



OIL ADDITIVE - FLUORESCENT - NON TINTING - LEAK DETECTION

ESE-M99C103-B1

1. SCOPE

The material defined in this specification is a liquid organic dye in a petroleum distillate and mineral oil base.

2. APPLICATION

This specification was released originally for material used as an additive to engine crankcase oil for the purpose of oil leak detection.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.1	SPECIFIC GRAVITY (ASTM D 1298)	0.80 - 0.90
3.2	GRAVITY, DEGREES API (ASTM D 287)	25 - 45
3.3	FLASH POINT, min (ASTM D 92)	93 °C
3.4	SEDIMENT AND WATER (ASTM D 2709)	None
3.5	VISCOSITY, AT 40 °C (ASTM D 445)	4.0 - 6.0 mm ² /s
3.6	POUR POINT, max (ASTM D 97)	0 °C
3.7	COLOR	

When added to engine oil, materials defined by this specification shall not affect the natural color of the engine oil.

3.8 COMPATIBILITY

All products submitted to this specification shall be compatible with all commercial engine oils that meet the Performance Specification ESE-M2C153-B when tested according to para 3.8 in 1/2% and 1.0% by volume mixtures.

Date	Action	Revisions
2004 02 20	Revised	Para 3.0 inserted; paras 3.11, 3.12 and 4 deleted
1986 05 12	Released	CE3P-RD863100-200



3.9 HOMOGENEITY TEST

Additive agents, after mixing, shall remain uniformly dispersed in the oil at all temperatures from the pour point of the oil to 171 °C. After being cooled below its pour point, the oil shall regain its homogeneity on standing at a temperature which is not higher than 5 °C above the pour point.

3.10 COLOROMETRIC TESTS

Into a commercial engine oil (Rev.: ESE-M2C153-B), prepare a minimum concentration sample of the fluorescent additive of 1/2% by volume. Stir the mixture for three minutes. With the commercial engine oil as the standard, compare it to the sample containing the mixed fluorescent additive using a 365 nm blacklight. The mixed sample must exceed the brightness illumination of the standard significantly.