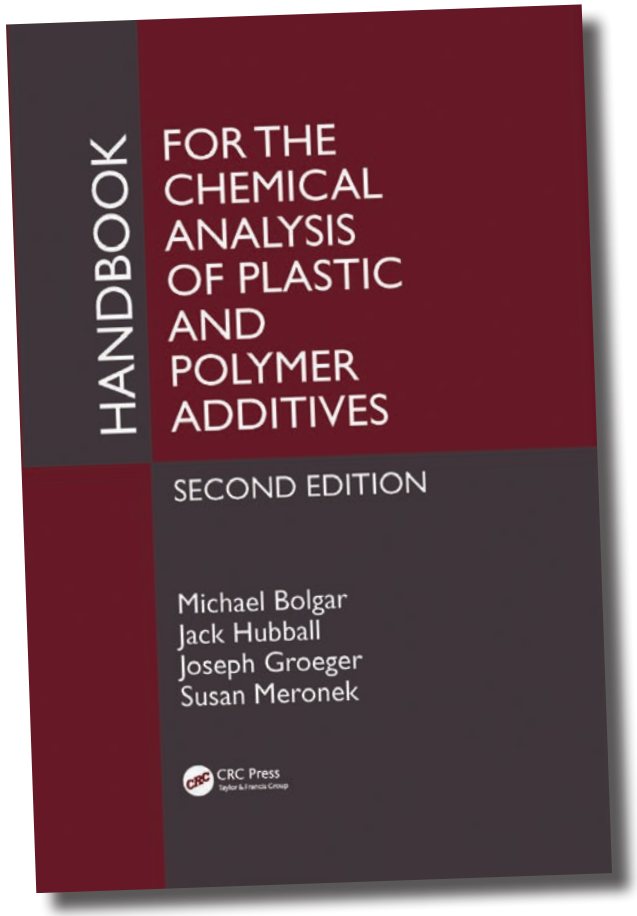
Plastic Additive Standards Guide

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 more!

Order: BOOK-PLAS-002

Handbook for the Chemical Analysis of Plastic and Polymer Additives, 2nd Ed.

The Second Edition of this handbook provides the necessary tools for chemists to obtain a more complete listing of additives present in a particular polymeric matrix. This edition features:

- Updated material to include the most recent additives available
- Contains actual analytical data for each chemical along with the description and methods used for obtaining the results
- Highlights the toxicological and environmental impact of each product
- Summarizes regulatory and health information in a convenient "one-step" format

With 50 additional compounds, this 2nd edition nearly doubles the number of additives in several categories including processing aids, anti-static compounds, mold release products and blowing agents. It includes a listing that can be cross-referenced by trade name, chemical name, CAS number and even key mass unit ions from the GC/MS run. Also included are new case studies related to "real-world" issues.

Plastic Additives

Table of Contents

Introduction	
Accelerants	1
Antifoams	2
Antidegradants	2
Antioxidants	3-10
Antiozonates	11
Blowing Agents	12
Coupling Agents	12
Cross Linking Agents	13
Flame Retardants	14-16
Plasticizers	17-24
Processing Aids	25
Retarders	25-26
Stearates	26
UV Stabilizers	27-28
Vegetable Oils	28
Plastic Packaging Testing	29
Bisphenol Analogs	30-31
Phthalates	33-35
Isophthalates	36
Terephthalates	36
Monophthalates	36-37
Deuterated Phthalates	38
Phthalates - Industrial	39
Phthalate Replacements	40
Phthalate EPA Methods	41
Dyes and Breakdown Products	41
Index	

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 and 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” (2nd edition published in 2016 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 506, 606 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

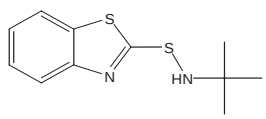
Plastic Additives

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

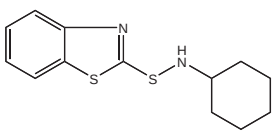


CAS 95-31-8 **MF** $C_{11}H_{14}N_2S_2$ **MW** 238.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 90:10	PLAS-AC-003S	1 mL
NEAT	PLAS-AC-003N	50 mg

Accelerator CBTS

N-Cyclohexyl-2-benzothioazole sulfenamide

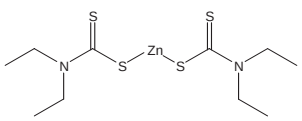


CAS 95-33-0 **MF** $C_{13}H_{16}N_2S_2$ **MW** 264.41

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

Accelerator EZ & EZ-SP

Zinc diethyldithiocarbamate

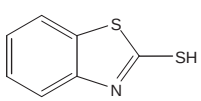


CAS 14324-55-1 **MF** $C_{10}H_{20}N_2S_4 \bullet Zn$ **MW** 361.93

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 90:10	PLAS-AC-006S	1 mL
NEAT	PLAS-AC-006N	50 mg

Accelerator MBT, MBT/MG

2-Mercaptobenzothiazole

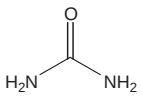


CAS 149-30-4 **MF** $C_7H_5S_2N$ **MW** 167.25

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 90:10	PLAS-AC-001S	1 mL
NEAT	PLAS-AC-001N	50 mg

Activator OT Urea

Urea

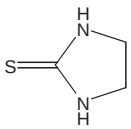


CAS 57-13-6 **MF** CH_4N_2O **MW** 60.07

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

Akroform ETU-22 PM

Ethylene thiourea

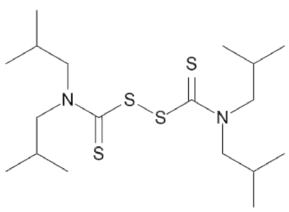


CAS 96-45-7 **MF** $C_3H_6N_2S$ **MW** 102.11

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 70:30	PLAS-AC-002S	1 mL
NEAT	PLAS-AC-002N	50 mg

Cure-Rite® IBT

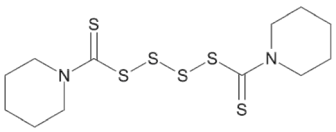
Tetraisobutylthiuram disulfide



CAS 3064-73-1 **MF** $C_{18}H_{36}N_2S_4$ **MW** 408.76

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

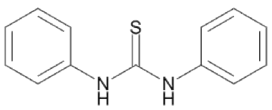
Dipentamethylenethiuram tetrasulfide



CAS 120-54-7 **MF** $C_{12}H_{20}N_2S_6$ **MW** 384.69

Matrix	Cat. No.	Unit
NEAT	PLAS-AC-009N	50 mg

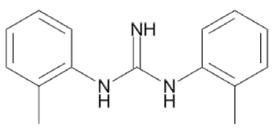
1,3-Diphenyl-2-thiourea



CAS 102-08-9 **MF** $C_{13}H_{12}N_2S$ **MW** 228.31

Matrix	Cat. No.	Unit
NEAT	PLAS-AC-008N	50 mg

1,3-Di-o-tolylguanidine



CAS 97-39-2 **MF** $C_{15}H_{17}N_3$ **MW** 239.32

Matrix	Cat. No.	Unit
NEAT	PLAS-AC-010N	50 mg

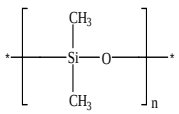
Plastic Additives

Antifoams

Antifoaming agents (sometimes called defoamers) act to stop foaming during processing and typically work by reducing surface tension breaking up the foam. Foaming can cause both processing problems as well as weak spots in the final product.

SF100

Dimethyl silicone fluid



CAS 9016-00-6 **MF** $(C_2H_6OSi)_n$ **MW** N/A

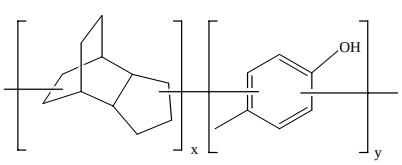
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AF-001S	1 mL
NEAT	PLAS-AF-001N	50 mg

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 dicyclo-pentadiene

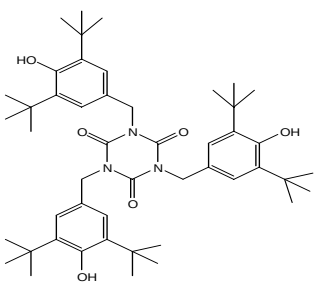


CAS 68610-51-5 **MF** $[C_{11}H_{20}OH \bullet C_{12}H_{23}OH]_nC_4H_9$ **MW** 600-800

Matrix	Cat. No.	Unit
1000 µg/mL in HexaneAcetone 80:20	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

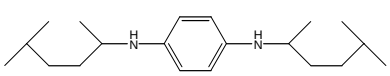


CAS 27676-62-6 **MF** $C_{48}H_{69}N_3O_6$ **MW** 784.08

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



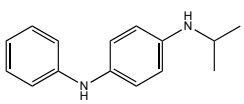
Flexsys

CAS 3081-14-9 **MF** $C_{20}H_{36}N_2$ **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-Isopropyl-N'-phenyl-p-phenylenediamine

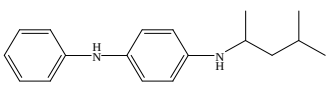


CAS 101-72-4 **MF** $C_{15}H_{18}N_2$ **MW** 226.32

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	PLAS-AD-003S	1 mL
NEAT	PLAS-AD-003N	50 mg

Santoflex® 6PPD

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



CAS 793-24-8 **MF** $C_{18}H_{24}N_2$ **MW** 268.40

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

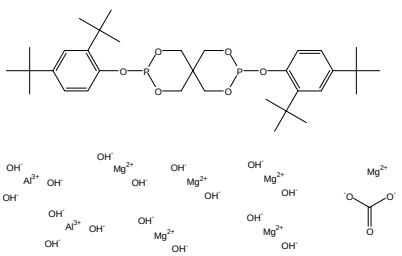
Plastic Additives

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

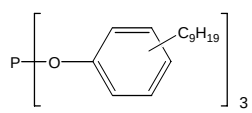


CAS 26741-53-7 / 11097-59-9 **MF** $C_{33}H_{50}O_6P_2 \bullet H_{16}Al_2Mg_6O_{19}$ **MW** N/A

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

Alkanox® TNPP

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

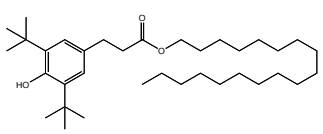


CAS 26523-78-4 **MF** $C_{45}H_{69}O_3P$ **MW** 689

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

Anox® PP18

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

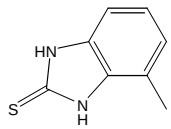


CAS 2082-79-3 **MF** $C_{35}H_{62}O_3$ **MW** 530.86

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

Antioxidant 60

Methyl-2-mercaptobenzimidazole

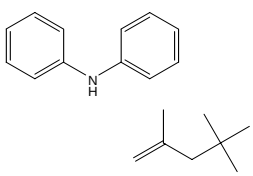


CAS 53988-10-6 **MF** $C_8H_8N_2S$ **MW** 164.23

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

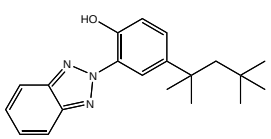


CAS 68411-46-1 **MF** $C_{12}H_{11}N \bullet C_8H_{16}$ **MW** 393.66

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-(1,1,3,3-tetramethylbutyl)phenol

2-(2-Hydroxy-5-tert-octyphenyl)benzotriazole

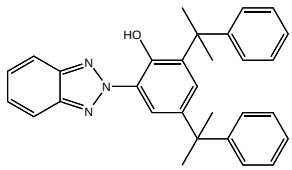


CAS 3147-75-9 **MF** $C_{20}H_{25}N_3O$ **MW** 323.43

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

BLS® 234

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

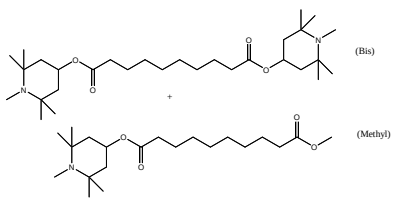


CAS 70321-86-7 **MF** $C_{30}H_{29}N_3O$ **MW** 447.57

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

BLS® 292

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

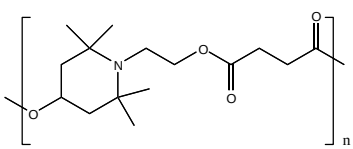


CAS 41556-26-7 / 8219-37-7 **MF** $C_{30}H_{56}N_2O_4$/ $C_{21}H_{39}NO_4$ **MW** 508.78/369.54

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

BLS® 1622

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



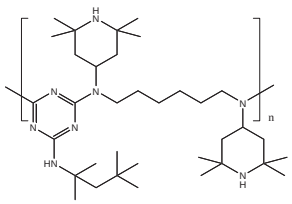
CAS 65447-77-0 **MF** $(C_{15}H_{25}NO_4)_n$ **MW** $(283.35)_n$

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

Antioxidants

BLS® 1944

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

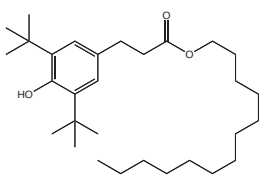


CAS 70624-18-9 **MF** $(C_{35}H_{66}N_8)_n$ **MW** $(599.09)_n$

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

BNX 1077

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

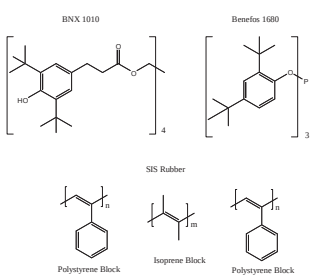


CAS 847488-62-4 **MF** $C_{30}H_{52}O_3$ **MW** 460.73

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

BNX 1225TPR

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

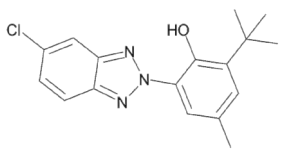


CAS 6683-19-8 / 31570-04-4 / 25038-32-8 **MF** N/A **MW** N/A

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

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

2-(2-Hydroxy-3-tert-butyl-5-methylphenyl)-5-chloro-benzotriazole

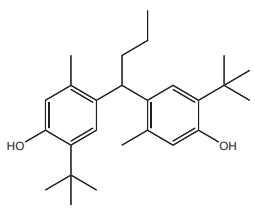


CAS 3896-11-5 **MF** $C_{17}H_{18}ClN_3O$ **MW** 315.80

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

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

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

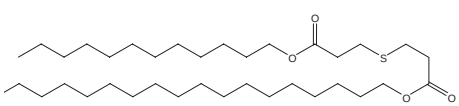


CAS 85-60-9 **MF** $C_{26}H_{38}O_2$ **MW** 382.58

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

Cyanox® 1212

Lauryl stearyl thiopropionate

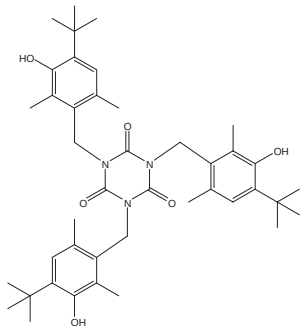


CAS 13103-52-1 **MF** $C_{36}H_{70}O_4S$ **MW** 599.00

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

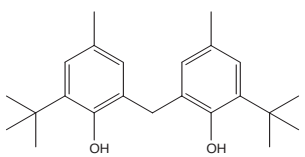


CAS 40601-76-1 **MF** $C_{42}H_{57}N_3O_6$ **MW** 699.92

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 90:10	PLAS-AX-005S	1 mL
NEAT	PLAS-AX-005N	50 mg

Cyanox® 2246

2,2'-Methylene-bis(4-methyl-6-tert-butylphenol)

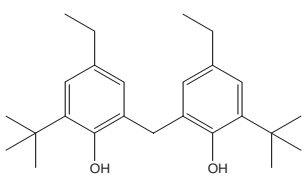


CAS 119-47-1 **MF** $C_{23}H_{32}O_2$ **MW** 340.55

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-butylphenol)



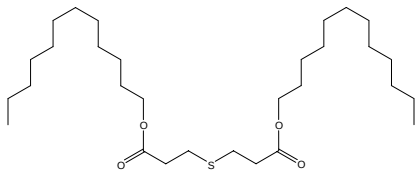
CAS 88-24-4 **MF** $C_{25}H_{36}O_2$ **MW** 368.55

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

Antioxidants

Cyanox® LTDP

Dilauryl thiodipropionate

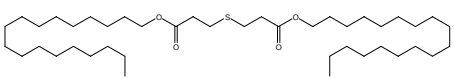


CAS 123-28-4 **MF** $C_{30}H_{58}O_4S$ **MW** 514.85

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

Cyanox® STDP

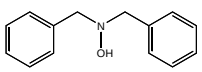
Distearyl thiodipropionate



CAS 693-36-7 **MF** $C_{42}H_{82}O_4S$ **MW** 683.3

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

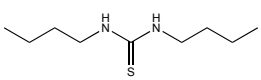
Dibenzylhydroxylamine



CAS 621-07-8 **MF** $C_{14}H_{15}NO$ **MW** 213.28

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

N,N'-Dibutylthiourea

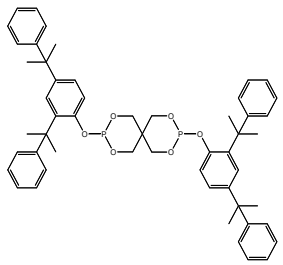


CAS 109-46-6 **MF** $C_9H_{20}N_2S$ **MW** 188.33

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

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

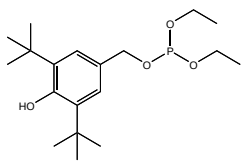


CAS 154862-43-8 **MF** $C_{53}H_{58}O_6P_2$ **MW** 852.97

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

Diethyl 3,5-di-tert-butyl-4-hydroxybenzylphosphonate

2,6-di-tert-Butyl-4-(diethoxyphosphorylmethyl)phenol

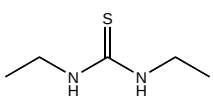


CAS 976-56-7 **MF** $C_{19}H_{33}O_4P$ **MW** 356.44

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

N,N'-Diethylthiourea

1,3-Diethyl-2-thiourea

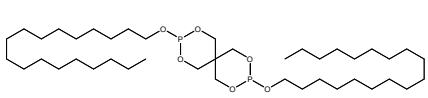


CAS 105-55-5 **MF** $C_5H_{12}N_2S$ **MW** 132.23

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

Distearyl pentaerythritol bisphosphite

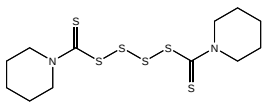


CAS 3806-34-6 **MF** $C_{41}H_{82}O_6P_2$ **MW** 733.03

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

Dipentamethylenethiuram tetrasulfide

Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-

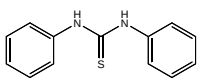


CAS 120-54-7 **MF** $C_{12}H_{20}N_2S_6$ **MW** 384.70

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

1,3-Diphenyl-2-thiourea

1,3-Diphenylthiourea

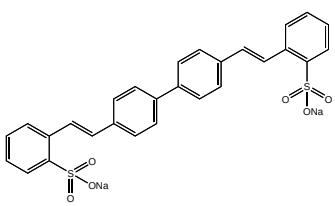


CAS 102-08-9 **MF** $C_{13}H_{12}N_2S$ **MW** 228.31

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

Distyryl biphenyl

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

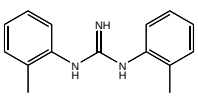


CAS 27344-41-8 **MF** $C_{28}H_{20}Na_2O_6S_2$ **MW** 562.57

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

1,3-Di-o-tolylguanidine

1,2-bis(2-Methylphenyl)guanidine

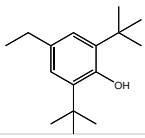


CAS 97-39-2 **MF** $C_{15}H_{17}N_3$ **MW** 239.32

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

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

2,6-bis(1,1-Dimethylethyl)-4-ethylphenol



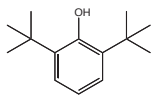
CAS 4130-42-1 **MF** $C_{16}H_{26}O$ **MW** 234.38

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

Antioxidants

2,6-Di-tert-butylphenol

2,6-Di-tert-butylphenol

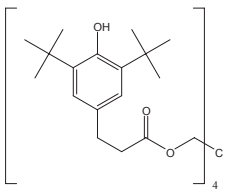


CAS 128-39-2 **MF** $C_{14}H_{22}O$ **MW** 206.32

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

Ethanox® 310

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

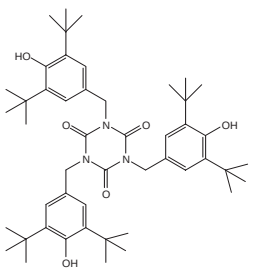


CAS 6683-19-8 **MF** $C_{73}H_{108}O_{12}$ **MW** 1177.65

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

Ethanox® 314

tris(3,5-Di-tert-butyl-4-hydroxybenzyl)isocyanurate

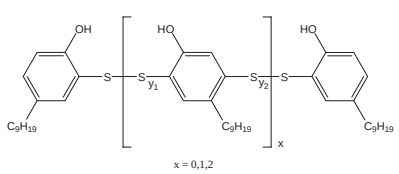


CAS 27676-62-6 **MF** $C_{48}H_{69}N_3O_6$ **MW** 784.08

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

Ethanox® 323

Nonylphenol disulfide oligomer



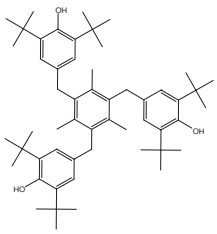
x = 0,1,2
y_1 , y_2 = 0,1,2,3

CAS **MF** **MW**

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

Ethanox® 330

1,3,5-Trimethyl-2,4,6-tris(3,5-di-tert-butyl-4-hydroxybenzyl) benzene

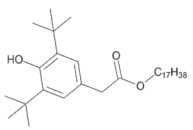


CAS 1709-70-2 **MF** $C_{54}H_{78}O_3$ **MW** 775.32

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

Ethanox® 376

Octadecyl 3,5-di-tert-butyl-4-hydroxyhydrocinnamate

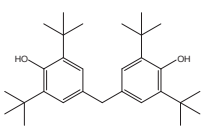


CAS 2082-79-3 **MF** $C_{35}H_{62}O_3$ **MW** 530.87

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

Ethanox® 702

4,4'-Methylene bis(2,6-di-tert-butylphenol)

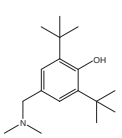


CAS 118-82-1 **MF** $C_{29}H_{44}O_2$ **MW** 424.66

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

Ethanox® 703

2,6-Di-tert-butyl-N,N-dimethylamino-p-cresol

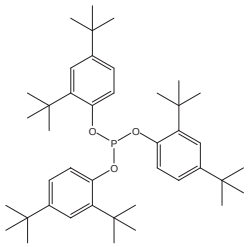


CAS 88-27-7 **MF** $C_{17}H_{29}NO$ **MW** 263.42

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

Ethaphos® 368

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

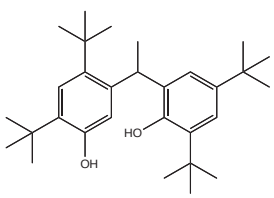


CAS 31570-04-4 **MF** $C_{42}H_{63}O_3P$ **MW** 646.92

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-tert-butylphenol)

