Hammonds® FUEL ADDITIVES, INC.

Stadis® 450
Product Data Sheet

Refinery Specialties
PG 03 - Fuel Conductivity Improvers

Stadis® 450 is a non-metallic product that increases the electrical conductivity of distillate fuels and helps reduce hazards associated with mixing, transfer, and shipment of distillate fuels.

Application
Stadis® 450 is a distillate fuel additive that provides the following functional and performance properties:

- Superior low temperature conductivity retention
- Fully Compatible with other additives
- Pipe Line Use Accepted
- Consistent lot-to-lot performance
- Excellent low temperature handling
- Stable during storage
- Ashless - non-metallic

Approvals
Accepted for use in aviation fuels meeting ASTM D910, ASTM D1655, MOD, CGSB, IATA Guidance Material, Joint Fueling System Checklist, and Military aviation fuels including:

- JP-4 (MIL-T-5624)
- JP-8 (MIL-T-83133)
- NATO military fuels

Addition
Stadis® 450 may be continuously or batch blended into fuel as a concentrate or as a stock solution. Continuous dosing into the fuel is the preferred method of addition.

Material Compatibility
Stadis® 450 is packaged and shipped in EvOH containers, which has proven to be highly effective for long term storage and product integrity.

In addition, stainless steel tanks are preferred and recommended. Carbon steel is satisfactory if moisture is avoided.

Elastomeric gasket and seal materials must be resistant to aromatic solvents; Dupont Viton® and Teflon® are recommended.

Personal Safety, First Aid and Storage and Handling
See the Material Safety Data Sheet for product specific information.

40CFR80 Compliance Statement:
Stadis® 450 is a static dissipater additive having a sulfur content greater than 15 ppm. The additives max sulfur content is 32,000ppm. The maximum concentration for use of additive in diesel fuel is 0.0015 vol%; (EPA maximum is 10.6mg/L). The contribution to the sulfur level of the fuel that would result if the additive is used at the maximum recommended concentration is 0.40 ppm.

In order to comply with EU regulations (Title II, Chapter 1, Article 8) and to secure documentation to allow this product to be imported into the EU please contact Innospec to join our "Only Representative" and Declaration of Conformity Program.

Stadis® 450 is manufactured to give standardized conductivity-improving performance and, therefore, physical properties may vary slightly. The following values are typical:

Typical Properties

Appearance		dark amber liquid
Specific Gravity, 60/60°F (15.6/15.6°C)		0.92
Density, lb./gal, 60°F, (15.6°C)		7.7
Flash Point, PMCC, °F (°C)		42 (6)
Ash Content, wt%		0.0
Miscibility with Hydrocarbons		complete
Pour Point, °F(°C)		< -140 (<-96)
Viscosity, cSt @	100°F (38°C)	7.6
	32°F (0°C)	22
	0°F (-18°C)	43
	-40°F (-40°C)	153
	-60°F (-51°C)	375
Reid Vapor Pressure psi @ 100°F (38°C)		0.9

Recommended Treat Rate
0.1 - 1.0lbs / 1000 bbl (0.29 - 2.9 mg/L);
1.1 - 11.1 mL / 1000 gallons; or 0.0003-0.0031 gallons / 1000 gallons

Distributed by Hammonds Fuel Additives, Inc
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