

**EASTMAN**

Innovations in high-performance antioxidant solutions . . .

# Eastman BioExtend™ 30 HP for biodiesel



# Innovations in high-performance antioxidant solutions . . . Eastman BioExtend™ 30 HP for biodiesel

## Eastman BioExtend™ 30 HP

- No Harm Certified antioxidant for biodiesel and up to B10 blends
- Outstanding antioxidative power at low concentrations
- Dual antioxidant/chelator system for increased performance
- Ready-to-use solution with excellent miscibility in biodiesel
- Excellent protection against metals contamination
- Low viscosity, low odor, high flashpoint

## What is Eastman BioExtend™ 30 HP?

Eastman's antioxidant solution for biodiesel, Eastman BioExtend™ 30 HP, is a dual functionality system. It combines one of the most effective antioxidants with a chelating agent. The antioxidant is known to be effective in vegetable oils and the chelator has an excellent history in fuel additives. The proprietary solvent system ensures excellent miscibility with biodiesel.

## No Harm Certification for Eastman BioExtend™ 30 HP

Third party testing\* results in no harm certification for Eastman BioExtend™ 30 HP. This certification is based on predetermined criteria for compatibility with biodiesel and B-10 blends; engine oil compatibility; engine nozzle fouling, the effect on safety characteristics of biodiesel;

and compatibility with diesel additives. This certification coupled with the excellent performance of BioExtend™ 30 HP in the product efficiency testing makes BioExtend™ 30 HP the product of choice for improving the oxidative stability of biodiesel and blends up to B10.

## What makes Eastman BioExtend™ different?

- Low concentrations required for good initial and long-term oxidative stability
- Protects against metal contamination from production or transit
- Easy to use formulation
  - Low viscosity, liquid solution — no premixing or tanks required
  - Stable at  $< -30^{\circ}\text{C}$  — solids do not come out of solution
  - Low odor
  - Flashpoint  $> 60^{\circ}\text{C}$
  - Completely miscible with biodiesel — minimal mixing required
  - Amenable to conventional pumping systems



Visit [EastmanBioExtend.com](http://EastmanBioExtend.com)

# Eastman **BIOEXTEND**<sup>™</sup>

high-performance antioxidant solutions

## How does Eastman BioExtend<sup>™</sup> 30 HP work?

The key steps in the mechanisms for the oxidation process, initiation and propagation, are significantly slowed by Eastman BioExtend<sup>™</sup>. The synergistic effect observed in the combination of a powerful antioxidant and chelator results in better oxidation inhibition than is obtained by an antioxidant alone.

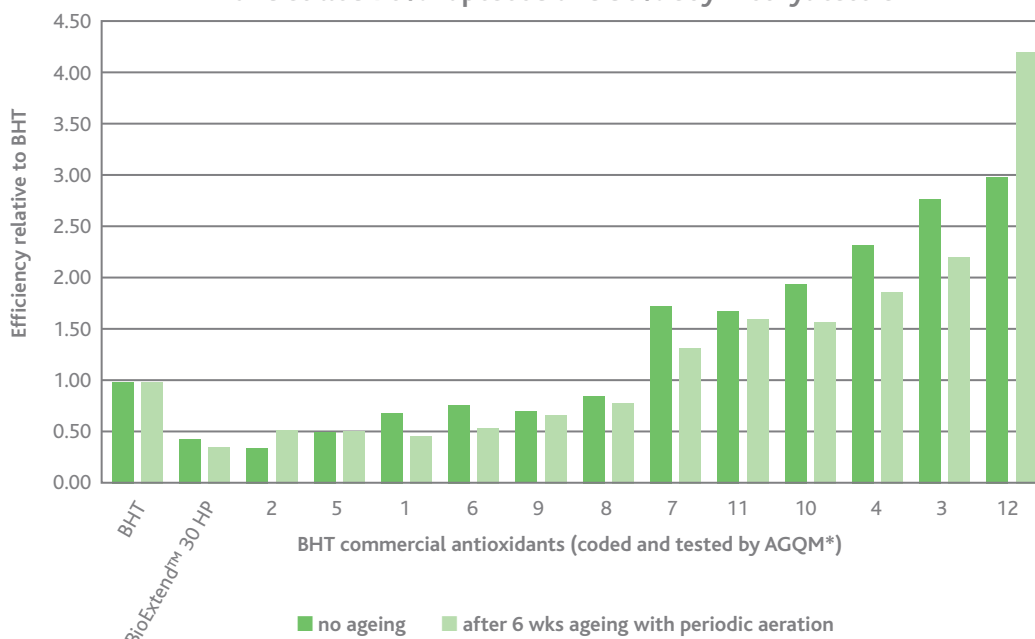
- Eastman BioExtend<sup>™</sup> 30 HP outperforms BHT and 12 other commercial antioxidants for providing excellent initial and long-term oxidative stability in an un-distilled 70% rapeseed/30% soy biodiesel\*
- Oxidative stability of the BioExtend<sup>™</sup> 30 HP biodiesel improves with time\*
- Very low concentration of BioExtend<sup>™</sup> 30 HP is required when stabilizing a distilled rapeseed/soy biodiesel\*
- Independent testing by AGQM shows BioExtend<sup>™</sup> 30 HP outperforms all other products in stabilizing a variety of vegetable-based biodiesels.

