ASTM Method D6042-96 (Plastic Container Testing)

American Society for Testing and Materials (ASTM International) Method D6042-96—*Test Method for Determination of Phenolic Antioxidants and Erucamide Slip Additives in Polypropylene Homopolymer Formulations Using Liquid Chromatography*—is a "consensus" or "referee" method used among plastic manufacturers and the pharmaceutical companies that purchase plastic containers. Plastic container manufacturers use this test to ensure the quality of their product to their pharmaceutical customers. Pharmaceutical companies also specify this test and provide their own lists of target compounds and concentration limits in purchase agreements.

This test calls for isopropanol extraction, HPLC separation, and UV detection. Restek offers a variety of reversed phase HPLC columns suitable for these separations. Restek also designed an analytical reference material to validate this method. This mixture contains the common antioxidants and slips listed in ASTM D6042-96, along with BHT.

ASTM D6042-96 Calibration Mix (7 components)

BHT
erucamide slip
vitamin E
Irgafos® 168
Irganox® 3114
Irganox® 1010
Irganox® 1076

50µg/mL each in isopropanol, 1mL/ampul
cat. # 31628 (ea.)

No data pack available.

ASTM D6042-96 Internal Standard Mix

Tinuvin® P

51.8µg/mL in isopropanol, 1mL/ampul
cat. # 31629 (ea.)

No data pack available.

Other Additives—Available From Restek as Custom Formulations

Similar methods for extractables in plastic pharmaceutical containers are cited in the United States Pharmacopoeia (USP), British Pharmacopoeia (BP), European Pharmacopoeia (EP), and Japanese Pharmacopoeia (JP). Customers may also have formulation-specific or product-specific test mixtures. Please contact us for a custom mixture. Our current inventory of raw materials includes these popular antioxidants. We have many more that are not listed and can obtain most compounds you may need.

- Ethanox® 323
- Ethanox® 330
- Ethanox® 702
- Ethanox® 703
- Irganox® L06
- Irganox® L57
- Irganox® L64
- Irganox® L109
- Irganox® L134
- Irganox® L135
- Irganox® 1035
- Santanox R
- Ultranox® 626
- Vanlube® 81
- Vanlube® 848
- Vanlube® 7723
- Vanlube® AZ
- Vanlube® NA
- Vanlube® PCX
- Vanlube® SL
- Vanlube® SS

ASTM Method D6352-98 (Polywax® Standards)

These high molecular weight hydrocarbon waxes are useful for simulated distillation and other high-temperature GC work.

Compound	qty.	cat.# (ea.)
1mL/ampul		
Polywax® 500	1g	36224
Polywax® 655	1g	36225
Polywax® 850	1g	36226
Polywax® 1000	1g	36227

No data pack available.

ASTM Method D6584-00 and EN14105 (Biodiesel)

Determining Free and Total Glycerin in B-100 Biodiesel Methyl Esters by GC

In the manufacture of biodiesel fuel, triglycerides are split into their monoalkyl ester components via transesterification. The fatty acid monoalkyl esters can be used as fuel in diesel engines. Amounts of free glycerin and total glycerin indicate the quality of the conversion of the oil or fat to monoalkyl esters. D6584-00 is a test method for quantitative determination of free glycerin, total glycerin, and mono-, di-, and triglycerides in biodiesel fuel methyl esters by GC, after silylation of the sample with N-methyl-N-(trimethylsilyl) trifluoroacetamide (MSTFA).

(s)-(-)-1,2,4-Butanetriol

(s)-(-)-1,2,4-butanetriol
1,000µg/mL in pyridine, 1mL/ampul
cat. # 33024 (ea.)
1,000µg/mL in pyridine, 5mL/ampul
cat. # 33032 (ea.)

Diolein

diolein (1,3-di[*cis*-octadecenoyl]glycerol)
5,000µg/mL in pyridine, 1mL/ampul
cat. # 33022 (ea.)

Glycerin

glycerin
500µg/mL in pyridine, 1mL/ampul
cat. # 33020 (ea.)

Monolein

monolein (1-mono[*cis*-9-octadecenoyl]-rac-glycerol)
5,000µg/mL in pyridine, 1mL/ampul
cat. # 33021 (ea.)

Monopalmitin

monopalmitin
5,000µg/mL in pyridine, 1mL/ampul
cat. # 33026 (ea.)

Tricaprin

tricaprin (1,2,3-tricaprinoylglycerol)
8,000µg/mL in pyridine, 1mL/ampul
cat. # 33025 (ea.)
8,000µg/mL in pyridine, 5mL/ampul
cat. # 33033 (ea.)

Triolein

triolein (1,2,3-tri[*cis*-octadecenoyl]glycerol)
5,000µg/mL in pyridine, 1mL/ampul
cat. # 33023 (ea.)

also **available**

Restek offers a full range of derivatization reagents in 10 x 1g and 25g package sizes. See **page 514**.

Diesel/Biodiesel 80:20 Blend Standard

The biodiesel component is methyl soyate.

diesel/biodiesel 80:20

5,000µg/mL in methylene chloride, 1mL/ampul
cat. # 31880 (ea.)