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

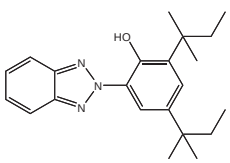


CAS 35958-30-6 **MF** $C_{30}H_{46}O_2$ **MW** 438.69

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

2-(2-Hydroxy-3,5-di-tert-amylphenyl) benzotriazole

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



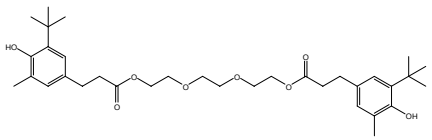
CAS 25973-55-1 **MF** $C_{22}H_{29}N_3O$ **MW** 351.49

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

Antioxidants

Irganox® 245

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

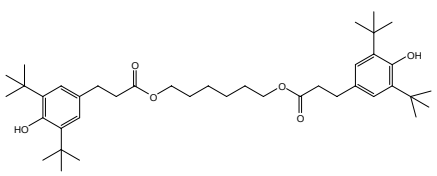


CAS 36443-68-2 **MF** $C_{34}H_{50}O_8$ **MW** 586.76

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone (95:5)	PLAS-AX-070S	1 mL
NEAT	PLAS-AX-070N	50 mg

Irganox® 259

Hexamethylene bis(3-(3,5-di-tert-butyl-4-hydroxy-phenyl)propionate)

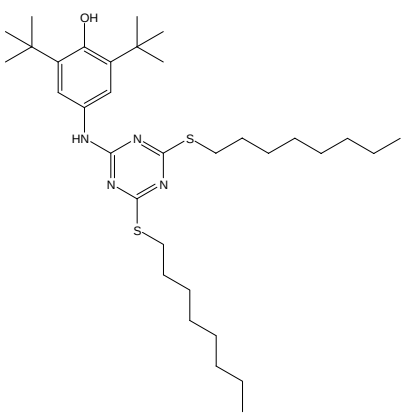


CAS 35074-77-2 **MF** $C_{40}H_{62}O_6$ **MW** 638.92

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

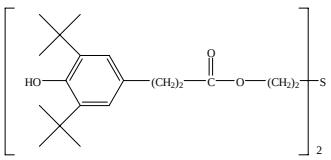


CAS 991-84-4 **MF** $C_{33}H_{56}N_4OS_2$ **MW** 588.96

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

Irganox® 1035

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

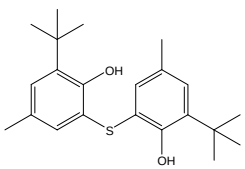


CAS 41484-35-9 **MF** $C_{38}H_{58}O_6S$ **MW** 642.93

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

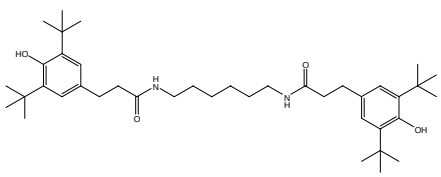


CAS 90-66-4 **MF** $C_{22}H_{30}O_2S$ **MW** 358.54

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-Hexanediyl bis[3,5-bis(1,1-dimethylethyl)-4-hydroxy-benzenepropanamide]

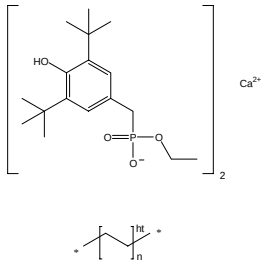


CAS 23128-74-7 **MF** $C_{40}H_{64}N_2O_4$ **MW** 636.95

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	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

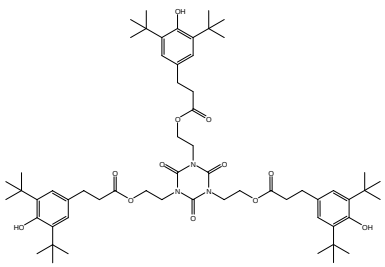


CAS 65140-91-2 / 9002-88-4 **MF** $2C_{17}H_{29}O_4P \bullet Ca(C_2H_4)_x$ **MW** 695

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

Irganox® 3125

3,5-Di-tert-butyl-4-hydroxyhydrocinnamic triester with 1,3,5-tris[2-Hydroxyethyl]-s-triazine-2,4,6[1H,3H,5H]-trione

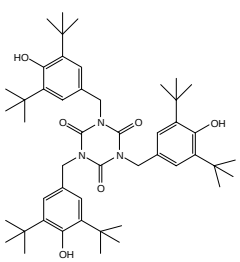


CAS 34137-09-2 **MF** $C_{60}H_{87}N_3O_{12}$ **MW** 1042.35

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

Irganox® 3114FF

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



CAS 27676-62-6 **MF** $C_{48}H_{69}N_3O_6$ **MW** 784.08

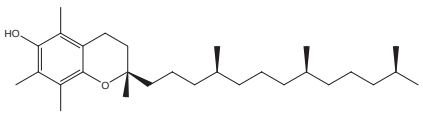
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-078S	1 mL
NEAT	PLAS-AX-078N	50 mg

Plastic Additives

Antioxidants

Irganox® E 201

alpha-Tocopherol

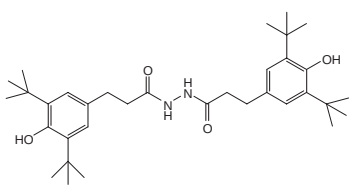


CAS 10191-41-0 **MF** $C_{29}H_{50}O_2$ **MW** 430.71

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

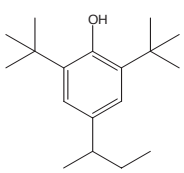


CAS 32687-78-8 **MF** $C_{34}H_{52}N_2O_4$ **MW** 552.79

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	PLAS-AX-001S	1 mL
NEAT	PLAS-AX-001N	50 mg

Isonox® 132

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

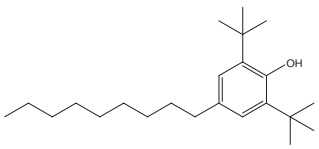


CAS 17540-75-9 **MF** $C_{18}H_{30}O$ **MW** 262.43

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

Isonox® 232

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

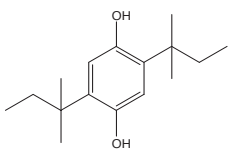


CAS 4306-88-1 **MF** $C_{23}H_{40}O$ **MW** 262.43

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

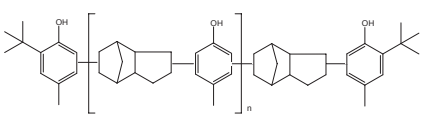


CAS 79-74-3 **MF** $C_{16}H_{26}O_2$ **MW** 250.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane 90:10	PLAS-AX-016S	1 mL
NEAT	PLAS-AX-016N	50 mg

Lowinox® CPL

Polymeric sterically hindered phenol

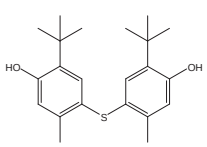


CAS 68610-51-5 **MF** N/A **MW** 600-700

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 95:5	PLAS-AX-059S	1 mL
NEAT	PLAS-AX-059N	50 mg

Lowinox® TBM-6

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

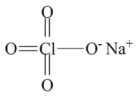


CAS 96-69-5 **MF** $C_{22}H_{30}O_2S$ **MW** 358.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 90:10	PLAS-AX-024S	1 mL
NEAT	PLAS-AX-024N	50 mg

Markstat® 60

Polyethylene glycol ether - contain < 20% sodium perchlorate

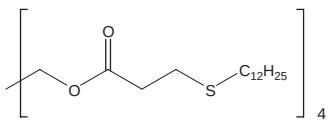


CAS 7601-89-0 **MF** N/A **MW** N/A

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

Naugard® 412S

Pentaerythritol tetrakis (beta-laurylthiopropionate)

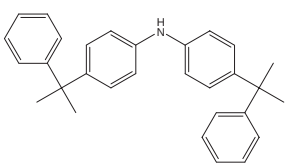


CAS 29598-76-3 **MF** $C_{65}H_{124}O_8S_4$ **MW** 1161.94

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

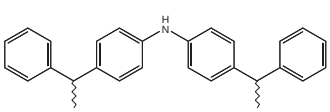


CAS 10081-67-1 **MF** $C_{30}H_{31}N$ **MW** 405.57

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

Naugard® 635

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



CAS 68442-68-2 **MF** $C_{38}H_{27}N$ **MW** 377.52

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

Antioxidants

Naugard® 956

Proprietary blend of primary and secondary antioxidants

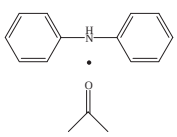
N/A

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

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

Naugard® A

Acetone diphenylamine condensation products

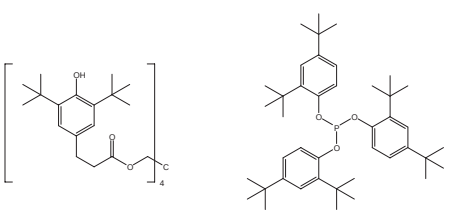


CAS 68412-48-6 **MF** $C_{12}H_{11}N \bullet C_3H_6O$ **MW** 227.31

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	PLAS-AX-026S	1 mL
NEAT	PLAS-AX-026N	50 mg

Naugard® B-25

1:1 blend of Naugard 10 & Naugard 424

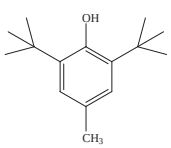


CAS 6683-19-8/31570-04-4 **MF** $C_{73}H_{108}O_{12} \bullet C_{42}H_{63}O_3P$ **MW** 1177.65 / 646.92

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

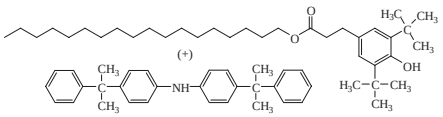


CAS 128-37-0 **MF** $C_{15}H_{24}O$ **MW** 220.35

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)

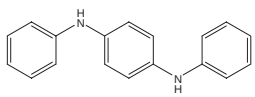


CAS 10081-67-1/2082-79-3 **MF** $C_{30}H_{31}N$ / $C_{35}H_{62}O_3$ **MW** 405.57/530.86

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

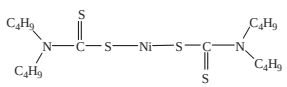


CAS 74-31-7 **MF** $C_{18}H_{16}N_2$ **MW** 260.36

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

Naugard® NBC

Nickel dibutyl dithiocarbamate

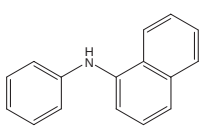


CAS 13927-77-0 **MF** $C_{18}H_{36}N_2NiS_4$ **MW** 467.45

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

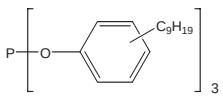


CAS 90-30-2 **MF** $C_{16}H_{13}N$ **MW** 219.28

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

Naugard® PHR

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

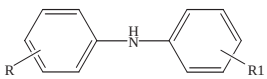


CAS 26523-78-4 **MF** $C_{45}H_{69}O_3P$ **MW** 689.00

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

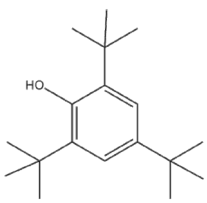


CAS 68411-46-1 **MF** $C_{12}H_{11}N \bullet C_8H_{16}$ **MW** N/A

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



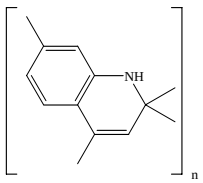
CAS N/A **MF** N/A **MW** N/A

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

Antioxidants

Naugard® Q Extra

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

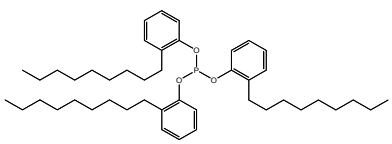


CAS 26780-96-1 **MF** $(C_{12}H_{15}N)_n$ **MW** $(173.25)_n$

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

Naugard® RM-51

tris(Nonylphenyl)phosphite

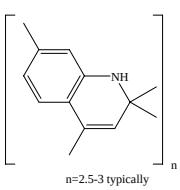


CAS 26523-78-4 **MF** $C_{45}H_{69}C_3P$ **MW** 689.00

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)

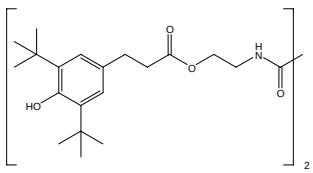


CAS 26780-96-1 **MF** $(C_{12}H_{15}N)_n$ **MW** $(173.25)_n$

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]

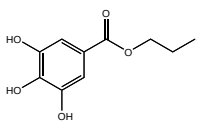


CAS 70331-94-1 **MF** $C_{40}H_{60}N_2O_8$ **MW** 697.00

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	PLAS-AX-008S	1 mL
NEAT	PLAS-AX-008N	50 mg

Propyl gallate

Propyl 3,4,5-trihydroxybenzoate

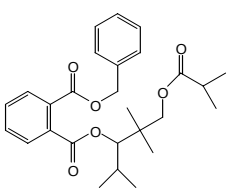


CAS 121-79-9 **MF** $C_{10}H_{12}O_5$ **MW** 212.20

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

Santicizer® 278

Benzyl 3-isobutyrloxy-1-isopropyl-2,2-dimethylpropyl phthalate

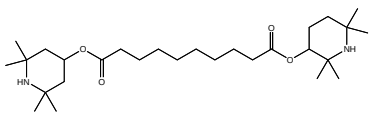


CAS 16883-83-3 **MF** $C_{27}H_{34}O_6$ **MW** 454.56

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-074N	50 mg

bis(2,2,6,6-Tetramethyl-4-piperidyl) sebacate

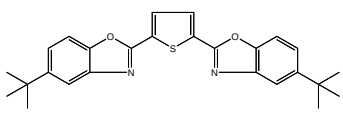
Bis(2,2,6,6-tetramethylpiperidin-4-yl) decanedioate



CAS 52829-07-9 **MF** $C_{28}H_{52}N_2O_4$ **MW** 480.72

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

2,2'-(2,5-Thiophenediyl)bis(5-tert-butylbenzoxazole)

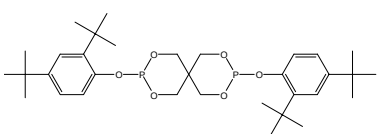


CAS 7128-64-5 **MF** $C_{26}H_{26}N_2O_2S$ **MW** 430.56

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

Ultranox® 626

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



CAS 26741-53-7 **MF** $C_{33}H_{50}O_6P_2$ **MW** 604.62

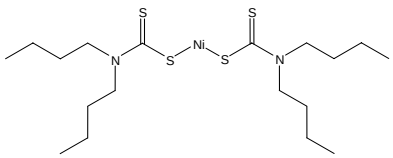
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-AX-031S	1 mL
NEAT	PLAS-AX-031N	50 mg

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 creating an ozone-impermeable barrier or skin on the surface.

Akrochem® NIBUD

Nickel dibutyl dithiocarbamate



CAS 13927-77-0 **MF** $C_{18}H_{36}N_2NiS_4$ **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

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

CAS 64742-42-3 **MF** N/A **MW** N/A

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

Plastic Additives

Blowing Agents

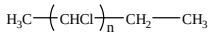
Blowing Agents, Plasticizer

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

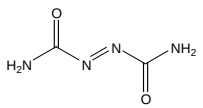


CAS 63449-39-8 **MF** Unspecified **MW**

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

Celogen® AZ

Carbamoyliminourea

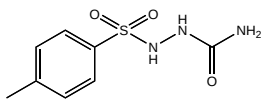


CAS 123-77-3 **MF** $C_2H_4N_4O_2$ **MW** 116.08

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

Celogen® RA

[(4-Methylphenyl)sulfonylamino]urea



CAS 10396-10-8 **MF** $C_8H_{11}N_3O_3S$ **MW** 229.26

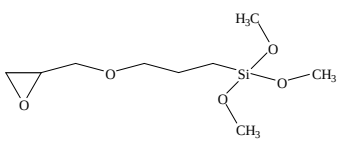
Matrix	Cat. No.	Unit
NEAT	PLAS-BA-003N	50 mg

Coupling Agents

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

Silquest® A-187

gamma-Glycidoxypropyltrimethoxysilane

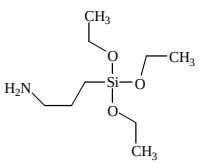


CAS 2530-83-8 **MF** $C_9H_{20}O_5Si$ **MW** 236.38

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)

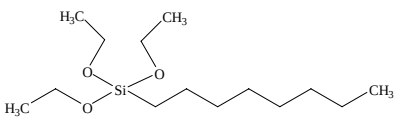


CAS 919-30-2 **MF** $C_9H_{23}NO_3Si$ **MW** 221.37

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

Silquest® A-137

Octyltriethoxysilane

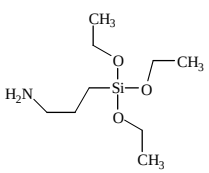


CAS 2943-75-1 **MF** $C_{14}H_{32}O_3Si$ **MW** 276.55

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

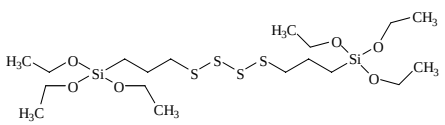


CAS 919-30-2 **MF** $C_9H_{23}NO_3Si$ **MW** 221.37

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

Silquest® A-1289

bis-(Triethoxysilypropyl)tetrasulfane

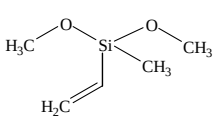


CAS 40372-72-3 **MF** $C_{18}H_{42}O_6S_4Si_2$ **MW** 538.94

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

Silquest® A-2171

Vinylmethyldimethoxysilane



CAS 16753-62-1 **MF** $C_5H_{12}O_2Si$ **MW** 132.24

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

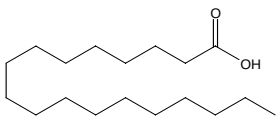
Cross-Linking Agents

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 properities 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

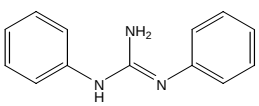


CAS 57-11-4 **MF** $C_{18}H_{36}O_2$ **MW** 284.48

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

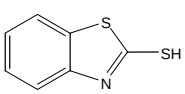


CAS 102-06-7 **MF** $C_{13}H_{13}N_3$ **MW** 211.27

Matrix	Cat. No.	Unit
1000 µg/mL in Ethanol	PLAS-CL-004S-R1	1 mL
NEAT	PLAS-CL-004N	50 mg

Perkacit® MBT

2-Mercaptobenzothiazole

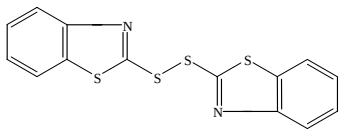


CAS 149-30-4 **MF** $C_7H_5S_2N$ **MW** 167.25

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 96:4	PLAS-CL-002S	1 mL
NEAT	PLAS-CL-002N	50 mg

Perkacit® MBTS

2,2'-Dithiobis(benzothiazole)

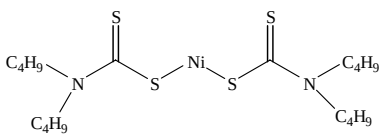


CAS 120-78-5 **MF** $C_{14}H_8N_2S_4$ **MW** 332.48

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

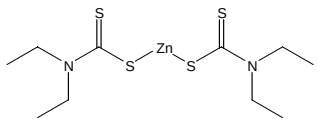


CAS 13927-77-0 **MF** $C_{18}H_{36}N_2NiS_4$ **MW** 467.45

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

Perkacit® ZDEC

Zinc diethyldithiocarbamate

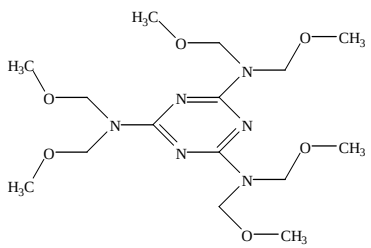


CAS 14324-55-1 **MF** $C_{10}H_{20}N_2S_2Zn$ **MW** 361.9

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



CAS 3089-11-0 **MF** $C_{15}H_{30}N_6O_6$ **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

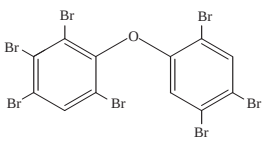
Flame Retardants

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, chorine, fluorine and sulfur.

Brominated flame retardants are 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.

