

ETHANOX[®] 4716

Lubricant Antioxidant



Description

ETHANOX-4716 antioxidant is a hindered phenolic ester antioxidant that provides a number of advantages in gasoline engine and industrial oils:

- Low volatility for high-temperature and extended-length lubricant tests
- Synergistic with ETHANOX 4780 alkylated diphenylamine antioxidant in a variety of industrial oil and gasoline engine oil applications
- Excellent solubility in all types of base stocks, including Group II, Group III, and polyalphaolefins
- Will not crystallize, even at low temperatures
- Compatible with elastomer seals that are present in most engines
- Non-corrosive to steel and copper
- 100% active liquid antioxidant system reduces logistic costs and facilitates blending
- Effective at controlling deposits in the TEOST MHT-4 oxidation bench test
- Compatible with low-sulfur, low-ash and low-phosphorus engine oils

Typical properties*

Appearance (visual)	clear yellow liquid
Color (Gardner)	6
Density @ 25°C (ASTM D 1298)	0.96
Viscosity @ 40°C, cSt (ASTM D 445)	124
Viscosity @ 25°C, cSt (ASTM D 445)	451
Flash point, PMCC, °F (°C)	345(174)
Flash point, COC, °F (°C)	397 (203)
Weight per U.S. gallon, lbs	8.0
Weight per Imperial gallon, lbs	9.6
Solubility in water @ 20°C, wt%	< 0.01
Pour point, °F (°C) (ASTM D 97)	5 (-15)
Water, ppm	200

Recommended dosage

The treatment rate for ETHANOX-4716 antioxidant will vary with the nature and severity of application. Typical treat rates will vary from 0.1 to 0.5 wt% in industrial oils and from 0.3 to 1.0 wt% in gasoline engine oils. Higher treat rates are recommended in low-phosphorus and low-sulfur engine oils.

Shipping Information

Container Information

Tank cars, tank trucks, non-returnable 55-gallon steel drums, and 5-gallon steel drums

Safety and handling information

Maximum blending temperature: 70 °C
Recommended storage temperature: 25 to 40 °C
Maximum storage temperature: 50 °C
Shelf life recommendation: 2 years

Before handling or using this product, the material safety data sheet (MSDS) should be read and understood. The MSDS can be obtained from your Albemarle sales representative.

SC-1051 (11/05)



The information presented herein is believed to be accurate and reliable, but is presented without guarantee or responsibility on the part of Albemarle Corporation. It is the responsibility of the user to comply with all applicable laws and regulations and to provide for a safe workplace. The user should consider any information contained herein, including information about any health or safety hazards, only as a guide, and should take those precautions that are necessary or prudent to instruct employees and to develop work practice procedures in order to promote a safe work environment. Further, nothing contained herein shall be taken as an inducement or recommendation to manufacture or use any of the herein described materials or processes in violation of existing or future patents.

AMERICAS 451 Florida Street, Baton Rouge, Louisiana 70801-1765 Tel: +1 225 388 7402 or +1 800 535 3030 Fax: +1 225 388 7848 **EUROPE** Parc Scientifique de LLN, Rue du Bosquet 9, B-1348 Louvain-la-Neuve Sud, Belgium Tel: +32 10 48 1711 Fax: +32 10 48 1717 **ASIA PACIFIC** 480 Lorong 6, Toa Payoh, #16-01, HDB Hub, East Wing, Singapore 310480 Tel: +65 6424 8400 Fax: +65 6424 8401 **ASIA PACIFIC** 16th Floor, Fukoku Seimei Building, 2-2-2, Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-0011, Japan Tel: +81 3 5251 0796 Fax: +81 3 3500 5623 **ASIA PACIFIC** China World Tower, Room 1317, No.1 Jian Guo Men Wai Avenue, Beijing 100004 China Tel: +86 10 6505 4153 or +86 10 6505 4154 Fax: +86 10 6505 4150