



FUEL, DIESEL, INITIAL FILL, ULTRA LOW SULFUR (ULSD)

WSS-M4C130-A

1. SCOPE

The material defined by this specification is a well-refined middle distillate petroleum product containing normal commercial additives.

2. APPLICATION

This specification was released originally for material used as initial fill fuel for diesel engines in passenger cars and trucks designed to operate on 15 ppm max sulfur fuel with cold flow properties controlled year round.

3. REQUIREMENTS

Material specification requirements are to be used for initial qualification of materials.

This material must meet the requirements of ASTM D975 Standard Specification for Diesel Fuel Oils plus the following:

3.1 APPROVED SOURCES

This specification requires the use of approved sources. Only the sources identified on the Ford Approved Source List (ASL) can be used when this specification is listed on the drawing, CAD file, or other documents. The list of approved sources is located within Ford at www.mats.ford.com or available externally through a Ford Materials Engineer.

3.2 CETANE RATING

3.2.1 Cetane Number 48.0 min
(ASTM D613/ASTM D6890/ISO 5165)

3.2.2 Cetane Index 40.0 min
(ASTM D976/D4737A/ASTM D4737B/ISO 4264)

3.3 SULFUR 15 max
(ASTM D5453/ISO 14596)

3.4 ASH 0.01% mass max
(ASTM D482/ISO 6245)

3.5 COMPOSITION

3.5.1 Water 200 mg/kg max
(ASTM D1744/ISO DIS 12937)

3.5.2 Total contamination 24 mg/kg max
(EN 12662)

Date	Action	Revisions	Rev. 03
2016 03 03	Revised	Revised Flashpoint from 50 to 38 °C	C. Richardson - FNA
2011 08 02	Revised	Revised 3.16; table editorial	C. Richardson - FNA
2006 05 22	Activated		C. Richardson



3.5.3	Hydrocarbon types (ASTM D1319/ISO 12662)	Report
3.5.4	Polycyclic Aromatic Hydrocarbons (IP 391:1995)	11% mass
3.5.5	Fame Content (EN 14078/ASTM D7371)	0.1% volume max
3.6	DISTILLATION (ASTM D86/ISO 3837)	
		Temperature, °C
	Initial boiling point	Report
	10% vol recovery	Report
	50% vol recovery	Report
	90% vol recovery	Report
	Final boiling point	Report
3.7	DENSITY (ASTM D1298/ISO 3675, 15 °C)	Report
3.8	KINEMATIC VISCOSITY (ASTM D445/ISO 3104, 40 °C)	1.3 - 3.5 mm ² /S
3.9	OXIDATION STABILITY, total insolubles (ASTM D2274/ISO 12205)	2.5 mg/100 mL max
3.10	CALORIFIC VALUE, gross (ASTM D240)	Report
3.11	CORROSION	
3.11.1	Copper Tarnish (ASTM D130/ISO 2160)	1 b max
3.11.2	Rust Prevention (ASTM D665/ISO DP 7120, Procedure B, 30 minutes)	Moderate rusting max
3.11.3	Silver Corrosion (ASTM D130 modified)	1 max
3.12	FLASHPOINT (ASTM D93/ISO 2719)	38 °C min
3.13	LUBRICITY at 60 °C (ASTM D6079/ISO DIS 12156-HFRR)	400 micron wear scar diameter max
3.14	CARBON RESIDUE (ASTM D524/ISO 6615, 10% distillation residue)	0.20% max
3.15	WATER REACTION, fuel layer only (ASTM D1094/ISO 6250)	1, slight haze max