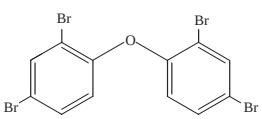
2,2',3,4,4',5',6-Heptabromodiphenyl ether



CAS 207122-16-5 **MF** $C_{12}H_3Br_7O$ **MW** 722.48

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

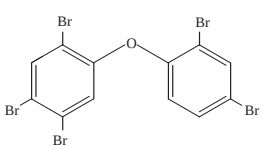
2,2',4,4'-Tetrabromodiphenyl ether



CAS 5436-43-1 **MF** $C_{12}H_6Br_4O$ **MW** 485.82

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

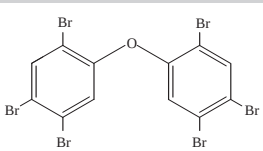
2,2',4,4',5-Pentabromodiphenyl ether



CAS 60348-60-9 **MF** $C_{12}H_5Br_5O$ **MW** 564.69

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

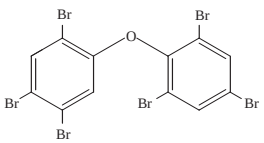
2,2',4,4',5,5'-Hexabromodiphenyl ether



CAS 68631-49-2 **MF** $C_{12}H_4$-Br_6O **MW** 643.58

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

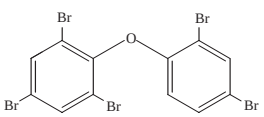
2,2',4,4',5,6'-Hexabromodiphenyl ether



CAS 207122-15-4 **MF** $C_{12}H_4Br_6O$ **MW** 643.58

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

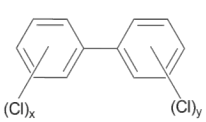
2,2',4,4',6-Pentabromodiphenyl ether



CAS 189084-64-8 **MF** $C_{12}H_5Br_5O$ **MW** 564.69

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

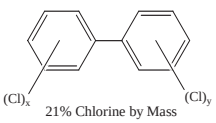
Aroclor® 1016



CAS 12674-11-2 **MF** Tech mix **MW**

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

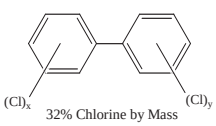
Aroclor® 1221



CAS 11104-28-2 **MF** Tech mix **MW**

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

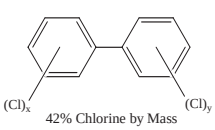
Aroclor® 1232



CAS 11141-16-5 **MF** Tech mix **MW**

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

Aroclor® 1242



CAS 53469-21-9 **MF** Tech mix **MW**

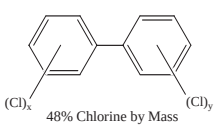
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-242S-H-10X	1 mL
NEAT	C-242N-50MG	50 mg

Property Key

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

Flame Retardants (continued)

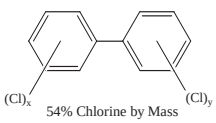
Aroclor® 1248



CAS 12672-29-6 **MF** Tech mix **MW** N/A

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

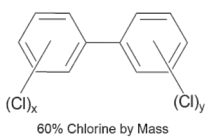
Aroclor® 1254



CAS 11097-69-1 **MF** Tech mix **MW** N/A

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

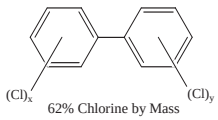
Aroclor® 1260



CAS 11096-82-5 **MF** Tech mix **MW** N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	C-260S-H-10X	1 mL

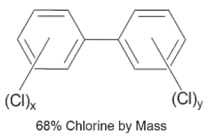
Aroclor® 1262



CAS 37324-23-5 **MF** Tech mix **MW** N/A

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

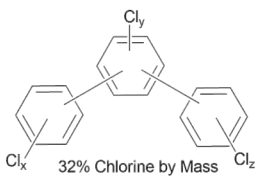
Aroclor® 1268



CAS 11100-14-4 **MF** Tech mix **MW** N/A

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

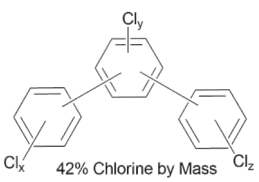
Aroclor® 5432



CAS 63496-31-1 **MF** Technical Mix **MW** N/A

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

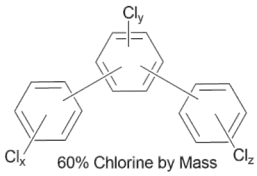
Aroclor® 5442



CAS 12642-23-8 **MF** Tech mix **MW** N/A

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

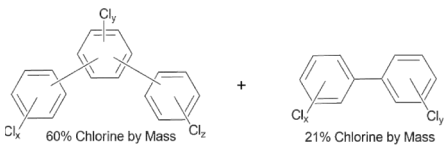
Aroclor® 5460



CAS 11126-42-4 **MF** Tech mix **MW** N/A

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

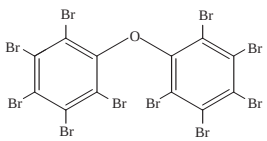
Aroclor® 6050



CAS **MF** Tech mix **MW** N/A

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

Decabromodiphenyl ether

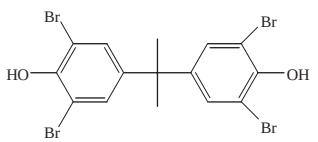


CAS 1163-19-5 **MF** $C_{12}Br_{10}O$ **MW** 959.22

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

Firemaster BP4A

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



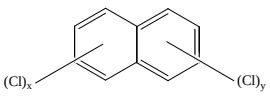
CAS 79-94-7 **MF** $C_{15}H_{12}Br_4O_2$ **MW** 543.91

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

Flame Retardants (continued)

Halowax 1013

Pentachloronaphthalene

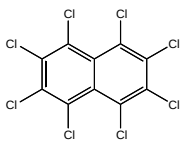


CAS 1321-64-8 **MF** $C_{10}H_3Cl_5$ **MW** 300.38

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

Halowax 1051

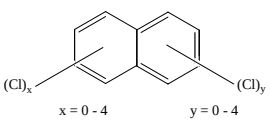
Octachoronaphthalene



CAS 2234-13-1 **MF** $C_{10}Cl_8$ **MW** 403.73

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

Halowax 1099

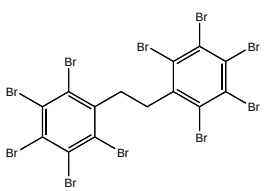


CAS 39450-05-0 **MF** Tech Mix **MW**

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

Saytex® 8010

Decabromodiphenyl ethane

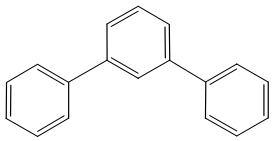


CAS 84852-53-9 **MF** $C_{14}H_4Br_{10}$ **MW** 971.22

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

m-Terphenyl

1,3-Diphenylbenzene

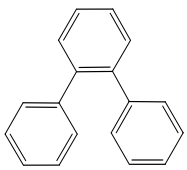


CAS 92-06-8 **MF** $C_{18}H_{14}$ **MW** 230.32

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

o-Terphenyl

1,2-Diphenylbenzene

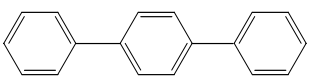


CAS 84-15-1 **MF F** $C_{18}H_{14}$ **MW** 230.32

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

p-Terphenyl

1,4-Diphenylbenzene



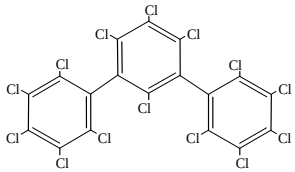
CAS 92-94-4 **MF** $C_{18}H_{14}$ **MW** 230.32

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

Property Key

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

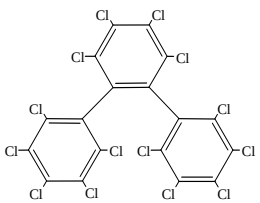
Tetradecachloro-m-terphenyl



CAS 42429-89-0 **MF** $C_{18}Cl_{14}$ **MW** 712.48

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

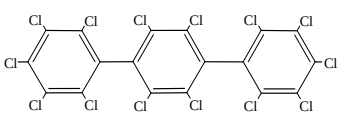
Tetradecachloro-o-terphenyl



CAS **MF** $C_{18}Cl_{14}$ **MW** 712.48

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

Tetradecachloro-p-terphenyl



CAS **MF** $C_{18}Cl_{14}$ **MW** 712.48

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

Plasticizers

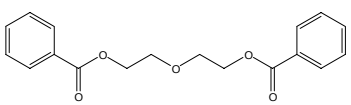
A plasticizer is a compound added to a material, usually a plastic, to make it flexible, resilient and easier to handle. Plasticizers are major components in plastics that determine the physical properties of polymer products.

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



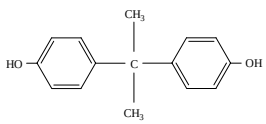
CAS 120-55-8 **MF** $C_{18}H_{18}O_5$ **MW** 314.33

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

See pages 30-31 for all Bisphenol Analog Standards

Bisphenol A (BPA)

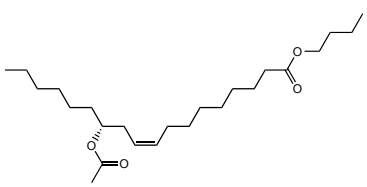
4,4'-Dihydroxy-2,2-diphenylpropane



CAS 80-05-7 **MF** $C_{15}H_{16}O_2$ **MW** 228.29

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

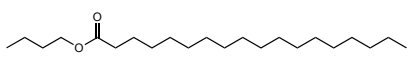
n-Butyl acetyl ricinoleate



CAS 140-04-5 **MF** $C_{24}H_{44}O_4$ **MW** 396.60

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-107S	1 mL

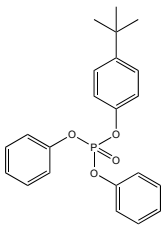
n-Butyl stearate



CAS 123-95-5 **MF** $C_{22}H_{44}O_2$ **MW** 340.58

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-114S	1 mL

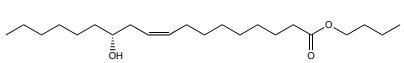
t-Butylphenyl diphenyl phosphate



CAS 56803-37-3 **MF** $C_{22}H_{23}O_4P$ **MW** 382.39

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-103S	1 mL

Butyl ricinoleate

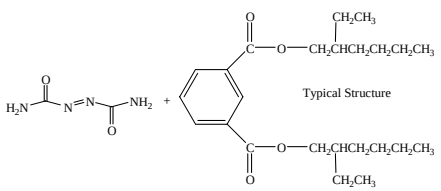


CAS 151-13-3 **MF** $C_{22}H_{42}O_3$ **MW** 354.57

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-105S	1 mL

Celogen® SD-125

50% Azodicarbonamide in a phthalate plasticizer



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

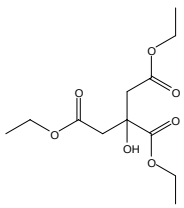
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-009S	1 mL
NEAT	PLAS-PL-009N	50 mg

Property Key

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

Citroflex 2

Triethyl 2-hydroxy-1,2,3-propanetricarboxylate

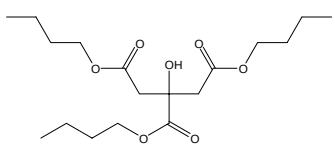


CAS 77-93-0 **MF** $C_{12}H_{20}O_7$ **MW** 276.32

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

Citroflex 4

Tributyl 2-hydroxy-1,2,3-propanetricarboxylate

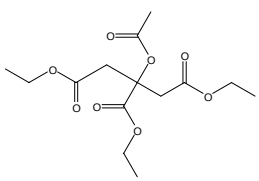


CAS 77-94-1 **MF** $C_{18}H_{32}O_7$ **MW** 360.45

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

Citroflex A-2

Triethyl 2-acetyloxy-1,2,3-propanetricarboxylate



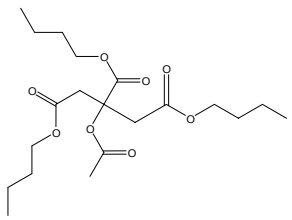
CAS 77-89-4 **MF** $C_{14}H_{22}O_8$ **MW** 318.32

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

Plasticizers (continued)

Citroflex A-4

Tributyl 2-acetoxy-1,2,3-propanetricarboxylate

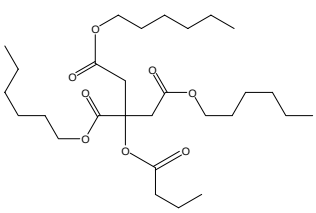


CAS 77-90-7 **MF** $C_{20}H_{34}O_8$ **MW** 402.54

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

Citroflex B-6

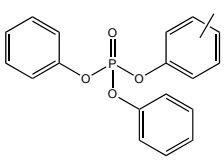
n-Butyryltri-n-hexyl citrate



CAS 82469-79-2 **MF** $C_{28}H_{50}O_8$ **MW** 514.7

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

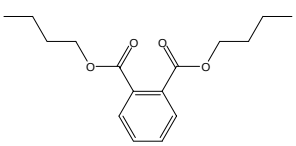
Cresyl diphenyl phosphate



CAS 26444-49-5 **MF** $C_{19}H_{17}O_4P$ **MW** 340.31

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

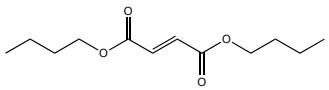
Dibutyl phthalate



CAS 84-74-2 **MF** $C_{16}H_{22}O_4$ **MW** 278.34

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

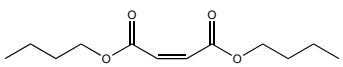
Dibutyl fumarate



CAS 105-75-9 **MF** $C_{12}H_{20}O_4$ **MW** 228.28

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-087S	1 mL

Di-n-butyl maleate

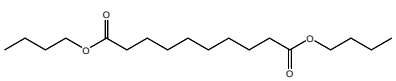


CAS 105-76-0 **MF** $C_{12}H_{20}O_4$ **MW** 228.28

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-091S	1 mL

Dibutyl sebacate

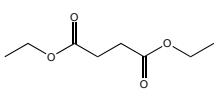
Dibutyl decanedioate



CAS 109-43-3 **MF** $C_{18}H_{34}O_4$ **MW** 314.46

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

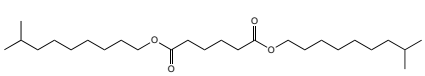
Diethyl succinate



CAS 123-25-1 **MF** $C_8H_{14}O_4$ **MW** 174.19

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-109S	1 mL

Diisodecyl adipate



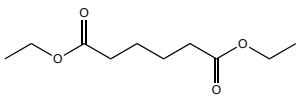
CAS 27178-16-1 **MF** $C_{26}H_{50}O_4$ **MW** 426.67

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-083S	1 mL

Property Key

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

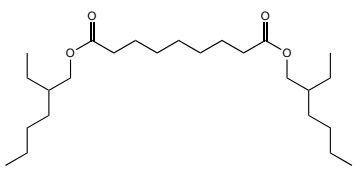
Diethyl adipate



CAS 141-28-6 **MF** $C_{10}H_{18}O_4$ **MW** 202.25

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-043N	50 mg

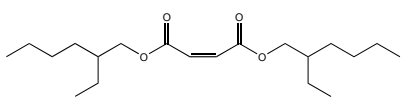
Di(2-ethylhexyl) azelate



CAS 103-24-2 **MF** $C_{25}H_{48}O_4$ **MW** 412.66

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-081S-A	1 mL

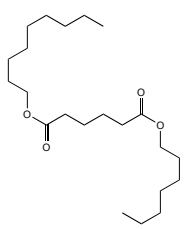
Di(2-ethylhexyl) maleate



CAS 142-16-5 **MF** $C_{20}H_{36}O_4$ **MW** 340.50

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-090S	1 mL

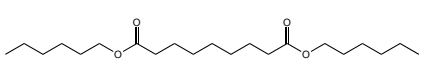
Di(n-heptyl, n-nonyl) adipate



CAS 68515-75-3 **MF** $C_{22}H_{42}O_4$ **MW** 370.57

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-080S	1 mL

Di-n-hexyl azelate

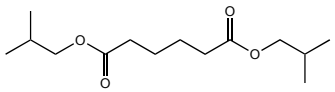


CAS 109-31-9 **MF** $C_{21}H_{40}O_4$ **MW** 356.54

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-078S-A	1 mL

Plasticizers (continued)

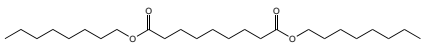
Diisobutyl adipate



CAS 141-04-8 **MF** $C_{14}H_{26}O_4$ **MW** 258.35

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-082S	1 mL

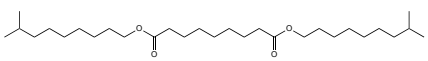
Diisooctyl azelate



CAS 26544-17-2 **MF** $C_{25}H_{48}O_4$ **MW** 412.65

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-076S-A	1 mL

Diisodecyl azelate

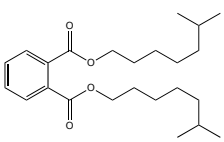


CAS 28472-97-1 **MF** $C_{29}H_{56}O_4$ **MW** 468.75

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-075S-A	1 mL

Diisooctyl phthalate

bis(6-Methylheptyl)-1,2-benzenedicarboxylate

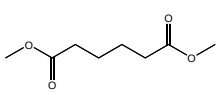


CAS 27554-26-3 **MF** $C_{24}H_{38}O_4$ **MW** 390.56

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

Dimethyl adipate

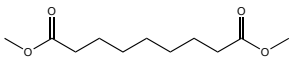
Dimethyl hexanedioate



CAS 627-93-0 **MF** $C_8H_{14}O_4$ **MW** 174.19

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

Dimethyl azelate

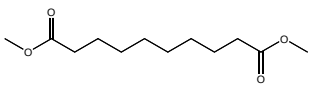


CAS 1732-10-1 **MF** $C_{11}H_{20}O_4$ **MW** 216.27

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-077S-A	1 mL

Dimethyl sebacate

Dimethyl decanedioate

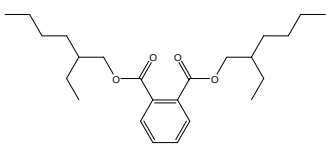


CAS 106-79-6 **MF** $C_{12}H_{22}O_4$ **MW** 230.30

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

Dioctyl phthalate (DOP)

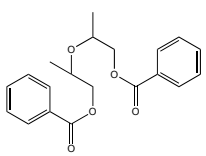
bis(2-Ethylhexyl)-1,2-benzenedicarboxylate



CAS 117-81-7 **MF** $C_{24}H_{38}O_4$ **MW** 390.56

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

Di(propylene glycol) dibenzoate

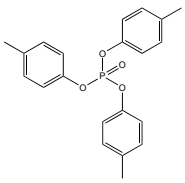


CAS 27138-31-4 **MF** $C_{20}H_{22}O_5$ **MW** 342.39

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-101S	1 mL

Disflamoll® TKP

Tricresyl phosphate

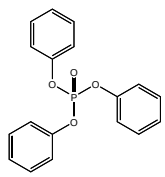


CAS 1330-78-5 **MF** $C_{21}H_{21}O_4P$ **MW** 368.36

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-073N	50 mg

Disflamoll TP

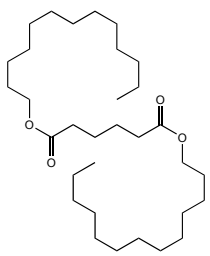
Triphenyl phosphate



CAS 115-86-6 **MF** $C_{18}H_{15}O_4P$ **MW** 326.28

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

Di(tridecyl) adipate

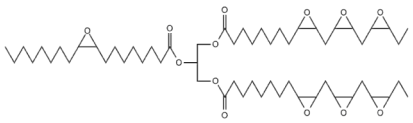


CAS 16958-92-2 **MF** $C_{32}H_{62}O_4$ **MW** 510.83

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-079S-A	1 mL

Plasticizers (continued)

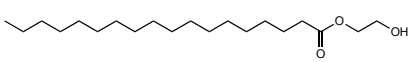
Epoxidized linseed oil



CAS 8016-11-3 **MF** N/A **MW** N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Toluene	PLAS-PL-085S-T	1 mL

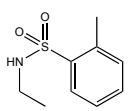
Ethylene glycol monostearate



CAS 111-60-4 **MF** $C_{20}H_{40}O_3$ **MW** 328.53

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-112S	1 mL

N-Ethyl-o,p-toluenesulfonamide



CAS 8047-99-2 **MF** $C_9H_{13}NO_2S$ **MW** 199.27

Matrix	Cat. No.	Unit
1000 µg/mL in Toluene	PLAS-PL-111S-T	1 mL

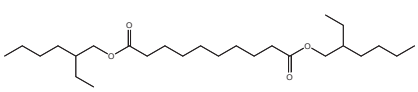
2-Ethylhexyl epoxy tallate

CAS 61789-01-3 **MF** N/A **MW** N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-086S	1 mL

2-Ethylhexyl sebacate

bis(2-Ethylhexyl) decanedioate

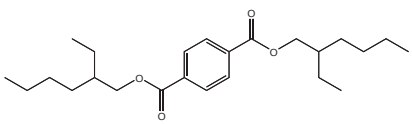


CAS 122-62-3 **MF** $C_{26}H_{50}O_4$ **MW** 426.67

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

bis(2-Ethylhexyl) terephthalate

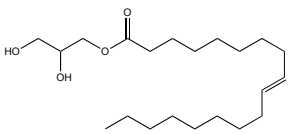
bis(2-Ethylhexyl)-1,4-benzenedicarboxylate



CAS 6422-86-2 **MF** $C_{24}H_{38}O_4$ **MW** 390.56

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

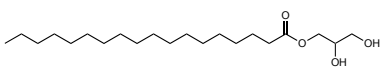
Glycerol monooleate



CAS 25496-72-4 **MF** $C_{21}H_{40}O_4$ **MW** 356.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-096S	1 mL

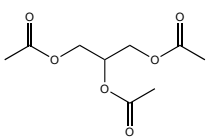
Glycerol monostearate



CAS 31566-31-1 **MF** $C_{21}H_{42}O_4$ **MW** 358.56

Matrix	Cat. No.	Unit
1000 µg/mL in Toluene	PLAS-PL-115S-T	1 mL

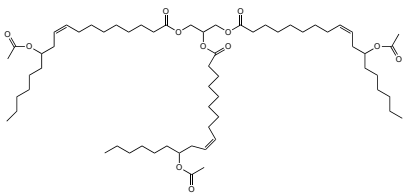
Glycerol triacetate



CAS 102-76-1 **MF** $C_9H_{14}O_6$ **MW** 218.20

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-088S	1 mL

Glyceryl (triacetyl) ricinoleate

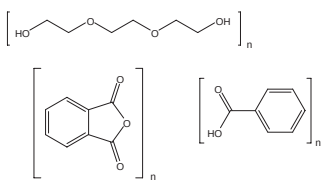


CAS 101-34-8 **MF** $C_{63}H_{110}O_{12}$ **MW** 1059.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-106S	1 mL

Hercoflex® 900

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

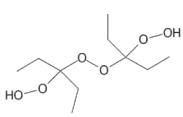


CAS 68186-30-1 **MF** $(C_8H_4O_3)_n$ $(C_6H_{14}O_4)_n$ $(C_7H_6O_2)_n$ **MW** N/A

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 **MF** $C_8H_{18}O$ **MW** 210.23

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)

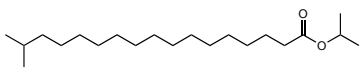
bis(2-Hydroxyethyl) dimerate

N/A

CAS 68855-78-7 **MF** $(C_2H_6O2_4$ • unspecified)x **MW** N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-084S	1 mL

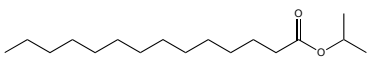
Isopropyl isostearate



CAS 68171-33-5 **MF** $C_{21}H_{42}O_2$ **MW** 326.56

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-113S	1 mL

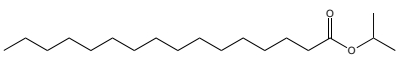
Isopropyl myristate



CAS 110-27-0 **MF** $C_{17}H_{34}O_2$ **MW** 270.45

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-095S	1 mL

Isopropyl palmitate

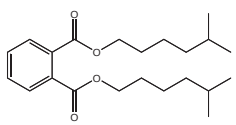


CAS 142-91-6 **MF** $C_{19}H_{38}O_2$ **MW** 298.50

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-100S	1 mL

Jayflex® 77

Diisoheptyl phthalate

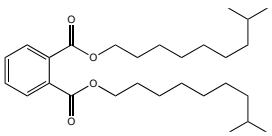


CAS 71888-89-6 **MF** $C_{22}H_{34}O_4$ **MW** 362.50

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

Jayflex® DIDP

Diisodecyl phthalate

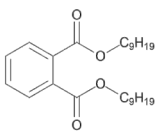


CAS 68515-49-1 **MF** $C_{28}H_{46}O_4$ **MW** 446.66

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

Jayflex® DINP

Diisononyl phthalate

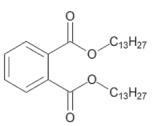


CAS 68515-48-0 **MF** $C_{26}H_{42}O_4$ **MW** 418.61

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

Jayflex® DTDP

Ditridecyl phthalate

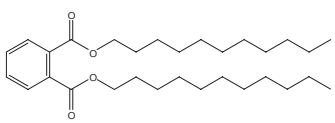


CAS 68515-47-9 **MF** $C_{34}H_{58}O_4$ **MW** 530.82

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

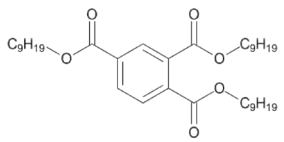


CAS 3648-20-2 **MF** $C_{30}H_{50}O_4$ **MW** 474.72

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

Jayflex® TINTM

Triisononyl trimellitate

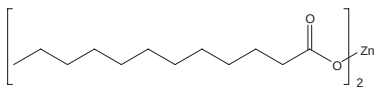


CAS 53894-23-8 **MF** $C_{36}H_{60}O_6$ **MW** 588.96

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

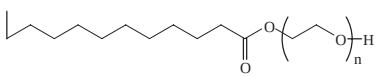


CAS **MF** $C_{24}H_{46}O_4Zn$ **MW** 464.01

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Toluene 80:20	PLAS-PL-032S	1 mL
NEAT	PLAS-PL-032N	50 mg

