

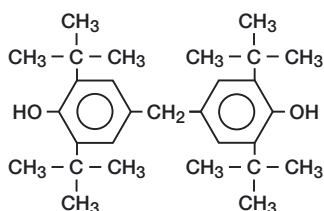
# ETHANOX<sup>®</sup> 4702 & 4710

## Lubricant Antioxidants



### Description

ETHANOX 4702 lubricant antioxidant is Albemarle's premier multi-ring phenolic antioxidant for engine oil and industrial lubricants. It is a highly effective additive for suppressing the formation of acidic and insoluble products of oil oxidation. Engine applications include passenger car, heavy duty diesel, medium speed diesel, natural gas, aviation, two stroke, marine, and automatic transmission fluids. Industrial uses include turbine, compressor, hydraulic, slideway, quench and gear oils, metalworking fluids, and greases. ETHANOX 4710 lubricant antioxidant is a non-dusting version.



### 4,4'-methylenebis (2,6-di-tert-butylphenol)

### Features

- High hindered phenolic antioxidant activity
- Low volatility ensures optimum lubricant performance at high temperatures
- Inhibits deposit and sludge formation in the 1000-hour TOST and the CMA thermal stability test
- Synergistic with zinc dithiophosphates and alkylated diphenylamines
- Nonreactive with copper, iron, lead, and silver
- Reduces total deposits in the TEOST MHT-4

### Typical properties\*

	4702	4710
Appearance	yellow powder	yellow powder
Molecular weight	424.7	424.7
Vapor pressure, at 20°C, mm	< 0.001	< 0.001
Melting point, °F (°C)	309 (154)	309 (154)
Boiling point, at 10 mm, °F (°C)	482 (250)	482 (250)
Flash point (COC), °F (°C), min.	388 (170)	388 (170)
Bulk density, at 20°C, lb/ft <sup>3</sup>	33	33

\*Presented for information purposes only. To obtain a copy of the sales specifications, FDA status, or user guidelines for this product please contact an Albemarle representative.

### Solubility

#### (Wt% at 25°C)

Toluene	33
Petroleum ether	8
Ethyl alcohol	6
Isooctane	4
Water	insoluble
10% NaOH	insoluble

## Shipping information

Container information:	Ton pak	M pak	Dual pak	Drum*	25 lb	5 lb
Net contents, lb	2000	1000	100	100	25	5
Tare wt, lb, approx.	100	90	4	9	5	1.2
Dimensions:						
height, in.	44	22	11	33	21	10
diameter, in.	48	48	24	16	12	9
depth, in.	40	40	16	31	20	9
Volume, ft <sup>3</sup>	48.9	24.4	2.4	4.9	1.1	0.3

2000 lb net (ton pak) – 40 paper bags in a corrugated box, banded to a wooden pallet

1000 lb net (M pak) – 20 paper bags in a corrugated box, banded to a wooden pallet

100 lb net (dual pak) – 2 paper bags in a corrugated box

100 lb net (26-gal. drum)\*

25 lb net (8-gal. drum)\*

5 lb net (2-gal. drum)\*

\*drums are nonreturnable

### Shipping classifications

Proper shipping name: not regulated for transportation

## Safety and handling information

ETHANOX 4702 and 4710 lubricant antioxidants are free-flowing solids with relatively high melting points. A convenient procedure to follow in blending ETHANOX 4702 lubricant antioxidant in oils is to make a slurry in a volume of oil equal to about 10% of the final blend.

ETHANOX 4702 and 4710 lubricant antioxidants are practically non-toxic when given orally to rats (LD<sub>50</sub> is greater than 24 g/kg). Dermal toxicity is quite low (LD<sub>50</sub> for rabbits is greater than 1.5 g/kg). Because of their low vapor pressure, they do not present a significant inhalation hazard. They are not eye irritants or skin irritants. Exercise good personal hygiene when handling these materials.

Crystalline compounds containing phenolic groups are known to have severe dust explosivity ratings. See material safety data sheets for handling information.

For specific information on the toxicology and safe handling of this product, please refer to the material safety data sheet which is available upon request.

## Chemical registration numbers

CAS:	118-82-1
MITI:	4-39

SC-1017 (4/03)



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.

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