



No. 1-D Diesel Fuel, Factory Fill

1 Scope

1.1 Material Description. This specification covers No. 1 diesel fuel for U.S. factory fill diesel fuel.

1.2 Symbols. Not applicable.

1.3 Applicability. This diesel fuel is intended primarily as factory-fill fuel at vehicle assembly plants. Factory-fill diesel fuel is intended for use in vehicles that are stored for extended periods of time or in storage tanks where the rate of turnover is low.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ASTM D975

ASTM D6371

ASTM D7371

NACE TM0172

ASTM D2500

2.2 GM Standards/Specifications.

GMW3059

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

3.1 General Requirements. The fuel shall meet applicable regulations of the U.S. Environmental Protection Agency (EPA) and the states for U.S. plants, and Canadian Environmental and provincial regulations for Canadian plants. These regulations take precedence over requirements within this specification. In addition, the fuel shall conform to the limits shown herein.

The test requirements given in this specification are, as the case may be, minimum or maximum Acceptance Limits for valid tests. No adjustments for test precision are to be applied as test variability was taken into account in the determination of the requirements.

All ASTM International and NACE International specified tests shall be performed according to the latest published version unless otherwise required by this specification. Test methods cited in Section 3.2 are referee methods used in the event of a dispute.

3.2 Requirements on Delivery. These requirements apply to samples taken directly from the tank car or wagon. The supplier shall be responsible for meeting the requirements in 3.1 and Section 3.2 even if properties are not directly measured.

3.2.1 Chemical and Physical Requirements. Fuel furnished to this specification shall conform to ASTM D975, of latest issue, Grade 1-D with additional requirements listed in Table 1 all-year-round.

3.2.1.1 Additives. The fuel may contain additives such as:

- Cetane improver
- Antioxidant
- Metal deactivator
- Corrosion inhibitor
- Lubricity improver
- Biocide

- Antistatic additive
- Detergent
- Pour point depressant
- Cold follow improver
- Dye

Purchaser and seller shall agree upon specific type and quantity of these or other types of additives.

3.2.1.1.1 Biocide. To prevent fungal growth during storage at assembly plants, the fuel shall contain 100 mg/kg BIOBOR JF or an equally effective concentration of an equivalent fungicide.

3.2.1.2 Contamination. The diesel fuel shall be clear and bright, visually free of undissolved water and suspended matter, and contain no more than 1.0 mg of sediment per liter. Sediment is determined by vacuum filtering a 3 L sample of diesel through a 1.2 µm membrane filter. After drying the filter in a vacuum desiccator for 10 minutes, the increase in the mass of the filter is determined.

3.2.1.3 Biodiesel Fatty Acid Methyl Ester (FAME). The diesel shall contain no biodiesel.

Table 1: Properties

Properties	Values	Test Methods
Cloud point, degrees Celsius (°C)	-40 °C maximum	ASTM D2500
Cold Filter Plugging Point (CFPP), degrees Celsius (°C)	< -40 °C maximum	ASTM D6371
FAME, Biodiesel Content	< 0.5% (volume)	ASTM D7371
Ferrous corrosion	B + maximum	NACE TM0172 ^{Note 1}

Note 1: Use synthetic sea water.

4 Manufacturing Process

Not applicable.

5 Rules and Regulations

5.1 Legal Regulations. All materials must satisfy applicable laws, rules, regulations and recommendations valid in the country of usage.

5.2 Language. In the event of conflict between the English and domestic language, the English language shall take precedence.

5.3 Inspection and Rejection. All shipments of material or parts under contract or purchase order manufactured to this specification shall be equivalent in every respect to the initial samples approved by Engineering. There shall be no changes in either formulation or manufacturing processes permitted without prior notification and approval by Engineering. Lack of notification by the supplier constitutes grounds for rejection of any shipment. While samples may be taken from incoming shipments and checked for conformance to this specification, the supplier shall accept the responsibility for incoming shipments meeting this specification without dependence upon purchaser's inspection.

The series of tests used to approve each batch of product along with acceptance limits will be agreed upon by the purchaser and seller. The laboratory providing the certificate of analysis must also participate in a proficiency testing program (round robin) that is approved by the Fuels, Fluids, and Lubricants Global Subsystem Leadership Team (GSSLT) or Global Fuels Board (GFB) or designate. The Fuels, Fluids, and Lubricants GSSLT or designate must receive copies of the proficiency testing reports directly from the test program administrator.

5.4 Initial Source Approval. No shipment shall be made by any supplier until representative initial production samples have been approved by the Fuels, Fluids, and Lubricants Global Subsystem Leadership Team or Global Fuels Board or designees meeting the requirements of this specification.