Markstat® 51

Poly(ethylene glycol) monolaurate

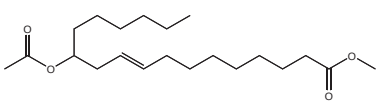


CAS 9004-81-3 **MF** $(C_2H_4O)_nC_{12}H_{24}O_2$ **MW** N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Toluene 90:10	PLAS-PL-003S	1 mL
NEAT	PLAS-PL-003N	50 mg

Methyl O-acetylricinoleate

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

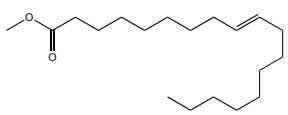


CAS 140-03-4 **MF** $C_{21}H_{38}O_4$ **MW** 354.52

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

Plasticizers (continued)

Methyl oleate

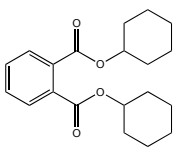


CAS 112-62-9 **MF** $C_{19}H_{36}O_2$ **MW** 296.49

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-097S	1 mL

Morflex® 150

Dicyclohexyl phthalate

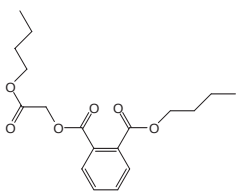


CAS 84-61-7 **MF** $C_{20}H_{26}O_4$ **MW** 330.46

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

Morflex® 190

Butylphthalyl butyl glycolate

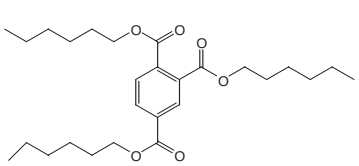


CAS 85-70-1 **MF** $C_{18}H_{24}O_6$ **MW** 336.38

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

Morflex® 560

Tri-n-hexyl trimellitate

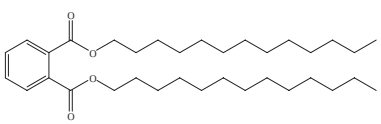


CAS 1528-49-0 **MF** $C_{27}H_{42}O_6$ **MW** 462.62

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

Morflex® x-1125

Ditridecyl phthalate



CAS 119-06-2 **MF** $C_{34}H_{58}O_4$ **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

CAS **MF** **MW**

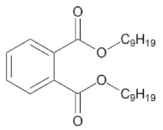
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Toluene 88:12	PLAS-PL-027S	1 mL
NEAT	PLAS-PL-027N	50 mg

Property Key

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

Plasthall® DINP plasticizer

Diisononyl phthalate



CAS 28553-12-0 **MF** $C_{26}H_{42}O_4$ **MW** 418.61

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-072S	1 mL
NEAT	PLAS-PL-072N	50 mg

Plasthall® ESO

Epoxidized soybean oil

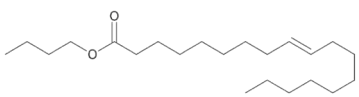
N/A

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

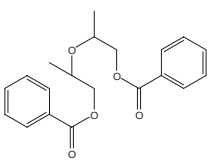


CAS 142-77-8 **MF** $C_{22}H_{42}O_2$ **MW** 338.57

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

Polycizer® DP 500

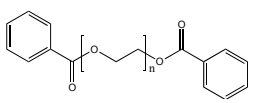
Dipropylene glycol dibenzoate



CAS 27138-31-4 **MF** $C_{20}H_{22}O_5$ **MW** 342.39

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

Polyethylene glycol 200 dibenzoate

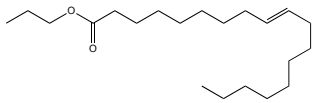


CAS 9004-86-8 **MF** N/A **MW** N/A

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-102S	1 mL

Plasticizers (continued)

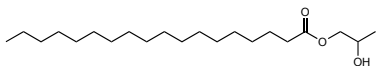
n-Propyl oleate



CAS 111-59-1 **MF** $C_{21}H_{40}O_2$ **MW** 324.54

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-098S	1 mL

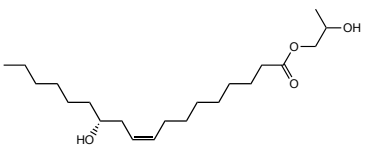
Propylene glycol monostearate



CAS 1323-39-3 **MF** $C_{21}H_{42}O_3$ **MW** 342.56

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-116S	1 mL

Propylene glycol ricinoleate

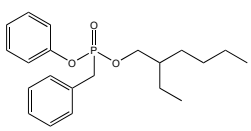


CAS 26402-31-3 **MF** $C_{21}H_{40}O_4$ **MW** 356.54

Matrix	Cat. No.	Unit
1000 µg/mL in Toluene	PLAS-PL-108S-T	1 mL

Santicizer® 141

2-Ethylhexyl diphenyl phosphate

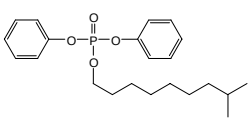


CAS 1241-94-7 **MF** $C_{20}H_{27}O_4P$ **MW** 362.4

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

Santicizer® 148

Mixture: isodecyldiphenyl phosphate (80-90%) / triphenyl phosphate

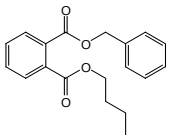


CAS 29761-21-5 **MF** $C_{22}H_{31}O_4P$ **MW** 390.46

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

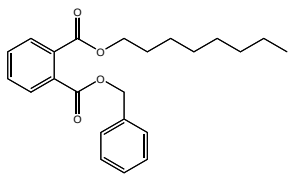


CAS 85-68-7 **MF** $C_{19}H_{20}O_4$ **MW** 312.37

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

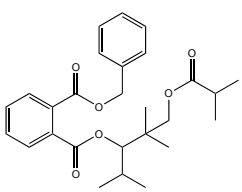


CAS 68515-40-2 **MF** $C_{23}H_{28}O_4$ **MW** 368.47

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

Santicizer® 278

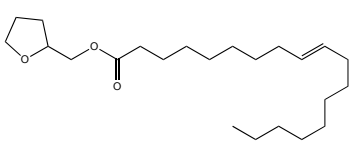
Benzyl 3-isobutyryloxy-1-isopropyl-2,2-dimethylpropyl phthalate



CAS 16883-83-3 **MF** $C_{27}H_{34}O_6$ **MW** 454.56

Matrix	Cat. No.	Unit
NEAT	PLAS-PL-074N	50 mg

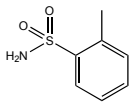
Tetrahydrofurfuryl oleate



CAS 5420-17-7 **MF** $C_{23}H_{42}O_3$ **MW** 366.31

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-099S	1 mL

o,p-Toluenesulfonamide

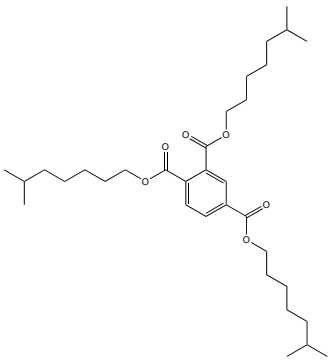


CAS 8013-74-9 **MF** $C_7H_9NO_2S$ **MW** 171.22

Matrix	Cat. No.	Unit
1000 µg/mL in Acetone	PLAS-PL-110S-A	1 mL

Tricapryl trimellitate

tris(6-Methylheptyl)-1,2,4-benzenetricarboxylate

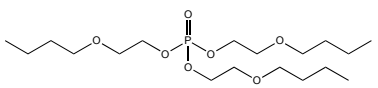


CAS 27251-75-8 **MF** $C_{33}H_{54}O_6$ **MW** 546.78

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-092S	1 mL

Tri-butoxyethyl phosphate

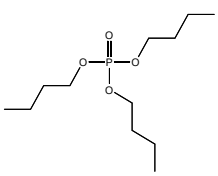
tris(2-Butoxyethyl) phosphate



CAS 78-51-3 **MF** $C_{18}H_{39}O_7P$ **MW** 398.47

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-104S	1 mL

Tributyl phosphate



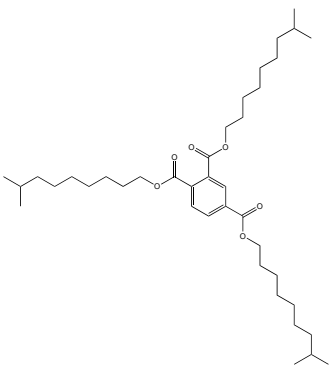
CAS 126-73-8 **MF** $C_{12}H_{27}O_4P$ **MW** 266.31

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

Plasticizers (continued)

Triisodecyl trimellitate

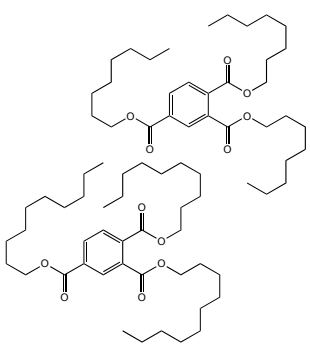
tris(8-Methylnonyl)-1,2,4-benzenetricarboxylate



CAS 36631-30-8 **MF** $C_{39}H_{66}O_6$ **MW** 630.94

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-093S	1 mL

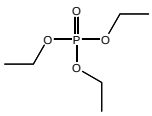
Tri(n-octyl, n-decyl) trimellitate



CAS 67989-23-5 **MF** $C_{72}H_{120}O_{12}$ **MW** 1177.72

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-094S	1 mL

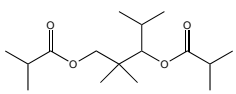
Triethyl phosphate



CAS 78-40-0 **MF** $C_6H_{15}O_4P$ **MW** 182.15

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

2,2,4-Trimethyl-1,3-pentanediol-diisobutyrate

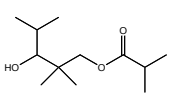


CAS 6846-50-0 **MF** $C_{16}H_{30}O_4$ **MW** 286.41

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PL-089S	1 mL

2,2,4-Trimethyl-1,3-pentanediol-isobutyrate

3-Hydroxy-2,2,4-trimethylpentyl 2-methylpropanoate

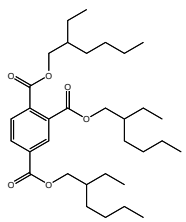


CAS 25265-77-4 **MF** $C_{12}H_{24}O_3$ **MW** 216.32

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

Trimellitate

tris(2-Ethylhexyl)-1,2,4-benzenetricarboxylic acid



CAS 3319-31-1 **MF** $C_{33}H_{54}O_6$ **MW** 546.78

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

Vinsol® powder

N/A

CAS 8050-09-7

Matrix	Cat. No.	Unit
1000 µg/mL in CH_2Cl_2	PLAS-PL-037S-D	1 mL
NEAT	PLAS-PL-037N	50 mg

Vinsol® resin

gum rosin

N/A

CAS 8050-09-7

Matrix	Cat. No.	Unit
1000 µg/mL in CH_2Cl_2	PLAS-PL-036S-D	1 mL
NEAT	PLAS-PL-036N	50 mg

Plastic Additives

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

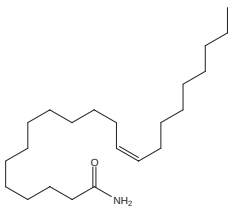
A complex combination of hydrocarbons produced by the purification of Ozocerite with Sulfuric acid and filtration through bone black to form waxy cakes

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

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

Kemamide® E ultra

Erucamide



CAS 112-84-5 **MF** $C_{22}H_{43}NO$ **MW** 337.58

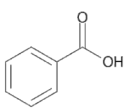
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane	PLAS-PA-001S	1 mL
NEAT	PLAS-PA-001N	50 mg

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

Active ingredient benzoic acid (oil treated)

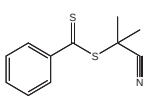


CAS 65-85-0 **MF** **MW**

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

2-Cyano-2-propyl benzodithioate

Benzenecarbodithioic acid, 1-cyano-1-methylethyl ester

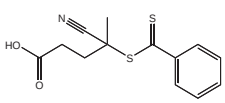


CAS 201611-85-0 **MF** $C_{11}H_{11}NS_2$ **MW** 221.34

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

4-Cyano-4-(phenylcarbonothioylthio) pentanoic acid

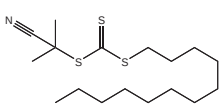
Pentanoic acid, 4-cyano-4-[(phenylthioxomethyl)thio]-



CAS 201611-92-9 **MF** $C_{13}H_{13}NO_2S_2$ **MW** 279.38

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 90:10	PLAS-RT-003S	1 mL
NEAT	PLAS-RT-003N	50 mg

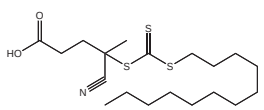
2-Cyano-2-propyl dodecyl trithiocarbonate



CAS 870196-83-1 **MF** $C_{17}H_{31}NS_3$ **MW** 345.63

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

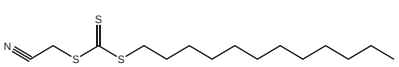
4-Cyano-4-[(dodecylsulfanylthiocarbonyl)sulfanyl]pentanoic acid



CAS 870196-80-8 **MF** $C_{19}H_{33}NO_2S_3$ **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

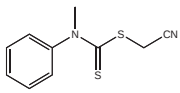


CAS 796045-97-1 **MF** $C_{15}H_{27}NS_3$ **MW** 317.58

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

Retarders (continued)

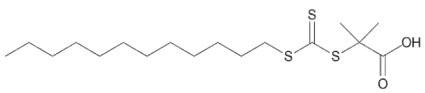
Cyanomethyl methyl(phenyl)carbamodithioate



CAS 76926-16-4 **MF** $C_{10}H_{10}N_2S_2$ **MW** 222.33

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

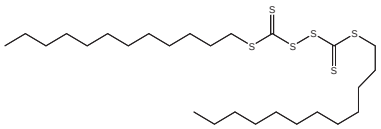
2-(Dodecylthiocarbonothioylthio)-2-methylpropionic acid



CAS 461642-78-4 **MF** $C_{17}H_{32}O_2S_3$ **MW** 364.63

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

bis(Dodecylsulfanylthiocarbonyl) disulfide

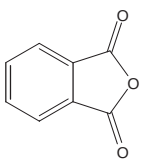


CAS 870532-86-8 **MF** $C_{26}H_{50}S_6$ **MW** 555.07

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

Retarder AK

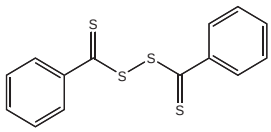
Phthalic anhydride



CAS 85-44-9 **MF** $C_8H_4O_3$ **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



CAS 5873-93-8 **MF** $C_{14}H_{10}S_4$ **MW** 306.49

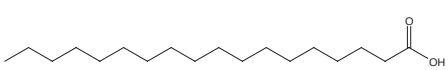
Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Toluene 80:20	PLAS-RT-007S	1 mL
NEAT	PLAS-RT-007N	50 mg

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 promoters/accelerators or mold release agents.

Stearic Acid RG (rubber grade)

Stearic acid

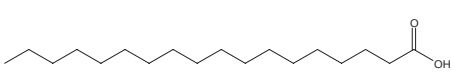


CAS 57-11-4 **MF** $C_{18}H_{36}O_2$ **MW** 284.48

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



CAS 57-11-4 **MF** $C_{18}H_{36}O_2$ **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

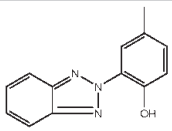
CAS	Chemical Abstract Service Number	**MF**	Molecular Formula
		MW	Molecular Weight

UV Stabilizers

UV stabilizers 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 benzotraizole. Also used, but not as effective, are salicylate esters, cyanoacrylates and bezilidenes.

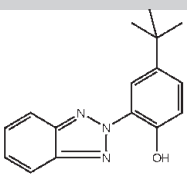
2-(2-Hydroxy-5-methylphenyl)benzotriazole



CAS 2440-22-4 **MF** $C_{13}H_{11}N_3O$ **MW** 225.25

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

2-(5-tert-Butyl-2-hydroxyphenyl)benzotriazole

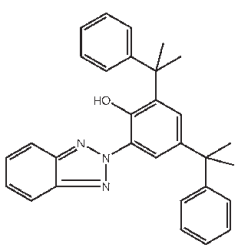


CAS 3147-76-0 **MF** $C_{16}H_{17}N_3O$ **MW** 267.33

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

2-(2-Hydroxy-3,5-di(1,1-dimethylbenzyl)phenyl)benzotriazole

2-(2-Hydroxy-3,5-di-tert-amylphenyl)benzotriazole

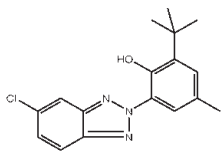


CAS 70321-86-7 **MF** $C_{30}H_{29}N_3O$ **MW** 447.57

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

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

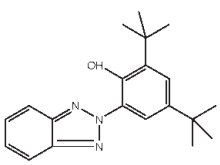
2-(2-Hydroxy-3-tert-butyl-5-methylphenyl)-5-benzotriazole



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

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

2-(3,5-Di-tert-butyl- 2-hydroxyphenyl) benzotriazole

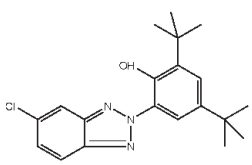


CAS 3846-71-7 **MF** $C_{20}H_{25}N_3O$ **MW** 323.43

Matrix	Cat. No.	Unit
1000 µg/mL in ACN	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

2-(2-Hydroxy-3,5-di-tert-butylphenyl)-5-chlorobenzotriazole

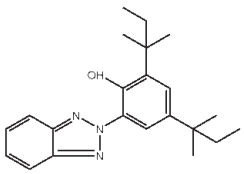


CAS 3864-99-1 **MF** $C_{20}H_{24}ClN_3O$ **MW** 357.88

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

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

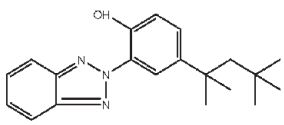
2-(2-Hydroxy-3,5-di-tert-amylphenyl)benzotriazole



CAS 25973-55-1 **MF** $C_{22}H_{29}N_3O$ **MW** 351.49

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

2-(2-Hydroxy-5-tert-octylphenyl)benzotriazole

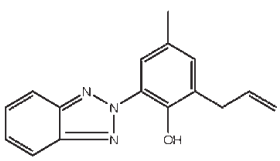


CAS 3147-75-9 **MF** $C_{20}H_{25}N_3O$ **MW** 323.43

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

2-(2H-Benzotriazol-2yl)-4-methyl,-6-(2-propenyl)phenol

2-(2-Hydroxy-3-allyl-5-methylphenyl)benzotriazole



CAS 2170-39-0 **MF** $C_{16}H_{15}N_3O$ **MW** 265.31

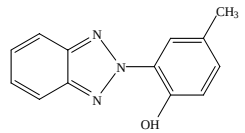
Matrix	Cat. No.	Unit
1000 µg/mL in ACN	PLAS-UV-015S-CN	1 mL
NEAT	PLAS-UV-015N	50 mg

UV Stabilizer Set (Solutions)	9 x 1 mL
PLAS-UV-STAB-R1-SET	Above Prodcuts

UV Stabilizers (continued)

Tinuvin® PED

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

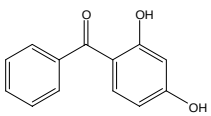


CAS 2440-22-4 **MF** $C_{13}H_{11}N_3O$ **MW** 225.27

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

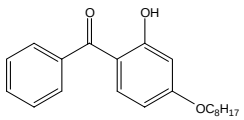


CAS 131-56-6 **MF** $C_{13}H_{10}O_3$ **MW** 214.22

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	PLAS-UV-001S	1 mL
NEAT	PLAS-UV-001N	50 mg

Uvinul® 3008

2-Hydroxy-4-octyloxybenzophenone

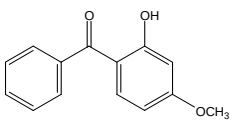


CAS 1843-05-6 **MF** $C_{21}H_{26}O_3$ **MW** 326.43

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

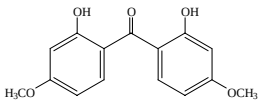


CAS 131-57-7 **MF** $C_{14}H_{12}O_3$ **MW** 228.26

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



CAS 131-54-4 **MF** $C_{15}H_{14}O_5$ **MW** 274

Matrix	Cat. No.	Unit
1000 µg/mL in Hexane:Acetone 80:20	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, which 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

CAS 68952-47-6 **MF** N/A **MW** N/A

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

Akrofax™ B

Vulcanized vegetable oil

N/A

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

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

Plastic Packaging Testing

ASTM Method D6042-92 Plastic Packaging Testing Standards

This method is used by both pharmaceutical companies and plastics manufacturers to ensure the quality of the plastic product during the manufacturing process. Compounds are often added to the method's analyte list by pharmaceutical companies.

Calibration Mix

PLAS-CAL-001 **1 x 1 mL**
PLAS-CAL-001-PAK ***SAVE*** **5 x 1 mL**
50 µg/mL each in Isopropanol 7 comps.

BHT
Erucamide Slip
Vitamin E
Irgafos 168
Irganox 3114
Irganox 1010
Irganox 1076

Internal Standard Mix

PLAS-IS-001 **1 x 1 mL**
PLAS-IS-001-PAK ***SAVE*** **5 x 1 mL**
51.8 µg/mL in Isopropanol

Tinuvin P

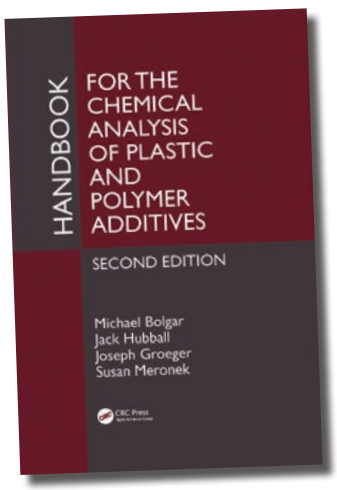
Expanded List of Additives

Each at 50 µg/mL in Isopropanol

Ultranox 626	PLAS-CAL-002-1	1 mL
Santanox R	PLAS-CAL-002-2	1 mL
Ethanox 330	PLAS-CAL-002-3	1 mL
Ethanox 323	PLAS-CAL-002-4	1 mL
Ethanox 702	PLAS-CAL-002-5	1 mL
Ethanox 703	PLAS-CAL-002-6	1 mL
Irganox 1035	PLAS-CAL-002-7	1 mL

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

Handbook for the Chemical Analysis of Plastic and Polymer Additives, 2nd Ed.

