

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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Revised

ALCOHOL, DENATURED ETHYL

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily as an additive to prevent freezing of water used in aircraft power plant injection systems.
3. **COMPOSITION:**

Specially Denatured Ethyl Alcohol (3.1), %	95.0 min
Water, %	5.0 max
Aldehydes and Ketones, %	0.05 max
Sulfur and Sulfur Compounds (as S), %	0.03 max
Acidity (as acetic acid), %	0.01 max
Non-Volatile Residue, mg/100 ml	5.0 max

- 3.1 Specially denatured ethyl alcohol shall be prepared by adding, to ethyl alcohol, denaturants of such type and in such amounts as will give a product conforming to laws of the locality in which the product is purchased and to requirements of this specification.
4. **TECHNICAL REQUIREMENTS:**
 - 4.1 **Specific Gravity:** Shall be 0.7933 - 0.8162 at 15/4 C.
 - 4.2 **Distillation Range:** The product shall be 95% distilled between 167 F and 176 F.
 - 4.3 Alcohol shall be clear and free from suspended matter, and shall be colorless unless otherwise required by government regulations.
 - 4.4 **Corrosion:** There shall be no evidence of pitting or black stain on the dish when 100 ml of alcohol is evaporated to dryness in a freshly polished, 3.5-in. diameter hemispherical copper dish by heating on a steam bath; a slight amount of brown stain shall not be cause for rejection.
 - 4.5 **Odor:** Shall be characteristic; there shall be no residual odor after evaporation of alcohol from filter paper saturated with the alcohol.
5. **REPORTS:** Unless otherwise specified, the vendor shall furnish with each shipment three copies of a notarized report of the composition and the quantitative results of tests conducted on the batch of alcohol from which the order was filled. This report shall include the purchase order number, material specification number, formula number, batch number, and quantity.

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