## Eastman and antioxidants . . .

From food to cosmetic markets, Eastman has produced innovative antioxidants for more than 50 years, including a variety of easy-to-use solutions. Eastman has leveraged these years of experience and its expertise in our exploration of the biodiesel market. The introduction of Eastman BioExtend<sup>™</sup> 30 HP is just one more example of Eastman's drive to develop innovative antioxidant solutions.

*\*Evaluation of No Harm Properties and Relative Efficiency of Oxidative Stabilizers for Fatty Acid Methyl Ester as Fuel Component (Dec. 2008), AGQM Arbeitsgemeinschaft Qualitätsmanagement Biodiesel e.V. (Association Quality Management Biodiesel reg. Ass.), Berlin, Germany*

Efficiency of antioxidants in undistilled 70% rapeseed and 30% soy methyl esters\*





**Eastman Chemical Company  
Corporate Headquarters**

P.O. Box 431  
Kingsport, TN 37662-5280 U.S.A.

Telephone:  
U.S.A. and Canada, 800-EASTMAN  
(800-327-8626)  
Other Locations, (1) 423-229-2000  
Fax: (1) 423-229-1193

**Eastman Chemical Latin America**

9155 South Dadeland Blvd.  
Suite 1116  
Miami, FL 33156 U.S.A.

Telephone: (1) 305-671-2800  
Fax: (1) 305-671-2805

**Eastman Chemical B.V.**

Fascinatio Boulevard 602-614  
2909 VA Capelle aan den IJssel  
The Netherlands

Telephone: (31) 10 2402 111  
Fax: (31) 10 2402 100

**Eastman (Shanghai) Chemical  
Commercial Company, Ltd. Jingan Branch**

1206, CITIC Square  
No. 1168 Nanjing Road (W)  
Shanghai 200041, P.R. China

Telephone: (86) 21 6120-8700  
Fax: (86) 21 5213-5255

**Eastman Chemical Japan, Ltd.**

AIG Aoyama Building 5F  
2-11-16 Minami Aoyama  
Minato-ku, Tokyo 107-0062 Japan

Telephone: (81) 3-3475-9510  
Fax: (81) 3-3475-9515

**Eastman Chemical Asia Pacific Pte. Ltd.**

#05-04 Winsland House  
3 Killiney Road  
Singapore 239519

Telephone: (65) 6831-3100  
Fax: (65) 6732-4930

[www.eastman.com](http://www.eastman.com)

Material Safety Data Sheets providing safety precautions, that should be observed when handling and storing Eastman products, are available online or by request. You should obtain and review the available material safety information before handling any of these products. If any materials mentioned are not Eastman products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed.

*Neither Eastman Chemical Company nor its marketing affiliates shall be responsible for the use of this information, or of any product, method or apparatus mentioned, and you must make your own determination of its suitability and completeness for your own use, for the protection of the environment and for the health and safety of your employees and purchasers of your products. NO WARRANTY IS MADE OF THE MERCHANTABILITY OR FITNESS OF ANY PRODUCT, AND NOTHING HEREIN WAIVES ANY OF THE SELLER'S CONDITIONS OF SALE.*

BioExtend and Eastman are trademarks of Eastman Chemical Company.

© Eastman Chemical Company, 2009.