The Second Edition of this handbook provides the necessary tools for chemists to obtain a more complete listing of additives present in a particular polymeric matrix. This edition features:

- Updated material to include the most recent additives available
- Contains actual analytical data for each chemical along with the description and methods used for obtaining the results
- Highlights the toxicological and environmental impact of each product
- Summarizes regulatory and health information in a convenient "one-step" format

With 50 additional compounds, this 2nd edition nearly doubles the number of additives in several categories including processing aids, anti-static compounds, mold release products and blowing agents. It includes a listing that can be cross-referenced by trade name, chemical name, CAS number and even key mass unit ions from the GC/MS run. Also included are case studies related to "real-world" issues, tips for analysis in challenging matrices and more.

Bisphenol Analogs

Bisphenol Analog Standards

Bisphenol A (2,2'-bis(4-Hydroxyphenyl)propane, BPA) has been used in commercial and industrial applications since the 1970's. It has been the subject of numerous toxicological studies due to human exposure from leachate originating from polycarbonate plastics and epoxy-lined food and drink containers.

The evidence of the toxic effects of BPA has lead to restrictions and regulations, resulting in its replacement in commercial products with related compounds. Several chemicals with structural similarity to BPA (ie. two hydroxyl phenyl moieties) have been used as alternatives in the manufacture of polycarbonate plastics and epoxy resins. 4,4-Sulfonyldiphenol (BPS) and 4,4-Dihydroxydiphenylmethane (BPF) are the two main substitutes. However, their similarity to BPA has lead to their monitoring and testing for human exposure and toxicity as well.

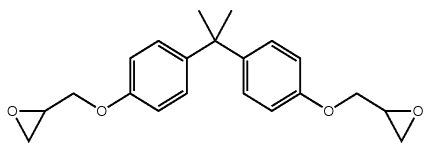
In addition to the BPA analogs, there has been increased scrutiny of bisphenol A diglycidyl ether (BADGE) which is a widely used building block of epoxy resin. Studies have shown that it also might be linked to adverse human health effects.

AccuStandard has recognized the need for a comprehensive product line of these BPA related compounds and is offering reference standards for eight BPA analogs as well as the BADGE starting material.

References:
1. Environ. Sci. Technol. 2012, 46, 9138-9145 2. Environ. Sci. Technol. 2012, 46, 12968-12976 3. Environ. Sci. Technol. 2012, 46, 11558-11565

Bisphenol A diglycidyl ether (BADGE)

2,2-bis(4-Glycidyloxyphenyl)propane

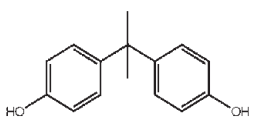


CAS 1675-54-3 **MF** $C_{21}H_{24}O_4$ **MW** 340.41
log Kow 3.8 **PS** L **SOL** MeOH **SG** 1.16 g/cm^3
MP N/A **BP** >200 °C **FP** N/A

Matrix	Cat. No.	Unit
NEAT	BADGE-001N	50 mg
10 mg/mL in MeOH	BADGE-001S	1 mL

Bisphenol A (BPA)

2,2-bis(4-Hydroxyphenyl)propane

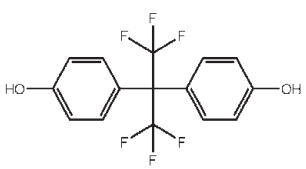


CAS 80-05-7 **MF** $C_{15}H_{16}O_2$ **MW** 228.29
log Kow 3.43 **PS** S **SOL** Acetone, Benzene, Ether
SG 1.14 g/cm^3 **MP** 156 °C **BP** 220 °C **FP** 192 °C

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

Bisphenol AF

2,2-bis(4-Hydroxyphenyl)-1,1,1,3,3,3-hexafluoropropane

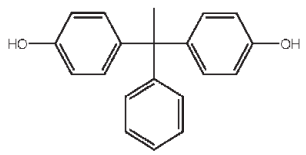


CAS 1478-61-1 **MF** $C_{15}H_{10}F_6O_2$ **MW** 336.23
log Kow 4.47 **PS** S **SG** 1.45 g/cm^3 **MP** 159-162 °C
BP 400 °C **FP** 162 °C

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

Bisphenol AP

1,1-bis(4-Hydroxyphenyl)-1-phenylethane

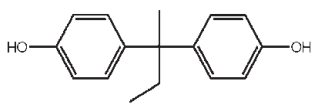


CAS 1571-75-1 **MF** $C_{20}H_{18}O_2$ **MW** 290.36
log Kow 4.86 **PS** S **SG** 1.18 g/cm^3 **MP** 182-183 °C
BP 473-475 °C **FP** 222 °C

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

Bisphenol B

2,2-bis(4-Hydroxyphenyl)butane

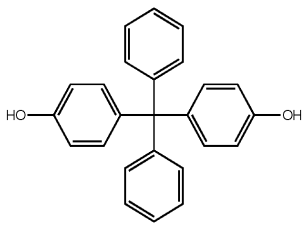


CAS 77-40-7 **MF** $C_{16}H_{18}O_2$ **MW** 242.31
log Kow 4.13 **PS** S **SG** 1.12 g/cm^3 **MP** 126 °C
BP 412-414 °C **FP** 196 °C

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

Bisphenol BP

bis(4-Hydroxyphenyl)diphenylmethane

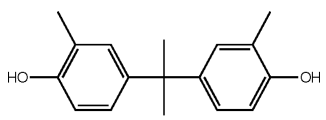


CAS 1844-01-5 **MF** $C_{25}H_{20}O_2$ **MW** 352.43
log Kow 6.08 **PS** S **SG** 1.20 g/cm^3 **MP** 216-217 °C
BP 508-510 °C **FP** 241 °C

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

Bisphenol C

2,2-bis(4-Hydroxy-3-methylphenyl)propane



CAS 79-97-0 **MF** $C_{17}H_{20}O_2$ **MW** 256.34
log Kow 4.74 **PS** S **SG** 1.15 g/cm^3 **MP** 139 °C
BP 390 °C **FP** >190 °C

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

Property Key

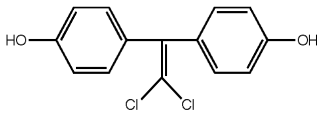
CAS	Chemical Abstract Service Number
MF	Molecular Formula
MW	Molecular Weight
PS	Physical State (Solid, Liquid)
SOL	Solubility
SG	Specific Gravity (g/cm^3)
MP	Melting Point (°C)
BP	Boiling Point (°C)
FP	Flash Point (°C)

Bisphenol Analogs

Bisphenol Analog Standards

Bisphenol C-dichloride

Dihydroxymethoxychlor olefin

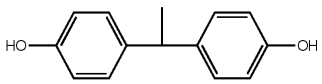


CAS 14868-03-2 **MF** $C_{14}H_{10}Cl_2O_2$ **MW** 281.13
log Kow 3.75 **PS** S **SG** 1.45 g/cm^3 **MP** 216 °C
BP 395-398 °C **FP** >200 °C

Matrix	Cat. No.	Unit
NEAT	BPA-C2-N	20 mg
10 mg/mL in MeOH	BPA-C2-S	1 mL

Bisphenol E

1,1-bis(4-Hydroxyphenyl)ethane

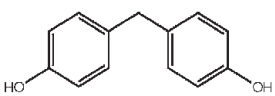


CAS 2081-08-5 **MF** $C_{14}H_{14}O_2$ **MW** 214.26
log Kow 3.19 **PS** S **SG** 1.25 g/cm^3 **MP** 125 °C
BP 350-370 °C **FP** >180 °C

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

Bisphenol F

bis(4-Hydroxyphenyl)methane

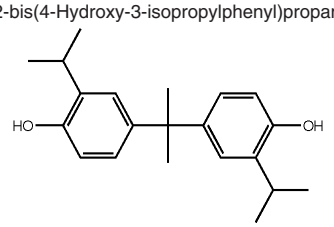


CAS 620-92-8 **MF** $C_{13}H_{12}O_2$ **MW** 200.23
log Kow 2.91 **PS** S **SG** 1.21 g/cm^3 **MP** 163 °C
BP 389-390 °C **FP** 193 °C

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

Bisphenol G

2,2-bis(4-Hydroxy-3-isopropylphenyl)propane

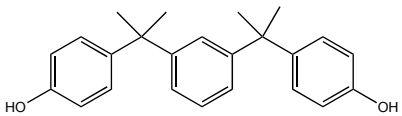


CAS 127-54-8 **MF** $C_{21}H_{28}O_2$ **MW** 312.45
log Kow 6.55 **PS** S **SG** 1.05 g/cm^3 **MP** 98 °C
BP 419-420 °C **FP** 185 °C

Matrix	Cat. No.	Unit
NEAT	BPA-G-N	20 mg
10 mg/mL in MeOH	BPA-G-S	1 mL

Bisphenol M

4,4-(1,3-Phenylenediisopropylidene)bisphenol

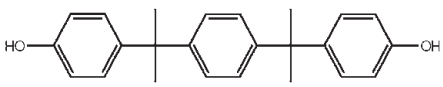


CAS 13595-25-0 **MF** $C_{24}H_{26}O_2$ **MW** 346.46
log Kow 6.25 **PS** S **SG** 1.15 g/cm^3 **MP** 138 °C
BP >495 °C **FP** >200 °C

Matrix	Cat. No.	Unit
NEAT	BPA-M-N	20 mg
10 mg/mL in MeOH	BPA-M-S	1 mL

Bisphenol P

4,4-(1,4-Phenylenediisopropylidene)bisphenol

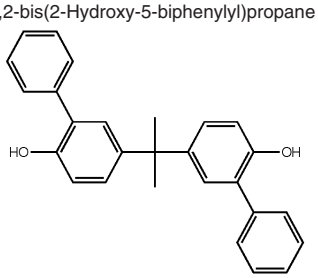


CAS 2167-51-3 **MF** $C_{24}H_{26}O_2$ **MW** 346-46
log Kow 6.25 **PS** S **SG** 1.11 g/cm^3 **MP** 199-200 °C
BP 514-515 °C **FP** 230 °C

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

Bisphenol PH

2,2-bis(2-Hydroxy-5-biphenylyl)propane

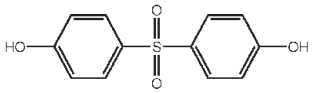


CAS 24038-68-4 **MF** $C_{24}H_{24}O_2$ **MW** 380.48
log Kow 7.17 **PS** S **SG** 1.20 g/cm^3 **MP** 118 °C
BP 567-568 °C **FP** 250 °C

Matrix	Cat. No.	Unit
NEAT	BPA-PH-N	20 mg
10 mg/mL in MeOH	BPA-PH-S	1 mL

Bisphenol S

bis(4-Hydroxyphenyl) sulfone

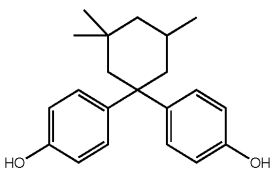


CAS 80-09-1 **MF** $C_{12}H_{10}O_4S$ **MW** 250.27
log Kow 1.65 **PS** S **SG** 1.43 g/cm^3 **MP** 245-250 °C
BP 505-506 °C **FP** 259 °C

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

Bisphenol TMC

1,1-bis(4-Hydroxyphenyl)-3,3,5-trimethylcyclohaxane

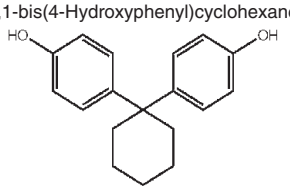


CAS 129188-99-4 **MF** $C_{21}H_{26}O_2$ **MW** 310.43
log Kow 6.29 **PS** S **SG** 1.10 g/cm^3 **MP** 204-207 °C
BP 450 °C **FP** 203 °C

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

Bisphenol Z

1,1-bis(4-Hydroxyphenyl)cyclohexane



CAS 843-55-0 **MF** $C_{18}H_{20}O_2$ **MW** 268.35
log Kow 5.00 **PS** S **SG** 1.17 g/cm^3 **MP** 189-192 °C
BP 440-441 °C **FP** 207 °C

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

Phthalates

Benzene dicarboxylic acid is equivalent to phthalic acid. Reacting phthalic acid with a variety of alcohols results in the synthesis of a group of chemicals designated as phthalic acid esters or phthalates.

Phthalates are used primarily as plasticizers. Plasticizers lower the glass transition temperature of a plastic/polymer and impart flexibility, durability and longevity to these types of products by acting as softening agents.

Due to their low-cost, versatility and effectiveness, phthalates are widely used in plastics manufacturing, pharmaceutical coatings, all types of packaging, inks, textiles and as gelling agents. They are end-use components of electronics, paints, adhesives, building materials, cleaning products and toys to name just a few.

Phthalates are now separated into two distinct classes according to the length of the precursor alcohol. The lower molecular weight (LMW) phthalates, including dibutyl, benzyl butyl and diethyl hexyl are made from alcohols with three to six carbon backbones.

Unfortunately, the LMW phthalates are easily released into the environment because there is no chemical bond between the phthalates and the plastic/polymer matrix. Leaching and atmospheric release of these compounds increases as the substrate ages and/or weathers has resulted in phthalates becoming a major environmental contaminant. This is important because phthalates are considered to be potential endocrine-disrupting agents (1). Human exposure to phthalates may be through direct contact, ingestion or inhalation. Concern over the adverse health effects has prompted regulatory changes and lead to a permanent ban of these plasticizers in baby-care products and toys (2).

Such a large-scale health concern has lead to the development of analytical methods for phthalates in a variety of matrices. The majority of these methods focus on the analysis of the LMW phthalates ranging from mono/diethyl to mono/dioctyl and, in particular, dibutyl and bis(2-ethylhexyl)phthalate (3). Bis(2-ethylhexyl)phthalate has been the dominant plasticizer and is the largest volume phthalate in the global market. It is used as a standard for comparison for the performance of other types of plasticizers.

All of the above-mentioned phthalates are single isomer compounds which can be analyzed via straight-forward GC/MS methods yielding a single chromatographic peak for each compound.

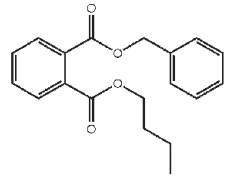
Phthalate Contents

Phthalates	**33-35**
Isophthalates	**36**
Terephthalates	**36**
Monophthalates	**36-37**
Deuterated Phthalates	**38**
Phthalates - Industrial	**39**
Phthalate Replacements	**40**
EPA Methods	**41**
International Methods	**42**

1. S. Jobling et al., *Environ. Health Perspect.*, **103** (6), 582-587 (1995)
2. Chemical & Engineering News, vol. 89, no 22, page 28 (May 30 2011)
3. H. Fromme et al., *Water Research*, **36** (6), 1429-1438 (2002)

Phthalates

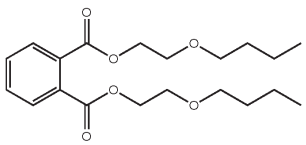
Benzyl butyl phthalate



CAS 85-68-7 **MF** $C_{19}H_{20}O_4$ **MW** 312.26 **PS** L
SG 1.13 g/cm^3 **MP** -35 °C **BP** 370-380 °C
FP 198 °C

Matrix	Cat. No.	Unit
NEAT	ALR-082N	100 mg
100 µg/mL in MeOH	ALR-082S	1 mL
5 mg/mL in MeOH	AS-E0065	1 mL

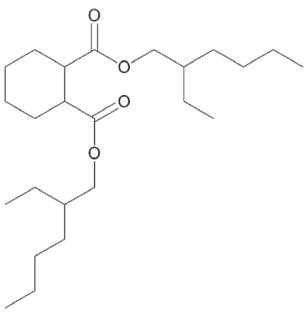
bis(2-n-Butoxyethyl)phthalate



CAS 117-83-9 **MF** $C_{20}H_{30}O_6$ **MW** 366.45 **PS** L
SG 1.06 g/cm^3 **MP** N/A **BP** 270 °C **FP** 205 °C

Matrix	Cat. No.	Unit
NEAT	J-112	100 mg

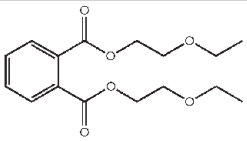
bis(2-ethylhexyl) cyclohexane-1,2-dicarboxylate



CAS 84-71-9 **MF** $C_{24}H_{44}O_4$ **MW** 369.6 **PS** L
MP -95 °C **BP** 68-70 °C **FP** -14.8 °C (cc)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-029S-H	1 mL

bis(2-Ethoxyethyl)phthalate

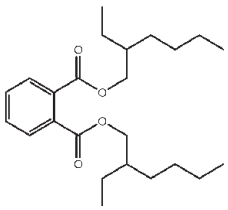


CAS 605-54-9 **MF** $C_{16}H_{22}O_6$ **MW** 310.34 **PS** S
SG 1.12 g/cm^3 **MP** 34 °C **BP** 345 °C **FP** N/A

Matrix	Cat. No.	Unit
NEAT	J-111	100 mg

bis(2-Ethylhexyl)phthalate (DEHP)

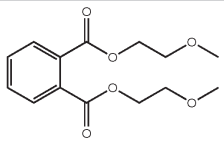
Di(2-Ethylhexyl) phthalate



CAS 117-81-7 **MF** $C_{24}H_{38}O_4$ **MW** 390.56 **PS** L
SG 0.98 g/cm^3 **MP** - 50 °C **BP** 361 °C **FP** 204 °C

Matrix	Cat. No.	Unit
NEAT	ALR-097N	100 mg
100 µg/mL in MeOH	ALR-097S	1 mL
1000 µg/mL in MeOH	APP-9-029-10X	1 mL

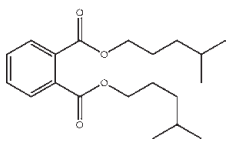
bis(2-Methoxyethyl)phthalate



CAS 117-82-8 **MF** $C_{14}H_{18}O_6$ **MW** 282.29 **PS** L
SG 1.17 g/cm^3 **MP** N/A **BP** 230 °C **FP** 121 °C

Matrix	Cat. No.	Unit
NEAT	J-106	100 mg

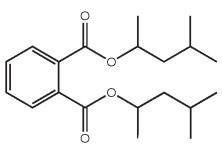
bis(4-Methylpentyl)phthalate



CAS 71850-09-4 **MF** $C_{20}H_{30}O_4$ **MW** 334.45 **PS** S
SG N/A **BP** N/A **FP** N/A

Matrix	Cat. No.	Unit
NEAT	PHTH-022N	100 mg
100 µg/mL in MeOH	PHTH-022S	1 mL

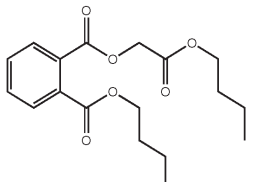
bis(4-Methyl-2-pentyl)phthalate



CAS 146-50-9 **MF** $C_{20}H_{30}O_4$ **MW** 334.45 **PS** L
SG 1.01 g/cm^3 **BP** 370-380 °C **FP** 180 °C

Matrix	Cat. No.	Unit
NEAT	J-109-10MG	10 mg
NEAT	J-109	100 mg

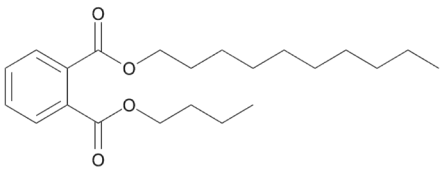
2-Butoxy-2-oxoethyl butyl phthalate



CAS 85-70-1 **MF** $C_{18}H_{24}O_6$ **MW** 336.38 **PS** L
SG 1.10 g/cm^3 **MP** N/A **BP** 345 °C **FP** 199 °C

Matrix	Cat. No.	Unit
NEAT	J-115	100 mg

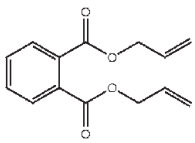
Butyl decyl phthalate



CAS 89-19-0 **MF** $C_{22}H_{34}O_4$ **MW** 362.5 **PS** L
MP -95 °C **BP** 68-70 °C **FP** -14.8 °C (cc)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-027S-H	1 mL

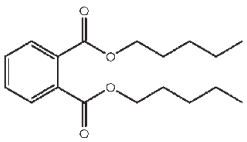
Diallyl phthalate



CAS 131-17-9 **MF** $C_{14}H_{14}O_4$ **MW** 246.26 **PS** L
SG 1.11 g/cm^3 **MP** 16 °C **BP** 165 °C **FP** 165 °C

Matrix	Cat. No.	Unit
NEAT	J-002	100 mg

Diamyl phthalate



CAS 131-18-0 **MF** $C_{18}H_{26}O_4$ **MW** 306.40 **PS** L
SG 1.03 g/cm^3 **BP** 342 °C **FP** 190 °C

Matrix	Cat. No.	Unit
NEAT	ALR-098N	100 mg
100 µg/mL in MeOH	ALR-098S	1 mL

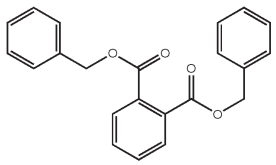
Property Key

CAS	Chemical Abstract Service Number	**SG**	Specific Gravity (g/cm^3)
MF	Molecular Formula	**MP**	Melting Point (°C)
MW	Molecular Weight	**BP**	Boiling Point (°C)
PS	Physical State (Solid, Liquid)	**FP**	Flash Point (°C)

Phthalates continued on next page

Phthalates (continued)

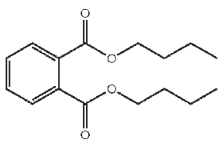
Dibenzyl phthalate



CAS 523-31-9 **MF** $C_{22}H_{18}O_4$ **MW** 346.38 **PS** S
SG 1.25 g/cm^3 **MP** 40-42 °C **BP** >400 °C
FP >150 °C

Matrix	Cat. No.	Unit
NEAT	J-104	100 mg

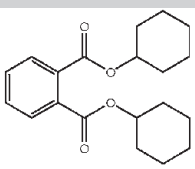
Dibutyl phthalate (Di-n-butyl phthalate)



CAS 84-74-2 **MF** $C_{16}H_{22}O_4$ **MW** 278.34 **PS** L
SG 1.05 g/cm^3 **MP** -35 °C **BP** 337-340 °C
FP 177 °C

Matrix	Cat. No.	Unit
NEAT	J-003	100 mg
100 µg/mL in MeOH	APP-9-063	1 mL
1000 µg/mL in MeOH	APP-9-063-10X	1 mL
5 mg/mL in MeOH	AS-E0066	1 mL

