



COOLANT, ORGANIC ADDITIVE TECHNOLOGY (OAT), PRE-DILUTED, FOR PASSENGER CAR AND LIGHT TRUCK

WSS-M97B44-D2

1. SCOPE

The material defined by this specification is a pre-diluted coolant mix based on WSS-M97B44-D coolant and purified water. This coolant is specified for plants that do not have sufficient water quality or the purification equipment required to properly condition the water. This coolant is also specified for use in post-production (service). Water quality will be monitored by the terminal mixing site.

2. APPLICATION

WSS-M97B44-D2 is targeted to be a 50/50 pre-diluted engine coolant for plant fill. This material was originally released for passenger car and light truck applications in areas where plant water quality would affect coolant performance. This material is also released for post -production (service) at 50/50 and other concentrations, depending on region, in order to ensure coolant quality.

3. REQUIREMENTS

Ford Motor Company reserves the right to subject candidate coolants to any investigation they may consider necessary and use the data derived for approval qualification.

3.1 DOCUMENTATION

Supplier must furnish to the affected Materials Engineering activity a completed and certified copy of the attached supplements A and B and test reports demonstrating full compliance with all the requirements of this specification along with the manufacturing limits that apply to the material upon which approval is requested. All tests must be certified by a qualified and authorized representative of the test facility.

In addition, approval for a local blender supplying formulation blended from a superconcentrate (of an approved formulation) is contingent upon initial approval of the formulation with surrogate test data where approved by Ford and testing and documentation, at minimum, in the attached PVP&R (Supplement B). In process testing to be a minimum of quarterly report to Ford Powertrain Installations Core, Materials Engineering and Purchasing: coolant inhibitor analyses in X-R chart; ASTM D1384 and ASTM D4340.

3.2 COOLANT COMPOSITION

Coolant must meet WSS-M97B44-D and be approved on the Ford Approved Source List.

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.

3.3 CONDITIONING AND TEST CONDITIONS

All test values are based on material conditioned for not less than 24 h prior to testing in a controlled environment of 23 +/- 2 °C and 50 +/- 5% relative humidity. Testing of the material should occur in the conditioning environment or soon after removal.

Date	Action	Revisions	Rev. 5
2016 05 12	Revised	See Summary of Revisions	A. Reaume, NA
2013 07 30	Reactivate	Revised and re-activated spec. Replaced -E2	M.Ranger; A. Reaume, FNA
2009 10 20	Activated		A. Reaume, FNA



3.4 FREEZE POINT OF SOLUTION (ASTM D1177/D3321)

-37°C max

3.5 WATER QUALITY

Water used in coolant dilution must meet the requirements of WSS-M99P25-C. Post production (service) in North America must also meet current ASTM D3306 requirements. Continuous water quality monitoring shall be used at the terminal blending site.

3.6 BATCH ACCEPTANCE CRITERIA

Shipments to vehicle assembly plants shall conform to Vehicle Operations General Office Bulletin VOPQU-236, Surveillance and Control of Fluids. Specifically for engine coolant Concentrate. Supplement A, Supplier Certification Statement is also required.

3.7 HEALTH AND SAFETY

The coolant supplied to this specification must not contain any nitrosoamine or triethanolamine or any other compound that, in the presence of nitrate, or nitrite, nitrogen oxides, or other nitrosating substance, might product a nitrosoamine.

3.8 POST PRODUCTION (SERVICE) COOLANT

Post-production(service) coolant concentration may be based on the regional requirements shown in paragraph 3.9 PRODUCTION COOLANT CONCENTRATION of WSS-M97B44-D. Concentration must not exceed 50% or be less than the Minimum Coolant Concentration shown. Coolants shall meet all other requirements of this specification, except paragraph 3.4 if the concentration is other than 50/50. Coolants in North America shall meet the current ASTM D 3306 Type III coolant requirements. A copy of ASTM D3306 certification will be required in North America. Coolants must also meet the specific requirements of Ford Customer Service Division (FCSD). Supplier must work with FCSD and upon request furnish to FCSD all requested supporting documentation.

4. GENERAL INFORMATION

This information given below is provided for clarification and assistance in meeting the requirements of this specification. Contact gmfs@ford.com for questions concerning Engineering Material Specifications.

4.1 APPROVAL OF MATERIALS

Suppliers desiring approval of their materials shall first obtain an expression of interest from Purchasing, Design or Product Development, and Materials Engineering. The supplier shall submit a completed copy of their laboratory test reports, signed by a qualified and authorized representative of the test facility, demonstrating full compliance with all the requirements of the Material Specification. Tested material samples must be available for review upon request and kept for a minimum of one year. Upon request, the supplier will review the associated quality control documents (Process Failure Mode and Effects Analysis, Control Plans, Certification testing) with Ford.

4.2 SUPPLIER'S ONGOING RESPONSIBILITY

All materials must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any changes to the material originally approved, whether or not such changes affect the material's ability to meet the specification requirements, the supplier shall notify the affected Supplier Technical Assistance (STA), Purchasing, and Materials Engineering activities of the proposed changes (with reasons) by submission of a completed Supplier's Request for Engineering Approval, SREA.