BPA) 17, 21
  - Bisphenol AF 21
  - Bisphenol AP 21
  - Bisphenol B 21
  - Bisphenol F 21
  - Bisphenol P 21
  - Bisphenol S 21
  - Bisphenol Z 21
  - Bis(thiobenzoyl) disulfide 23
  - BLS® 234 3
  - BLS® 292 3
  - BLS® 1622 3
  - BLS® 1944 4
  - BNX 1077 4
  - BNX 1225 4
- C**
- Celogen® AZ 12
  - Celogen® RA 12
  - Celogen® SD-125 17
  - Citroflex 2 17
  - Citroflex 4 17
  - Citroflex A-2 17
  - Citroflex A-4 17
  - Citroflex B-6 17
  - CPW-100 12
- Cresyl diphenyl phosphate 17**
- Cure-Rite® IBT 1
  - Cyanomethyl dodecyl trithiocarbonate 22
  - Cyanomethyl methyl(phenyl)carbomodithioate 23
  - Cyanox® 425 4
  - Cyanox® 1212 4
  - Cyanox® 1790 4
  - Cyanox® 2246 4
  - Cyanox® LTDP 5
  - Cyanox® STDP 5
- D**
- Decabromodiphenyl ether 15
  - Dibenzylhydroxylamine 5
  - Dibenzylphthalate-d4 27
  - Dibutyl phthalate 18
  - Dibutyl sebacate 18
  - Diethyl 3,5-Di-tert-butyl-4-hydroxybenzylphosphonate 5
  - Diethyl phthalate-3,4,5,6-d4 27
  - Di-iso-butyl phthalate-3,4,5,6-d4 27
  - Diisooctyl phthalate 18
  - Dimethyl adipate 18
  - Dimethyl sebacate 18
  - Di-n-butyl phthalate-d4 27
  - Di-n-hexyl phthalate-3,4,5,6-d4 27
  - Di-n-octyl phthalate-3,4,5,6-d4 27
  - Di-n-pentyl phthalate-3,4,5,6-d4 27
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  - Dioctyl phthalate 18
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  - Disflamoll TP 18
  - Distyryl biphenyl 5
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  - Ethanox® 323 6
  - Ethanox® 330 6
  - Ethanox® 376 6
  - Ethanox® 702 6
  - Ethanox® 703 6
  - Ethaphos® 368 6
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  - Halowax 1051 16
  - Halowax 1099 16
  - Hercoflex® 900 18
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  - Irganox® 259 7
  - Irganox® 565 7
  - Irganox® 1035 7
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  - Jayflex® DIDP 19
  - Jayflex® DINP 19
  - Jayflex® DTDP 19
  - Jayflex® L11P-E 19
  - Jayflex® TINTM 19
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  - Lowinox® CPL 8
  - Lowinox® TBM-6 8
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  - Markstat® 60 8
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  - Morflex® 150 19
  - Morflex® 190 19
  - Morflex® 560 19
  - Morflex® x-1125 20
  - m-Terphenyl 16
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- Naugard® 412S 8
  - Naugard® 445 8
  - Naugard® 635 8
  - Naugard® 956 9
  - Naugard® A 9
  - Naugard® B-25 9
  - Naugard® BHT 9
  - Naugard® HM-22 9
  - Naugard® J 9
  - Naugard® NBC 9
  - Naugard® PANA 9
  - Naugard® PHR 9
  - Naugard® PS-30 9
  - Naugard® PS-35 9
  - Naugard® Q Extra 9
  - Naugard® RM-51 10
  - Naugard® Super Q 10
  - Naugard® XL-1 10
  - N,N'-Dibutylthiourea 5
  - N,N'-Diethylthiourea 5
- O**
- O,O'-Diocetadecylpentaerythritol 5
  - o-Terphenyl 16
- Irganox® 1081 7**
- Irganox® 1098 7
  - Irganox® 1425 WL 7
  - Irganox® 3125 7
  - Irganox® 3144 FF 7
  - Irganox® E 201 8
  - Irganox® MD 1024 8
  - Isonox® 132 8
  - Isonox® 232 8



# Plastic Additive Index

P	Numbers
Paraplex® G-30	20
Perkacit® DPG	13
Perkacit® MBT	13
Perkacit® MBTS	13
Perkacit® NDBC	13
Perkacit® ZDEC	13
Plasthall® DINP plasticizer	20
Plasthall® ESO	20
Polycizer® butyl oleate	20
Polycizer® DP 500	20
Propyl gallate	10
p-Terphenyl	16
<b>R</b>	
Resimene® 3520	13
Retarder AK	23
<b>S</b>	
Santicizer® 141	20
Santicizer® 148	20
Santicizer® 160	20
Santicizer® 261	20
Santicizer® 278	10
Santoflex® 6PPD	2
Santoflex® 77PD	2
Saytex® 8010	16
SF100	2
Silquest® A-137	12
Silquest® A-187	12
Silquest® A-1100	12
Silquest® A-1102	12
Silquest® A-1289	12
Silquest® A-2171	12
Stearic Acid RG (rubber grade)	23
Stearic Acid TP	23
<b>T</b>	
Tetradecachloro-m-terphenyl	16
Tetradecachloro-o-terphenyl	16
Tetradecachloro-p-terphenyl	16
Tinuvin® PED	25
Tributylphosphate	20
Triethylphosphate	20
Trimellitate	21
<b>U</b>	
Ultranox® 626	10
Uvinul® 3000	25
Uvinul® 3008	25
Uvinul® 3040	25
Uvinul® 3049	25
<b>V</b>	
Vinsol® powder	21
Vinsol® resin	21

# Notes

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