Dicyclohexyl phthalate



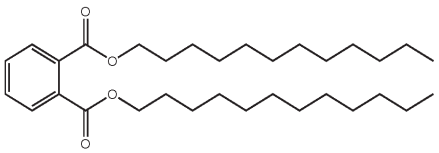
CAS 84-61-7 **MF** $C_{20}H_{26}O_4$ **MW** 330.42 **PS** S
SG 1.14 g/cm^3 **MP** 61-66 °C **BP** 235 °C
FP 207 °C

Matrix	Cat. No.	Unit
NEAT	J-004	100 mg
100 µg/mL in MeOH	ALR-099S	1 mL
1000 µg/mL in ACN	AS-E0318	1 mL

Property Key

CAS	Chemical Abstract Service Number	**SG**	Specific Gravity (g/cm^3)
MF	Molecular Formula	**MP**	Melting Point (°C)
MW	Molecular Weight	**BP**	Boiling Point (°C)
PS	Physical State (Solid, Liquid)	**FP**	Flash Point (°C)

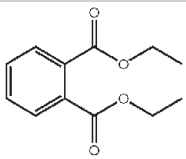
Didodecyl phthalate



CAS 2432-90-8 **MF** $C_{32}H_{54}O_4$ **MW** 502.77 **PS** Lor S
SG 1.05 g/cm^3 **MP** 21-23 °C **BP** N/A **FP** >200 °C

Matrix	Cat. No.	Unit
NEAT	PHTH-018N	100 mg
100 µg/mL in Hexane	PHTH-018S	1 mL

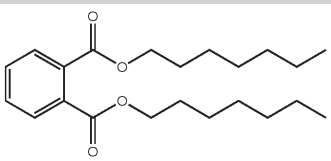
Diethyl phthalate



CAS 84-66-2 **MF** $C_{12}H_{14}O_4$ **MW** 222.24 **PS** L
SG 1.12 g/cm^3 **MP** -3 °C **BP** 172 °C **FP** 160 °C

Matrix	Cat. No.	Unit
NEAT	J-005	100 mg
100 µg/mL in MeOH	APP-9-081	1 mL
1000 µg/mL in MeOH	APP-9-081-10X	1 mL
5 mg/mL in MeOH	AS-E0068	1 mL

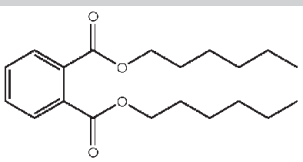
Di-n-heptyl phthalate



CAS 3648-21-3 **MF** $C_{22}H_{34}O_4$ **MW** 362.50 **PS** L
SG 0.99 g/cm^3 **MP** N/A **BP** 195 °C **FP** 113 °C

Matrix	Cat. No.	Unit
NEAT	PHTH-020N	100 mg
100 µg/mL in MeOH	PHTH-020S	1 mL

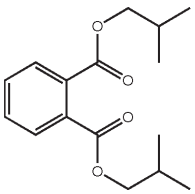
Dihexyl phthalate



CAS 84-75-3 **MF** $C_{20}H_{30}O_4$ **MW** 334.45 **PS** L
SG 1.01 g/cm^3 **BP** 185-187 °C **FP** 200 °C

Matrix	Cat. No.	Unit
NEAT	ALR-100N	100 mg
100 µg/mL in MeOH	ALR-100S	1 mL

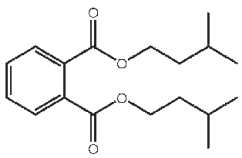
Diisobutyl phthalate



CAS 84-69-5 **MF** $C_{16}H_{22}O_4$ **MW** 278.34 **PS** L or S
SG 1.04 g/cm^3 **MP** N/A **BP** 327 °C **FP** 109 °C

Matrix	Cat. No.	Unit
NEAT	J-113	100 mg

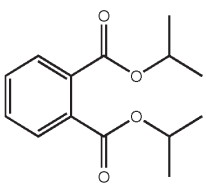
Diisopentyl phthalate



CAS 605-50-5 **MF** $C_{18}H_{26}O_4$ **MW** 306.40 **PS** L
SG 1.03 g/cm^3 **FP** 167 °C

Matrix	Cat. No.	Unit
NEAT	J-127	100 mg

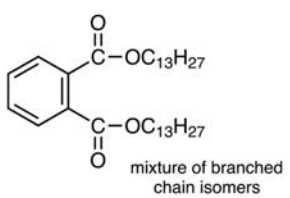
Diisopropyl phthalate



CAS 605-45-8 **MF** $C_{14}H_{18}O_4$ **MW** 250.29 **PS** L

Matrix	Cat. No.	Unit
NEAT	PHTH-019N	100 mg
100 µg/mL in MeOH	PHTH-019S	1 mL

Diisotridecyl phthalate

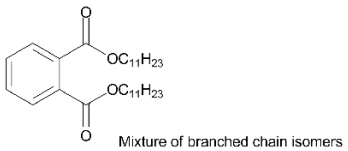


CAS 75359-31-8 **MF** $C_{34}H_{58}O_4$ **MW** 530.82 **PS** S
SG 0.96 g/cm^3 **MP** -95 °C **BP** 68-70 °C **FP** 242 °C

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-025S-H	1 mL

Phthalates (continued)

Di-iso-undecyl phthalate

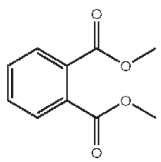


Mixture of branched chain isomers

CAS 96507-86-7 **MF** $C_{30}H_{50}O_4$ **MW** 474.71 **PS** L
BP 267 °C **FP** 462 °C

Matrix	Cat. No.	Unit
NEAT	PHTH-023N	100 mg
100 µg/mL in MeOH	PHTH-023S	1 mL

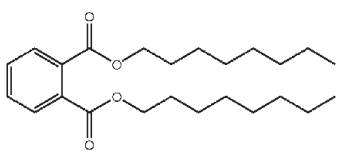
Dimethyl phthalate



CAS 131-11-3 **MF** $C_{10}H_{10}O_4$ **MW** 194.18 **PS** L
SG 1.19 g/cm^3 **MP** 2-6 °C **BP** 282-284 °C
FP 295 °C

Matrix	Cat. No.	Unit
NEAT	J-010	100 mg
100 µg/mL in MeOH	APP-9-088	1 mL
1000 µg/mL in MeOH	APP-9-088-10X	1 mL
0.1 mg/mL in EtOAc	M-8032-IS	1 mL
5 mg/mL in MeOH	AS-E0069	1 mL

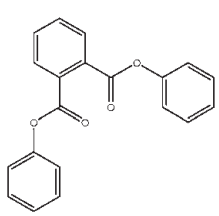
Di-n-octyl phthalate



CAS 117-84-0 **MF** $C_{24}H_{38}O_4$ **MW** 390.56 **PS** L
SG 0.98 g/cm^3 **MP** -25 °C **FP** 109 °C

Matrix	Cat. No.	Unit
NEAT	J-011	100 mg
100 µg/mL in MeOH	APP-9-095	1 mL

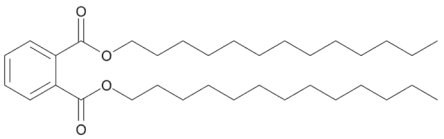
Diphenyl phthalate



CAS 84-62-8 **MF** $C_{20}H_{14}O_4$ **MW** 318.32 **PS** S
SG 1.24 g/cm^3 **MP** 74-76 °C **BP** 255 °C **FP** 256 °C

Matrix	Cat. No.	Unit
NEAT	J-013	100 mg

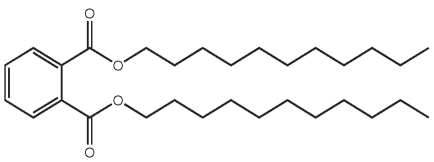
Ditridecyl phthalate



CAS 119-06-2 **MF** $C_{34}H_{58}O_4$ **MW** 530.82 **PS** S
SG 0.951 g/cm^3 **MP** -95 °C **BP** >285 °C
FP 243 °C (OC)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-024S-H	1 mL

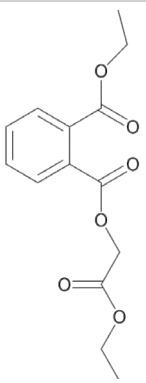
Diundecyl phthalate



CAS 3648-20-2 **MF** $C_{30}H_{50}O_4$ **MW** 474.72 **PS** Lor S
SG 0.95 g/cm^3 **MP** 15 °C **BP** 472 °C **FP** 239 °C

Matrix	Cat. No.	Unit
NEAT	PHTH-021N	100 mg
100 µg/mL in MeOH	PHTH-021S	1 mL

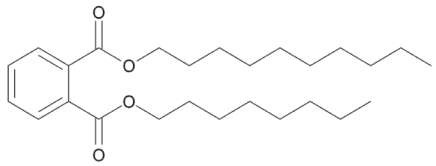
Ethylphthalyl ethyl glycolate



CAS 84-72-0 **MF** $C_{14}H_{16}O_6$ **MW** 280.27 **PS** L
SG 1.19 g/cm^3 **MP** 13 °C **BP** 320 °C **FP** 185 °C
(cc)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-030S-H	1 mL

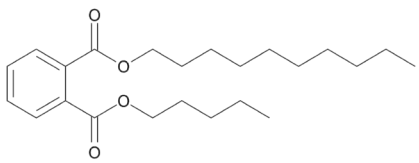
n-Octyl n-decyl phthalate



CAS 119-07-3 **MF** $C_{26}H_{42}O_4$ **MW** 418.6 **PS** L
SG 0.97 g/cm^3 **MP** <25°C **BP** 436 °C **FP** 233 °C

Matrix	Cat. No.	Unit
NEAT (Tech Mix)	J-015	100 mg
100 µg/mL in Hexane	PHTH-031S-H	1 mL

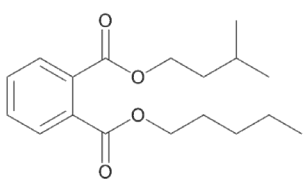
Pentyl decyl phthalate



CAS 7493-81-4 **MF** $C_{23}H_{36}O_4$ **MW** 376.5 **PS** L
MP -95 °C **BP** 68-70 °C **FP** -14.8 °C (cc)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-028S-H	1 mL

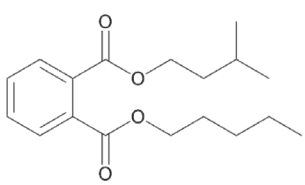
n-Pentyl-isopentyl phthalate



CAS 776297-69-9 **MF** $C_{18}H_{26}O_4$ **MW** 306.40 **PS** L
MP -95 °C **BP** 68-70 °C **FP** -26 °C (cc)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-032S-H	1 mL

n-Pentyl-isopentyl phthalate



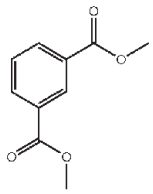
CAS 776297-69-9 **MF** $C_{18}H_{26}O_4$ **MW** 306.40 **PS** L
MP -95 °C **BP** 68-70 °C **FP** -26 °C (cc)

Matrix	Cat. No.	Unit
100 µg/mL in Hexane	PHTH-032S-H	1 mL

Iso, Tere, and Mono Phthalates

Isophthalates

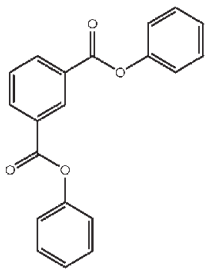
Dimethyl isophthalate



CAS 1459-93-4 **MF** $C_{10}H_{10}O_4$ **MW** 194.18 **PS** S
SG 1.18 g/cm^3 **MP** 64-68 °C **BP** 282-285 °C
FP 148 °C

Matrix	Cat. No.	Unit
NEAT	J-009	100 mg

Diphenyl isophthalate

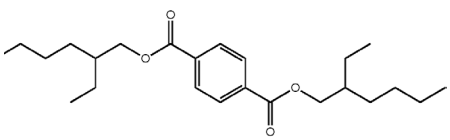


CAS 744-45-6 **MF** $C_{20}H_{14}O_4$ **MW** 318.32 **PS** S
SG 1.24 g/cm^3 **MP** 136-138 °C **FP** 256 °C

Matrix	Cat. No.	Unit
NEAT	J-012	100 mg

Terephthalates

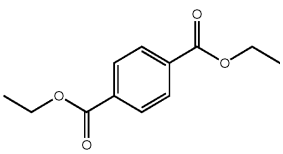
bis(2-Ethylhexyl) terephthalate



CAS 6422-86-2 **MF** $C_{24}H_{38}O_4$ **MW** 390.56 **PS** L
SG 0.99 g/cm^3 **MP** N/A **BP** 400 °C **FP** 238 °C

Matrix	Cat. No.	Unit
NEAT	J-121	100 mg

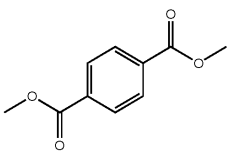
Diethyl terephthalate



CAS 636-09-9 **MF** $C_{12}H_{14}O_4$ **MW** 222.24 **PS** S
SG 1.15 g/cm^3 **MP** 43-47 °C **BP** 142 °C
FP >150 °C

Matrix	Cat. No.	Unit
NEAT	J-123	100 mg

Dimethyl terephthalate



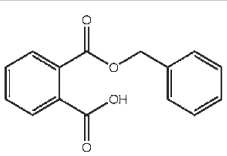
CAS 120-61-6 **MF** $C_{10}H_{10}O_4$ **MW** 194.18 **PS** S
SG 1.36 g/cm^3 **MP** 139-141 °C **BP** 288 °C
FP 151 °C

Matrix	Cat. No.	Unit
NEAT	J-101	100 mg

Monophthalates

Mono-phthalate esters are the primary phthalate metabolites formed via hydrolysis of one ester bond. It is these compounds that are thought to be toxic agents and are receiving interest as a possible human health issue. Studies have shown that they can produce estrogenic and immune-suppressive effects in humans.

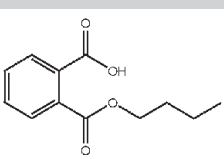
Monobenzyl phthalate (mBzP)



CAS 2528-16-7 **MF** $C_{15}H_{12}O_4$ **MW** 256.25 **PS** S
SG 1.28 g/cm^3 **MP** 106 °C **BP** 441 °C **FP** 168 °C

Matrix	Cat. No.	Unit
NEAT	ALR-134N	100 mg
100 µg/mL in ACN	ALR-134S-CN	1 mL

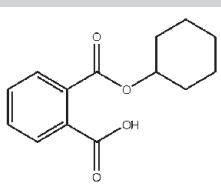
Monobutyl phthalate (mBP)



CAS 131-70-4 **MF** $C_{12}H_{14}O_4$ **MW** 222.24 **PS** S
SG 1.17 g/cm^3 **MP** 73 °C **BP** 350-354 °C **FP** 138 °C

Matrix	Cat. No.	Unit
NEAT	ALR-135N	100 mg
100 µg/mL in ACN	ALR-135S-CN	1 mL

Monocyclohexyl phthalate (mBP)



CAS 7517-36-4 **MF** $C_{14}H_{16}O_4$ **MW** 248.27 **PS** S
SG 1.24 g/cm^3 **MP** 89-91 °C **BP** 410 °C **FP** 154 °C

Matrix	Cat. No.	Unit
NEAT	ALR-178N	100 mg
100 µg/mL in ACN	ALR-178S-CN	1 mL

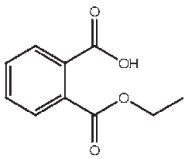
Technical Note

AccuStandard offers 13 mono-phthalates including the mono-ethylhexyl (mEHP) which is the metabolite of the plasticizer with the greatest yearly production and use on a global basis.

Monophthalates continued on next page

Monophthalates

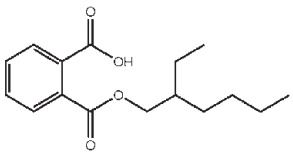
Monoethyl phthalate (mEP)



CAS 2306-33-4 **MF** $C_{10}H_{10}O_4$ **MW** 194.18 **PS** S
SG 1.24 g/cm^3 **MP** 101 °C **BP** 329 °C **FP** 135 °C

Matrix	Cat. No.	Unit
NEAT	ALR-137N	100 mg
100 µg/mL in ACN	ALR-137S-CN	1 mL

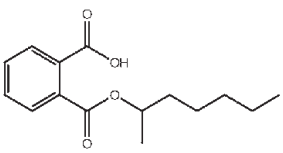
Monoethylhexyl phthalate (mEHP)



CAS 4376-20-9 **MF** $C_{16}H_{22}O_4$ **MW** 278.34 **PS** S
SG 1.09 g/cm^3 **MP** 142 °C **BP** 390-395 °C
FP 144 °C

Matrix	Cat. No.	Unit
NEAT	ALR-138N	100 mg
100 µg/mL in ACN	ALR-138S-CN	1 mL

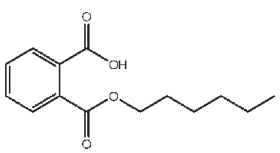
Mono-2-heptyl phthalate



CAS N/A **MF** $C_{15}H_{20}O_4$ **MW** 264.32 **PS** S

Matrix	Cat. No.	Unit
NEAT	ALR-143N	100 mg
100 µg/mL in ACN	ALR-143S-CN	1 mL

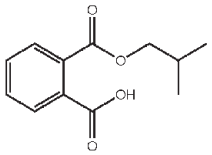
Monohexyl phthalate



CAS 24539-57-9 **MF** $C_{14}H_{18}O_4$ **MW** 250.29 **PS** S
SG 1.12 g/cm^3 **MP** 133 °C **BP** 375-380 °C
FP 142 °C

Matrix	Cat. No.	Unit
NEAT	ALR-175N	100 mg
100 µg/mL in ACN	ALR-175S-CN	1 mL

Monoisobutyl phthalate

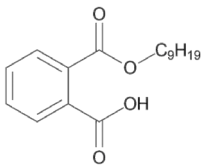


CAS 30833-53-5 **MF** $C_{12}H_{14}O_4$ **MW** 222.24 **PS** S
SG 1.17 g/cm^3 **MP** 78-80 °C **BP** 356-357 °C
FP 135 °C

Matrix	Cat. No.	Unit
NEAT	ALR-176N	100 mg
100 µg/mL in ACN	ALR-176S-CN	1 mL

Monoisononyl phthalate

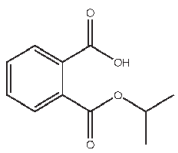
Mixture of C9 Isomers



CAS N/A **MF** $C_{17}H_{24}O_4$ **MW** 292.37 **PS** S

Matrix	Cat. No.	Unit
NEAT	ALR-142N	100 mg
100 µg/mL in ACN	ALR-142S-CN	1 mL

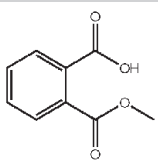
Monoisopropyl phthalate



CAS 35118-50-4 **MF** $C_{11}H_{12}O_4$ **MW** 208.21 **PS** S
SG 1.20 g/cm^3 **MP** 100-104 °C **BP** 343-344 °C
FP 133 °C

Matrix	Cat. No.	Unit
NEAT	ALR-179N	100 mg
100 µg/mL in ACN	ALR-179S-CN	1 mL

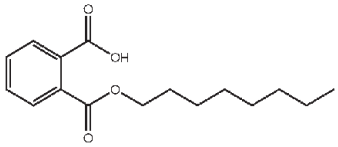
Monomethyl phthalate



CAS 4376-18-5 **MF** $C_9H_8O_4$ **MW** 180.16 **PS** S
SG 1.29 g/cm^3 **MP** 81-84 °C **BP** 315-316 °C
FP 135 °C

Matrix	Cat. No.	Unit
NEAT	ALR-139N	100 mg
100 µg/mL in ACN	ALR-139S-CN	1 mL

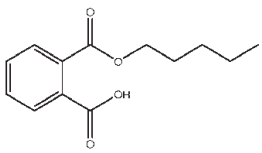
Monooctyl phthalate



CAS 5393-19-1 **MF** $C_{16}H_{22}O_4$ **MW** 278.34 **PS** S
SG 1.09 g/cm^3 **MP** 149 °C **BP** 400 °C **FP** 146 °C

Matrix	Cat. No.	Unit
NEAT	ALR-141N	100 mg
100 µg/mL in ACN	ALR-141S-CN	1 mL

Mono-n-pentyl phthalate



CAS 24539-56-8 **MF** $C_{13}H_{16}O_4$ **MW** 236.26 **PS** S
SG 1.48 g/cm^3 **MP** 125-126 °C **BP** 376-377 °C
FP 140 °C

Matrix	Cat. No.	Unit
NEAT	ALR-177N	100 mg
100 µg/mL in ACN	ALR-177S-CN	1 mL

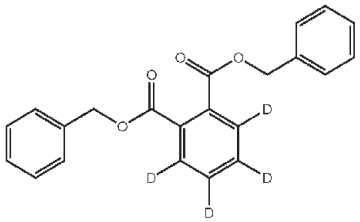
Property Key

CAS	Chemical Abstract Service Number	**SG**	Specific Gravity (g/cm^3)
MF	Molecular Formula	**MP**	Melting Point (°C)
MW	Molecular Weight	**BP**	Boiling Point (°C)
PS	Physical State (Solid, Liquid)	**FP**	Flash Point (°C)

Deuterated Phthalates

AccuStandard offers eleven deuterated phthalates which can be used as internal standards.

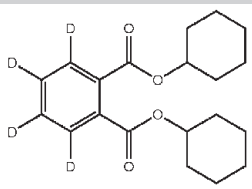
Dibenzylphthalate-d_4



CAS 1015854-62-2 **MF** $C_{22}H_{14}D_4O_4$ **MW** 350.40 **PS** S **MP** 40-42 °C **BP** 276-278 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-001S	1 mL

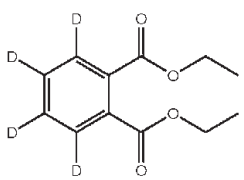
Dicyclohexyl phthalate-3,4,5,6-d_4



CAS 358731-25-6 **MF** $C_{20}H_{22}D_4O_4$ **MW** 334.44 **PS** S
SG 1.16 g/cm^3 **MP** 65-67 °C **FP** 207 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-004S	1 mL

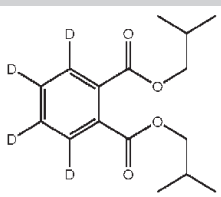
Diethyl phthalate-3,4,5,6-d_4



CAS 93952-12-6 **MF** $C_{12}H_{10}D_4O_4$ **MW** 226.26 **PS** L **SG** 1.14 g/cm^3 **MP** -3 °C **FP** 160 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-005S	1 mL

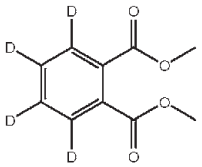
Di-iso-butyl phthalate-3,4,5,6-d_4



CAS 358730-88-8 **MF** $C_{16}H_{18}D_4O_4$ **MW** 282.37 **PS** L
MP N/A **BP** 327 °C **FP** 109 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-003S	1 mL

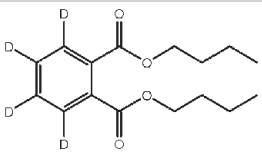
Dimethyl phthalate-3,4,5,6-d_4



CAS 93951-89-4 **MF** $C_{10}H_6D_4O_4$ **MW** 198.21 **PS** L **SG** 1.20 g/cm^3 **MP** 2 °C **BP** 282 °C **FP** 147 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-007S	1 mL

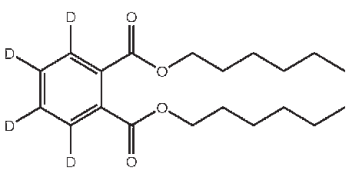
Di-n-butyl phthalate-d_4



CAS 93952-11-5 **MF** $D_{16}H_{18}D_4O_4$ **MW** 282.37 **PS** L **SG** 1.07 g/cm^3 **MP** < 25 °C **BP** 336 °C **FP** 171 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-002S	1 mL

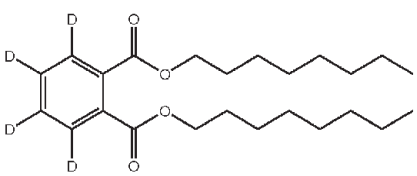
Di-n-hexyl phthalate-3,4,5,6-d_4



CAS 1015854-55-3 **MF** $C_{20}H_{26}D_4O_4$ **MW** 338.47 **PS** L **SG** 1.01 g/cm^3 **MP** N/A **BP** 185-187 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-006S	1 mL

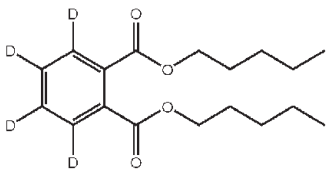
Di-n-octyl phthalate-3,4,5,6-d_4



CAS 93952-13-7 **MF** $C_{24}H_{34}D_4O_4$ **MW** 394.58 **PS** L **SG** 0.96 g/cm^3 **MP** - 50 °C **BP** 390 °C **FP** 205 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-008S	1 mL

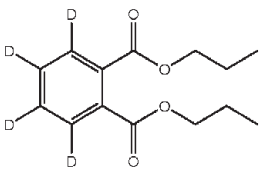
Di-n-pentyl phthalate-3,4,5,6-d_4



CAS 358730-89-9 **MF** $C_{18}H_{22}D_4O_4$ **MW** 310.42 **PS** L
MP N/A **BP** 360 °C **FP** >110 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-009S	1 mL

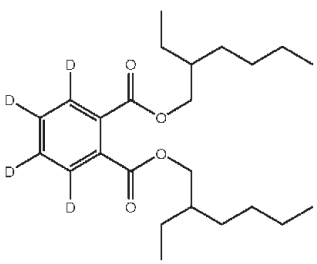
Di-n-propyl phthalate-3,4,5,6-d_4



CAS 358731-29-0 **MF** $C_{14}H_{14}D_4O_4$ **MW** 254.31 **PS** L
SG 1.08 g/cm^3 **MW** N/A **BP** 317-318 °C **FP** >110 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-010S	1 mL

bis(2-Ethylhexyl) phthalate-3,4,5,6-d_4



CAS 93951-87-2 **MF** $C_{24}H_{34}D_4O_4$ **MW** 394.58 **PS** L **SG** 0.98 g/cm^3 **MP** -50 °C **BP** 384 °C **FP** 207 °C

Matrix	Cat. No.	Unit
100 µg/mL in MeOH	PHTH-D4-011S	1 mL

Other compounds are available. contact our Technical Service if you require additional deuterated or other labeled compounds.

Phthalates

The high molecular weight (HMW) phthalates have more than six carbons in the backbone and are synthesized from phthalic acid and mixtures of C9 and C10 alcohols. The two major HMW products are diisononyl phthalate (DINP) and diisodecyl phthalate (DIDP).

Attention has now turned to the analysis of these compounds as they are becoming major players in the plasticizer marketplace. However, due to the synthesis process, GC separation of DINP and DIDP results in a cluster of peaks corresponding to different isomers. Consequently, different analytical approaches based on soft ionization techniques and MS detection have been documented in the literature (1). These new approaches can provide another tool to scrutinize the amounts, environmental fate and potential health effects of these HMW plasticizers.

1. David, F., Sandra, P. and Hancock, P., *Current Trends in Mass Spectrometry*, May 2011)

Phthalates - Technical Mixtures

Compound	CAS No.	Conc.	Matrix	Cat. No.	Unit
Butyl cyclohexyl phthalate	84-64-0		NEAT	J-122	100 mg
n-Butyl isobutyl phthalate	17851-53-5		NEAT	PHTH-013N	10 mg
		100 µg/mL	MeOH	PHTH-013S	1 mL
Butyl octyl phthalate	84-78-6		NEAT	J-001	100 mg
Decyl octyl phthalate	119-07-3		NEAT	PHTH-012N	10 mg
		100 µg/mL	MeOH	PHTH-012S	1 mL
Diisodecyl phthalate	26761-40-0		NEAT	ALR-101N	100 mg
		100 µg/mL	MeOH	ALR-101S	1 mL
Diisoheptyl phthalate	71888-89-6		NEAT	PHTH-017N	100 mg
		100 µg/mL	MeOH	PHTH-017S	1 mL
Diisohexyl phthalate	68515-50-4		NEAT	J-007-10MG	10 mg
Diisononyl phthalate (C_8 to C_{10} Isomers)	68515-48-0		NEAT	ALR-102N	100 mg
		100 µg/mL	MeOH	ALR-102S	1 mL
Diisooctyl phthalate (C_8 Isomers)	27554-26-3		NEAT	ALR-103N	100 mg
		100 µg/mL	MeOH	ALR-103S	1 mL
Hexyl 2-ethylhexyl phthalate	75673-16-4		NEAT	J-016	100 mg
Isobutyl benzyl phthalate	72170-45-7		NEAT	PHTH-015N	10 mg
		100 µg/mL	MeOH	PHTH-015S	1 mL
Isobutyl cyclohexyl phthalate	5334-09-8		NEAT	J-014	100 mg
n-Octyl n-decyl phthalate	119-07-3		NEAT	J-015	100 mg
Pentyl isopentyl phthalate	776297-69-9		NEAT	PHTH-016N	10 mg
		100 µg/mL	MeOH	PHTH-016S	1 mL

Phthalate Set, Kit and Mixtures

Phthalates Solution Set

Set of 17 Phthalate Solutions *Each at 100 µg/mL Concentration* (S in MeOH, S-CN in ACN) **ALR-PHT-SET** **17 x 1 mL**

Compound	CAS No.	Cat. No.	Unit	Compound	CAS No.	Cat. No.	Unit
Benzyl butyl phthalate	85-68-7	ALR-082S	1 mL	Dimethyl phthalate (DMP)	131-11-3	ALR-111S	1 mL
Diamyl phthalate	131-18-0	ALR-098S	1 mL	Di-n-butyl phthalate (DBP)	84-74-2	ALR-104S	1 mL
Dicyclohexyl phthalate	84-61-7	ALR-099S	1 mL	Di-n-octyl phthalate	117-84-0	ALR-105S	1 mL
Di(2-ethyl hexyl) phthalate (DEHP)	117-81-7	ALR-097S	1 mL	Monobenzyl phthalate (mBzP)	2528-16-7	ALR-134S-CN	1 mL
Diethyl phthalate	84-66-2	ALR-110S	1 mL	Monobutyl phthalate (mBP)	131-70-4	ALR-135S-CN	1 mL
Di-hexyl phthalate	84-75-3	ALR-100S	1 mL	Monoethyl phthalate (mEP)	2306-33-4	ALR-137S-CN	1 mL
Diisodecyl phthalate (Tech Mix)	26761-40-0	ALR-101S	1 mL	Monoethylhexyl phthalate (mEHP)	4376-20-9	ALR-138S-CN	1 mL
Diisononyl phthalate	28553-12-0	ALR-102S	1 mL	Monomethyl phthalate	4376-18-5	ALR-139S-CN	1 mL
Diisooctyl phthalate (Tech Mix)	27554-26-3	ALR-103S	1 mL				

Miscellaneous Phthalate Mixes

Appendix IX Phthalate Mix

APP-9-PHTH-MIX **1 x 1 mL**

1000 µg/mL each in Cyclohexane 6 comps.

- bis(2-Ethylhexyl)phthalate
- Dibutyl phthalate
- Di-n-octyl phthalate
- Diisodecyl phthalate
- Diisoonyl phthalate
- Benzyl butyl phthalate

Phthalate Esters Mix

M-PHE **1 x 1 mL**

M-PHE-PAK ***SAVE*** **5 x 1 mL**

At stated conc.(µg/mL) in Acetone 6 comps.

Benzyl butyl phthalate	10	Dimethyl phthalate	25
bis(2-Ethylhexyl)phthalate	50	Di-n-butyl phthalate	25
Diethyl phthalate	25	Di-n-octyl phthalate	50

Phthalate Mix

ASM-146 **1 x 1 mL**

1.0 mg/mL each in MeOH 6 comps.

- Benzyl butyl phthalate
- Dimethyl phthalate
- Diethyl phthalate
- Di-n-butyl phthalate
- Di-n-octyl phthalate
- bis(2-Ethylhexyl)phthalate

Adipate and Phthalate Standard

WS-PHTH-001 **1 x 1 mL**

1000 µg/mL each in Acetone 2 comps.

- bis(2-Ethylhexyl)phthalate
- bis(2-Ethylhexyl)adipate

Phthalates Reference Standard

ENISO18856 **1 x 1 mL**

1000 µg/mL each in Ethyl acetate 10 comps.

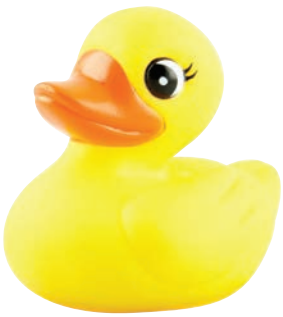
- Benzyl butyl phthalate
- bis(2-Ethylhexyl)phthalate
- Di-n-octyl phthalate
- Di-n-propyl phthalate
- Dibutyl phthalate
- Dicyclohexyl phthalate
- Didecyl phthalate
- Diethyl phthalate
- Diisobutyl phthalate
- Dimethyl phthalate

Phthalate Replacements

World-wide concern over enviromental and health-related factors associated with phthalates has led to restrictions of use in a wide array of products. This has resulted in the plastics industry generating a variety of alternatives.

In response, AccuStandard has developed a phthalate replacement product line comprised of 42 compounds representing 18 chemical classes.

Compound	CAS No.	Concentration	Cat. No.	Unit
Azelaic Acid Derivatives				
Diisodecyl azelate	28472-97-1	1000 µg/mL in Acetone	PLAS-PL-075S-A	1 mL
Diisoctyl azelate	26544-17-2	1000 µg/mL in Acetone	PLAS-PL-076S-A	1 mL
Dimethyl azelate	1732-10-1	1000 µg/mL in Acetone	PLAS-PL-077S-A	1 mL
Di-n-hexyl azelate	109-31-9	1000 µg/mL in Acetone	PLAS-PL-078S-A	1 mL
Di(2-ethyl hexyl) azelate	103-24-2	1000 µg/mL in Acetone	PLAS-PL-081S-A	1 mL
Adipic Acid Derivatives				
Di(tridecyl) adipate	16958-92-2	1000 µg/mL in Acetone	PLAS-PL-079S-A	1 mL
Di(n-heptyl, n-nonyl) adipate	68515-75-3	1000 µg/mL in Hexane	PLAS-PL-080S	1 mL
Diisobutyl adipate	84-69-5	1000 µg/mL in Hexane	PLAS-PL-082S	1 mL
Diisodecyl adipate	27178-16-1	1000 µg/mL in Hexane	PLAS-PL-083S	1 mL
Dimer Acid Derivatives				
Bis(2-hydroxyethyl) dimerate	68855-78-7	1000 µg/mL in Hexane	PLAS-PL-084S	1 mL
Epoxy Derivatives				
Epoxidized linseed oil	8016-11-3	1000 µg/mL in Toluene	PLAS-PL-085S-T	1 mL
2-Ethylhexyl epoxy tallate	61789-01-3	1000 µg/mL in Hexane	PLAS-PL-086S	1 mL
Fumeric Acid Derivative				
Dibutyl fumarate	105-75-9	1000 µg/mL in Hexane	PLAS-PL-087S	1 mL
Glycerol Derivative				
Glycerol triacetate	102-76-1	1000 µg/mL in Hexane	PLAS-PL-088S	1 mL
Isobutyrate Derivative				
2,2,4-Trimethyl-1,3-pentanediol-diisobutyrate	6846-50-0	1000 µg/mL in Hexane	PLAS-PL-089S	1 mL
Maleic Acid Derivatives				
di(2-Ethylhexyl)maleate [Dioctyl maleate]	142-16-5	1000 µg/mL in Hexane	PLAS-PL-090S	1 mL
Di n-butyl maleate	105-76-0	1000 µg/mL in Hexane	PLAS-PL-091S	1 mL
Mellitates				
Tricapryl trimellitate	27251-75-8	1000 µg/mL in Hexane	PLAS-PL-092S	1 mL
Triisodecyl trimellitate	36631-30-8	1000 µg/mL in Hexane	PLAS-PL-093S	1 mL
Tri-(n-octyl, n-decyl) trimellitate	67989-23-5	1000 µg/mL in Hexane	PLAS-PL-094S	1 mL
Myristate				
Isopropyl myristate	110-27-0	1000 µg/mL in Hexane	PLAS-PL-095S	1 mL
Olieic Acid Derivatives				
Glycerol monooleate	25496-72-4	1000 µg/mL in Hexane	PLAS-PL-096S	1 mL
Methyl oleate	112-62-9	1000 µg/mL in Hexane	PLAS-PL-097S	1 mL
n-Propyl oleate	111-59-1	1000 µg/mL in Hexane	PLAS-PL-098S	1 mL
Tetrahydrofurfuryl oleate		1000 µg/mL in Hexane	PLAS-PL-099S	1 mL
Palmitic Acid derivative				
Isopropyl palmitate	142-91-6	1000 µg/mL in Hexane	PLAS-PL-100S	1 mL
Benzoic Acid Derivatives				
Di(propylene glycol) dibenzoate	27138-31-4	1000 µg/mL in Hexane	PLAS-PL-101S	1 mL
Polyethylene glycol 200 dibenzoate	9004-86-8	1000 µg/mL in Hexane	PLAS-PL-102S	1 mL
Phosphoric Acid Derivatives				
t-Butylphenyl diphenyl phosphate	56803-37-3	1000 µg/mL in Hexane	PLAS-PL-103S	1 mL
Tri-butoxyethyl phosphate	78-51-3	1000 µg/mL in Hexane	PLAS-PL-104S	1 mL
Ricinoleic Acid Derivatives				
Butyl ricinoleate	151-13-3	1000 µg/mL in Hexane	PLAS-PL-105S	1 mL
Glyceryl (triacetyl)ricinoleate	101-34-8	1000 µg/mL in Hexane	PLAS-PL-106S	1 mL
n-Butyl acetyl ricinoleate	140-04-5	1000 µg/mL in Hexane	PLAS-PL-107S	1 mL
Propylene glycol ricinoleate	26402-31-3	1000 µg/mL in Toluene	PLAS-PL-108S-T	1 mL
Succinic acid Derivatives				
Diethyl succinate	123-25-1	1000 µg/mL in Hexane	PLAS-PL-109S	1 mL
Sulfonic acid Derivatives				
o,p-Toluenesulfonamide	8013-74-9	1000 µg/mL in Acetone	PLAS-PL-110S-A	1 mL
N-Ethyl o,p-toluenesulfonamide	8047-99-2	1000 µg/mL in Hexane	PLAS-PL-111S-T	1 mL
Stearic acid Derivatives				
Ethylene glycol monostearate	111-60-4	1000 µg/mL in Hexane	PLAS-PL-112S	1 mL
Isopropyl isostearate	68171-33-5	1000 µg/mL in Hexane	PLAS-PL-113S	1 mL
n-Butyl stearate		1000 µg/mL in Hexane	PLAS-PL-114S	1 mL
Glycerol monostearate	31566-31-1	1000 µg/mL in Toluene	PLAS-PL-115S-T	1 mL
Propylene glycol monostearate		1000 µg/mL in Hexane	PLAS-PL-116S	1 mL



See Plasticizer section, pages for structures, molecular formulas and molecular weights.

Phthalates EPA Methods

EPA Methods - Phthalate Standards

Method 506 Phthalate Esters by PID

Phthalate Esters

M-506 — **1 x 1 mL**
M-506-PAK — ***SAVE*** **5 x 1 mL**
1.0 mg/mL each in Isooctane — 7 comps.

- Benzyl butyl phthalate
- Dimethyl phthalate
- Diethyl phthalate
- Di-*n*-butyl phthalate
- bis(2-Ethylhexyl)adipate
- bis(2-Ethylhexyl)phthalate
- Di-*n*-octyl phthalate

M-506-QC — **1 x 1 mL**
M-506-QC-PAK — ***SAVE*** **5 x 1 mL**
At stated conc. in MeOH — 7 comps.

Benzyl butyl phthalate	(0.25 mg/mL)	bis(2-Ethylhexyl)adipate	(1.2 mg/mL)
Dimethyl phthalate	(0.1 mg/mL)	bis(2-Ethylhexyl)phthalate	(0.25 mg/mL)
Diethyl phthalate	(0.1 mg/mL)	Di-*n*-octyl phthalate	(0.65 mg/mL)
Di-*n*-butyl phthalate	(0.1 mg/mL)		

Method 606 Phthalate Esters by GC/ECD

M-606 — **1 x 1 mL**
M-606-PAK — ***SAVE*** **5 x 1 mL**
0.2 mg/mL each in MeOH — 6 comps.

- Benzyl butyl phthalate
- Dimethyl phthalate
- Diethyl phthalate
- Di-*n*-butyl phthalate
- Di-*n*-octyl phthalate
- bis(2-Ethylhexyl)phthalate

Method 8060 Phthalate Esters by GC/ECD

Phthalate Esters

M-8060 — **1 x 1 mL**
M-8060-PAK — ***SAVE*** **5 x 1 mL**
2.0 mg/mL each in Isooctane — 6 comps.

- Benzyl butyl phthalate
- Diethyl phthalate
- Dimethyl phthalate
- Di-*n*-butyl phthalate
- Di-*n*-octyl phthalate
- bis(2-Ethylhexyl)phthalate

M-8060-QC — **1 x 1 mL**
M-8060-QC-PAK — ***SAVE*** **5 x 1 mL**
At stated conc. in MeOH — 6 comps.

Benzyl butyl phthalate	(0.1 mg/mL)	Di-*n*-butyl phthalate	(0.25 mg/mL)
Diethyl phthalate	(0.25 mg/mL)	Di-*n*-octyl phthalate	(0.5 mg/mL)
Dimethyl phthalate	(0.25 mg/mL)	bis(2-Ethylhexyl)phthalate	(0.5 mg/mL)

Method 8061A Phthalate Esters by GC/ECD

Phthalate Esters

M-8061-R1 — **1 x 1 mL**
M-8061-R1-PAK — ***SAVE*** **5 x 1 mL**
1.0 mg/mL each in Hexane — 15 comps.

- bis(2-*n*-Butoxyethyl)phthalate
- Butyl benzyl phthalate
- Diamyl phthalate
- Di-n-butyl phthalate
- Dicyclohexyl phthalate
- Diethyl phthalate
- Dihexyl phthalate
- Diisobutyl phthalate
- Dimethyl phthalate
- Dinonyl phthalate
- Di-*n*-octyl phthalate
- bis(2-Ethoxyethyl)phthalate
- bis(2-Ethylhexyl)phthalate
- bis(2-Methoxyethyl)phthalate
- bis(4-Methyl-2-pentyl)phthalate

M-8061A — **1 x 1 mL**
M-8061A-PAK — ***SAVE*** **5 x 1 mL**
1.0 mg/mL each in Hexane — 6 comps.

- Butyl benzyl phthalate
- bis(2-Ethylhexyl)phthalate
- Di-*n*-butyl phthalate
- Diethyl phthalate
- Dimethyl phthalate
- Di-*n*-octyl phthalate

Matrix Spike Solution

M-8061A-MS — **1 x 1 mL**
M-8061A-MS-PAK — ***SAVE*** **5 x 1 mL**
2.0 mg/mL each in Acetone — 2 comps.

- Butyl benzyl phthalate
- bis(2-Ethylhexyl)phthalate

Internal Standard

M-8061-IS — **1 x 1 mL**
M-8061-IS-PAK — ***SAVE*** **5 x 1 mL**
5.0 mg/mL in Hexane

- Benzyl benzoate

Surrogate Standards

M-8061-SS — **1 x 1 mL**
M-8061-SS-PAK — ***SAVE*** **5 x 1 mL**
50 µg/mL each in Acetone
M-8061-SS-10X — **1 x 1 mL**
M-8061-SS-10X-PAK — ***SAVE*** **5 x 1 mL**
500 µg/mL each in Acetone — 3 comps.

- Dibenzyl phthalate
- Diphenyl isophthalate
- Diphenyl phthalate

Phthalates International Methods

AOAC International Phthalates

Phthalates in Water-Based Adhesive

AOAC-PHTH-01 **1 mL**

1000 µg/mL each in n-Hexane 9 comps.

- bis(2-Methoxyethyl)phthalate
- Dipentyl phthalate
- Benzyl butyl phthalate
- Diphenyl phthalate
- Dicyclohexyl phthalate
- Dihexyl phthalate
- bis(2-n-butoxyethyl)phthalate
- Di-n-octyl phthalate
- bis(2-Ethylhexyl)phthalate

Phthalates in Water-Based Adhesive Internal Standard

AOAC-PHTH-01-IS **1 mL**

AOAC-PHTH-01-IS-PAK ***SAVE*** **5 x 1 mL**

100 µg/mL each in n-Hexane 10 comps.

- bis(2-methoxyethyl) Phthalate-3,4,5,6-d_4
- di-n-pentyl phthalate-d_4
- bis(2-ethoxyethyl) Phthalate-3,4,5,6-d_4
- Benzyl butyl phthalate-d_4
- Diphenyl Phthalate-3,4,5,6-d_4
- Dicyclohexyl Phthalate-3,4,5,6-d_4
- Di-n-hexyl Phthalate-3,4,5,6-d4
- bis(2-butoxyethyl) Phthalate-3,4,5,6-d_4
- Di-n-octyl Phthalate-3,4,5,6-d_4
- bis(2-ethylhexyl)phthalate-d_4

EN ISO 18856 Phthalates

Phthalates Reference Standard

ENISO18856 **1 x 1 mL**

1000 µg/mL each in Ethyl acetate 10 comps.

- Benzyl butyl phthalate
- bis(2-Ethylhexyl)phthalate
- Di-n-octyl phthalate
- Di-n-propyl phthalate
- Dibutyl phthalate
- Dicyclohexyl phthalate
- Didecyl phthalate
- Diethyl phthalate
- Diisobutyl phthalate
- Dimethyl phthalate

ZEK-01.4-08 PAHs Reference Standard

ZEK-01.4-08S **1 mL**

1000 µg/mL each in Methylene chloride 18 comps.

- Acenaphthene
- Acenaphthylene
- Anthracene
- Benz(a)anthracene
- Benz[a]pyrene
- Benzo(b)fluoranthene
- Benzo(g,h,i)perylene
- Benzo(k)fluoranthene
- Chrysene
- Dibenz(a,h)anthracene
- Fluoranthene
- Fluorene
- Indeno(1,2,3-cd)pyrene
- Naphthalene
- Phenanthrene
- Pyrene
- Benzo(j)fluoranthene
- Benz[e]pyrene

Chinese National Food Safety Method GB 5009.271-2016

GB 5009.271 Phthalates Standard

GBS-005S **1 mL**

1000 µg/mL each in Hexane 18 comps.

- Diallyl phthalate
- Diisononyl phthalate
- Benzyl butyl phthalate
- bis(2-Ethoxyethyl)phthalate
- bis(2-Ethylhexyl)phthalate
- bis(2-Methoxyethyl)phthalate
- bis(2-n-butoxyethyl)phthalate
- bis(4-Methyl-2-pentyl)phthalate
- Di-n-octyl phthalate
- Dipentyl phthalate
- Dicyclohexyl phthalate
- Diethyl phthalate
- Dihexyl phthalate
- Diisobutyl phthalate
- Dimethyl phthalate
- Dinonyl phthalate
- Dibutyl phthalate
- Diphenyl phthalate

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.

EU Directive 67/548/EEC Dyes (Tech Mix)

Criterion #22 Regulated Dyes: Carcinogenic

Each in 100 µg/mL in MeOH	Cat. No.	Unit
Disperse Blue 1	DYE-001S-R1	1 mL
Disperse Orange 11	DYE-002S-R1	1 mL
Disperse Yellow 3	DYE-003S-R1	1 mL
	DYE-003N-R1	100 mg
Basic Violet 14	DYE-012S-R1	1 mL
Direct Black 38	DYE-013S-R1	1 mL
Direct Blue 6	DYE-014S-R1	1 mL

Technical Note

Dye compounds certified as technical mixture of the commercial dye product

Criterion #23 Regulated Dye: Disperse dyes, Sensitizing

Each in 100 µg/mL in MeOH	Cat. No.	Unit
Disperse Blue 3	DYE-004S-R1	1 mL
Disperse Orange 1	DYE-005S-R1	1 mL
Disperse Orange 3	DYE-006S-R1	1 mL
Disperse Red 1	DYE-007S-R1	1 mL
Disperse Yellow 9	DYE-008S-R1	1 mL
Disperse Blue 35	DYE-009S-R1	1 mL
Disperse Blue 124 *	DYE-010S-CN-R1	1 mL
Disperse Orange 37	DYE-011S-R1	1 mL
Disperse Blue 7	DYE-015S-R1	1 mL
Disperse Blue 26	DYE-016S-R1	1 mL
Disperse Blue 102	DYE-017S-R1	1 mL
Disperse Red 11	DYE-018S-R1	1 mL
Disperse Red 17	DYE-019S-R1	1 mL

* in Acetonitrile

EU Directive 2002/61/EC Determination of Aryl Amine Breakdown Products in Azo Dyes

Individual Aryl Amine Standards

Compound	100 µg/mL in ACN (1 mL)	1000 µg/mL in ACN (1 mL)	10 µg/mL in Ethyl acetate (10 mL)
o-Aminoazotoluene	RAC-01	RAC-01-10X	RAC-01-EA-0.1X-10ML
4-Aminobiphenyl	RAC-02	RAC-02-10X	RAC-02-EA-0.1X-10ML
2-Amino-4-nitrotoluene	RAC-03	RAC-03-10X	RAC-03-EA-0.1X-10ML
Benzidine †	RAC-04	RAC-04-10X	RAC-04-EA-0.1X-10ML
4-Chloroaniline	RAC-05	RAC-05-10X	RAC-05-EA-0.1X-10ML
4-Chloro-*o*-toluidine	RAC-06	RAC-06-10X	RAC-06-EA-0.1X-10ML
p-Cresidine	RAC-07	RAC-07-10X	RAC-07-EA-0.1X-10ML
2,4-Diaminoanisole (as Sulfate hydrate)	RAC-08-R1 *		RAC-08-EA-0.1X-10ML
4,4'-Diaminodiphenylmethane	RAC-09	RAC-09-10X	RAC-09-EA-0.1X-10ML
2,4-Diaminotoluene	RAC-10	RAC-10-10X	RAC-10-EA-0.1X-10ML
3,3'-Dichlorobenzidine †	RAC-11	RAC-11-10X	RAC-11-EA-0.1X-10ML
3,3'-Dimethoxybenzidine †	RAC-12	RAC-12-10X	RAC-12-EA-0.1X-10ML
3,3'-Dimethylbenzidine †	RAC-13	RAC-13-10X	RAC-13-EA-0.1X-10ML
3,3'-Dimethyl-4,4'-diaminodiphenylmethane	RAC-14	RAC-14-10X	RAC-14-EA-0.1X-10ML
4,4'-Methylenebis(2-chloroaniline)	RAC-15	RAC-15-10X	RAC-15-EA-0.1X-10ML
2-Naphthylamine	RAC-16	RAC-16-10X	RAC-16-EA-0.1X-10ML
4,4'-Oxydianiline	RAC-17	RAC-17-10X	RAC-17-EA-0.1X-10ML
4,4'-Thiodianiline	RAC-18	RAC-18-10X	RAC-18-EA-0.1X-10ML
o-Toluidine	RAC-19	RAC-19-10X	RAC-19-EA-0.1X-10ML
2,4,5-Trimethylaniline	RAC-20	RAC-20-10X	RAC-20-EA-0.1X-10ML
p-Aminoazobenzene	RAC-21	RAC-21-10X	RAC-21-EA-0.1X-10ML
2-Aminobiphenyl	RAC-22	RAC-22-10X	RAC-22-EA-0.1X-10ML
o-Anisidine	RAC-23	RAC-23-10X	RAC-23-EA-0.1X-10ML
3-Chloro-*o*-toluidine	RAC-24	RAC-24-10X	RAC-24-EA-0.1X-10ML

RAC-R2-SET **24 x 1 mL**
100 µg/mL In the form of the Sulfate hydrate 171 µg/mL in Pyridine (100 µg/mL as the base)

RAC-10X-R3-SET **23 x 1 mL**
1000 µg/mL In the form of the Sulfate hydrate 1,710 µg/mL in Pyridine (1000 µg/mL as the base)

† Subject to oxidation
* in Pyridine

Internal Standards

RAC-IS **1 x 1 mL**
1000 µg/mL in ACN

RAC-IS-EA **1 x 1 mL**
1000 µg/mL in Ethyl acetate

3,3',5,5'-Tetramethylbenzidine †

Carcinogenic Aryl Amine Mix

AE-00049-R1-10X **1 x 1 mL**
100 µg/mL each in Ethyl acetate 23 comps.

AE-00049-R1-10X-10ML **1 x 10 mL**
100 µg/mL each in Ethyl acetate 23 comps.

o-Aminoazotoluene
4-Aminobiphenyl
2-Amino-4-nitrotoluene
Benzidine †
4-Chloroaniline
4-Chloro-*o*-toluidine
p-Cresidine
4,4'-Diaminodiphenylmethane
2,4-Diaminotoluene
3,3'-Dichlorobenzidine †
3,3'-Dimethoxybenzidine †
3,3'-Dimethylbenzidine †
3,3'-Dimethyl-4,4'-diaminodiphenylmethane
4,4'-Methylenebis(2-chloroaniline)
2-Naphthylamine
4,4'-Oxydianiline
4,4'-Thiodianiline
o-Toluidine
2,4,5-Trimethylaniline
p-Aminoazobenzene
2-Aminobiphenyl
o-Anisidine
3-Chloro-*o*-toluidine

2,4-Diaminoanisole (as sulfate hydrate)

RAC-08-R1 **1 x 1 mL**
100 µg/mL in Pyridine

† Subject to oxidation

Plastic Additive Index

Accelerator BBTS 1
Accelerator CBTS 1
Accelerator EZ & EZ-SP 1
Accelerator MBT, MBT/MG 1
Activator OT Urea 1
Akrochem® Ceresin Wax 25
Akrochem® NIBUD 11
Akrochem® Retarder BAX 25
Akrochem Antiox 12 2
Akrofax™ A 28
Akrofax™ B 28
Akroform ETU-22 PM 1
Akrowax™ 195 11
Alkanox® P27 3
Alkanox® TNPP 3
p-Aminoazobenzene 43
o-Aminoazotoluene 43
2-Amino-4-nitrotoluene 43
2-Aminobiphenyl 43
4-Aminobiphenyl 43
o-Anisidine 43
Anox® 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

Basic Violet 14 43
Benzidine 43
Benzoflex® 2-45 17
Benzyl benzoate 41
2-(2H-Benzotriazol-2-yl)-4-(1,1,3,3-tetramethylbutyl)phenol 3
Benzyl butyl phthalate 33, 39, 41, 42
bis(2,2,6,6-Tetramethyl-4-piperidyl) sebacate 10
bis(2-Ethoxyethyl)phthalate 33, 41
bis(2-Ethylhexyl)adipate 41
bis(2-Ethylhexyl)phthalate 39, 41, 42
bis(2-Ethylhexyl) phthalate-3,4,5,6-d4 38
bis(2-Ethylhexyl)phthalate (DEHP) 33
bis(2-Ethylhexyl) terephthalate 20, 36
bis(2-Hydroxyethyl) dimerate 21
Bis(2-hydroxyethyl) dimerate 40
bis(2-Methoxyethyl)phthalate 33, 41
bis(2-n-Butoxyethyl)phthalate 33, 41
bis(4-Methyl-2-pentyl)phthalate 33, 41
bis(Dodecylsulfanylthiocarbonyl) disulfide 26
Bisphenol A (BPA) 17, 30
Bisphenol A diglycidyl ether (BADGE) 30
Bisphenol AF 30
Bisphenol AP 30
Bisphenol B 30
Bisphenol BP 30
Bisphenol C 30
Bisphenol C-dichloride 31
Bisphenol E 31
Bisphenol F 31
Bisphenol G 31
Bisphenol M 31
Bisphenol P 31
Bisphenol PH 31
Bisphenol S 31
Bisphenol TMC 31
Bisphenol Z 31
bis(Thiobenzoyl) disulfide 26
BLS® 234 3
BLS® 292 3
BLS® 1622 3
BLS® 1944 4
BNX 1077 4
BNX 1225 4
Butyl benzyl phthalate 41
Butyl cyclohexyl phthalate 39
Butyl octyl phthalate 39
Butyl ricinoleate 17, 40
t-Butylphenyl diphenyl phosphate 40
2-tert-Butyl-6-(5-chloro-2H-benzotriazol-2-yl)-4-methylphenol 4
4,4'-Butylidenebis(6-tert-butyl-m-cresol) 4

Celogen® AZ 12
Celogen® RA 12
Celogen® SD-125 17
4-Chloroaniline 43
3-Chloro-o-toluidine 43
4-Chloro-o-toluidine 43
Citroflex 2 17
Citroflex 4 17
Citroflex A-2 17
Citroflex A-4 18
Citroflex B-6 18
CPW-100 12
Cresyl diphenyl phosphate 18
Cure-Rite® IBT 1
Cyanomethyl dodecyl trithiocarbonate 25
Cyanomethyl methyl(phenyl)carbamodithioate 26
Cyanox® 425 4
Cyanox® 1212 4
Cyanox® 1790 4
Cyanox® 2246 4
Cyanox® LTDP 5
Cyanox® STDP 5
4-Cyano-4-[(dodecylsulfanylthiocar-bonyl)sulfanyl] pentanoic acid 25
4-Cyano-4-(phenylcarbonothioylthio)pentanoic acid 25
2-Cyano-2-propyl benzodithioate 25
2-Cyano-2-propyl dodecyl trithiocarbonate 25

Decabromodiphenyl ether 15
Decyl octyl phthalate 39
Di(2-ethyl hexyl) azelate 40
Di(2-ethylhexyl) azelate 18
Di(2-ethylhexyl) maleate 18
di(2-Ethylhexyl)maleate [Dioctyl maleate] 40
Di(2-ethyl hexyl) phthalate (DEHP) 39
2,6-Di-tert-butyl-4-ethylphenol 5
2,4-Diaminoanisole 43
4,4'-Diaminodiphenylmethane 43
2,4-Diaminotoluene 43
Diamyl phthalate 33, 39, 41
Dibenzylhydroxylamine 5
Dibenzyl phthalate 41
Dibenzylphthalate-d4 38
Dibutyl fumarate 18, 40
Dibutyl phthalate 18, 34, 39, 42
Dibutyl sebacate 18
3,3'-Dichlorobenzidine 43
Dicyclohexyl phthalate 34, 39, 41, 42
Dicyclohexyl phthalate-3,4,5,6-d4 38
Didecyl phthalate 42
Diethyl 3,5-di-tert-butyl-4-hydroxybenzylphosphonate 5
Diethyl adipate 18
Diethyl phthalate 34, 39, 41, 42
Diethyl phthalate-3,4,5,6-d4 38
Diethyl succinate 18, 40
Di-hexyl phthalate 39
Dihexyl phthalate 34, 41
Diisobutyl adipate 19, 40
Diisobutyl phthalate 41, 42
Di-iso-butyl phthalate-3,4,5,6-d4 38
Diisooctyl azelate 19, 40
Diisodecyl adipate 18, 40
Diisodecyl azelate 19, 40
Diisodecyl phthalate 39
Diisoheptyl phthalate 39
Diisohexyl phthalate 39
Diisononyl phthalate 39
Diisononyl phthalate (C8 to C10 Isomers) 39
Diisooctyl phthalate 19, 39
Diisooctyl phthalate (C8 Isomers) 39
Diisoonyl phthalate 39
Diisopentyl phthalate 34
Diisopropyl phthalate 34
Dimethyl adipate 19
Dimethyl azelate 19, 40
Dimethyl isophthalate 36
Dimethyl phthalate 35, 39, 41, 42
Dimethyl phthalate-3,4,5,6-d4 38
Dimethyl phthalate (DMP) 39
Dimethyl sebacate 19
3,3'-Dimethoxybenzidine 43
3,3'-Dimethyl-4,4'-diaminodiphenylmethane 43
3,3'-Dimethylbenzidine 43
Di n-butyl maleate 40
Di-n-butyl maleate 18
Di-n-butyl phthalate 39, 41
Di-n-butyl phthalate-d4 38
Di-n-butyl phthalate (DBP) 39
Di(n-heptyl, n-nonyl) adipat 40
Di(n-heptyl, n-nonyl) adipate 18
Di-n-hexyl azelate 18, 40
Di-n-hexyl phthalate-3,4,5,6-d4 38
Di-n-octyl phthalate 35, 39, 41, 42
Di-n-octyl phthalate-3,4,5,6-d4 38
Dinonyl phthalate 41
Di-n-pentyl phthalate-3,4,5,6-d4 38
Di-n-propyl phthalate 42
Di-n-propyl phthalate-3,4,5,6-d4 38
Dioctyl phthalate 19
Dipentamethylenethiuram 5
Dipentamethylenethiuram tetrasulfide 1
Diphenyl isophthalate 36, 41
Diphenyl phthalate 35, 41
Di(propylene glycol) dibenzoate 19, 40
Direct Black 38 43
Direct Blue 6 43
Disflamoll® TKP 19
Disflamoll TP 19
Disperse Blue 1 43
Disperse Blue 3 43
Disperse Blue 7 43
Disperse Blue 26 43
Disperse Blue 35 43
Disperse Blue 102 43
Disperse Blue 124 43
Disperse Orange 1 43
Disperse Orange 3 43
Disperse Orange 11 43
Disperse Orange 37 43
Disperse Red 1 43
Disperse Red 11 43
Disperse Red 17 43
Disperse Yellow 3 43
Disperse Yellow 9 43
Distyryl biphenyl 5
Di(tridecyl) adipate 19, 40
1,3-Di-o-tolylguanidine 1, 5
1,3-Diphenyl-2-thiourea 1, 5
2-(Dodecylthiocarbonothioylthio)-2-methylpropionic acid 26

Epoxidized linseed oil 20, 40
Ethanox® 310 6
Ethanox® 314 2, 6
Ethanox® 323 6
Ethanox® 330 6
Ethanox® 376 6
Ethanox® 702 6
Ethanox® 703 6
Ethanox 323 29
Ethanox 330 29

Plastic Additive Index

Ethanox 702 29
Ethanox 703 29
Ethaphos® 368 6
Ethylene glycol monostearate 20, 40
2-Ethylhexyl epoxy tallate 20, 40
2-Ethylhexyl sebacate 20
2-Naphthylamine 43

F-300, F-1000, F-1500, F-2000, F-3000 13
Firemaster BP4A 15

Glycerol monooleate 20, 40
Glycerol monostearate 20, 40
Glycerol triacetate 20, 40
Glyceryl (triacetyl) ricinoleate 20
Glyceryl (triacetyl)ricinoleate 40

Halowax 1013 16
Halowax 1051 16
Halowax 1099 16
Hercoflex® 900 20
2,2',3,4,4',5',6-Heptabromodiphenyl ether 14
2,2',4,4',5,5'-Hexabromodiphenyl ether 14
2,2',4,4',5,6'-Hexabromodiphenyl ether 14
Hexyl-2-ethylhexyl phthalate (Tech Mix) 39
Hi-Point PD-1 20
2-(2-Hydroxy-3,5-di-tert-amylphenyl) benzotriazole 6

Irganox® 245 7
Irganox® 259 7
Irganox® 565 7
Irganox® 1035 7
Irganox® 1081 7
Irganox® 1098 7
Irganox® 1425 WL 7
Irganox® 3114FF 7
Irganox® 3125 7
Irganox® E 201 8
Irganox® MD 1024 8
Irganox 1035 29
Isobutyl benzyl phthalate 39
Isobutyl cyclohexyl phthalate 39
Isonox® 132 8
Isonox® 232 8
Isopropyl isostearate 21, 40
Isopropyl myristate 21, 40
Isopropyl palmitate 21, 40
Jayflex® 77 21
Jayflex® DIDP 21
Jayflex® DINP 21
Jayflex® DTDP 21
Jayflex® L11P-E 21
Jayflex® TINTM 21

Kemamide® E ultra 25

Laurex® 21
Lowinox® AH25 8
Lowinox® CPL 8
Lowinox® TBM-6 8

Markstat® 51 21
Markstat® 60 8
Methyl O-acetylricinoleate 21
Methyl oleate 22, 40
4,4'-Methylenebis(2-chloroaniline) 43
Mono-2-heptyl phthalate 37
Monobenzyl phthalate (mBzP) 36, 39
Monobutyl phthalate (mBP) 36, 39
Monocyclohexyl phthalate (mBP) 36
Monoethylhexyl phthalate (mEHP 37
Monoethylhexyl phthalate (mEHP) 39
Monoethyl phthalate (mEP) 37, 39
Monohexyl phthalate 37
Monoisobutyl phthalate 37
Monoisononyl phthalate 37
Monoisopropyl phthalate 37
Monomethyl phthalate 37, 39
Mono-n-pentyl phthalate 37
Monooctyl phthalate 37
Morflex® 150 22
Morflex® 190 22
Morflex® 560 22
Morflex® x-1125 22

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 10
Naugard® RM-51 10
Naugard® Super Q 10
Naugard® XL-1 10
n-Butyl acetyl ricinoleate 17, 40
n-Butyl isobutyl phthalate 39
n-Butyl stearate 17, 40
N-Ethyl o,p-toluenesulfonamide 40
N-Ethyl-o,p-toluenesulfonamide 20
N,N'-Dibutylthiourea 5
N,N'-Diethylthiourea 5
n-Octyl n-decyl phthalate (Tech Mix) 39
n-Propyl oleate 23, 40

4,4'-Oxydianiline 43

Paraplex® G-30 22
p-Cresidine 43
2,2',4,4',5-Pentabromodiphenyl ether 14
2,2',4,4',6-Pentabromodiphenyl ether 14
Pentyl isopentyl phthalate 39
Perkacit® DPG 13
Perkacit® MBT 13
Perkacit® MBTS 13
Perkacit® NDBC 13
Perkacit® ZDEC 13
Plasthall® DINP plasticizer 22
Plasthall® ESO 22
Polycizer® butyl oleate 22
Polycizer® DP 500 22
Polyethylene glycol 200 dibenzoate 22, 40
Propylene glycol monostearate 23, 40
Propylene glycol ricinoleate 23, 40
Propyl gallate 10

Resimene® 3520 13
Retarder AK 26
tri(n-octyl, n-decyl) trimellitate 24

Santanox R 29
Santicizer® 141 23
Santicizer® 148 23
Santicizer® 160 23
Santicizer® 261 23
Santicizer® 278 10, 23
Santoflex® 6PPD 2
Santoflex® 77PD 2
Santoflex IPPD 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) 26
Stearic Acid TP 26

m-Terphenyl 16
o-Terphenyl 16
p-Terphenyl 16
Tetradecachloro-m-terphenyl 16
Tetradecachloro-o-terphenyl 16
Tetradecachloro-p-terphenyl 16
Tetrahydrofurfuryl oleate 23, 40
3,3',5,5'-Tetramethylbenzidine 43
4,4'-Thiodianiline 43
2,2'-(2,5-Thiophenediyl)bis(5-tert-butylbenzoxazole) 10
Tinuvin® PED 28
Tinuvin P 29
o,p-Toluenesulfonamide 23, 40
o-Toluidine 43
Tri-butoxyethyl phosphate 23, 40
Tributyl phosphate 23
Tricapryl trimellitate 23, 40
Triethyl phosphate 24
Triisodecyl trimellitate 24, 40
Trimellitate 24
2,4,5-Trimethylaniline 43
2,2,4-Trimethyl-1,3-pentanediol-diisobutyrate 40
2,2,4-Trimethyl-1,3-pentanediol-isobutyrate 24
Tri-(n-octyl, n-decyl) trimellitate 40

Ultranox® 626 10
Ultranox 626 29
Uvinul® 3000 28
Uvinul® 3008 28
Uvinul® 3040 28
Uvinul® 3049 28

Vinsol® powder 24
Vinsol® resin 24

AccuStandard®

125 Market St, New Haven, CT 06513 USA

ISO 17034 • 17025 • 9001

Rev. 10/24