Appendix D

Additives in Aviation Fuel

KEY ADDITIVES APPROVED IN AVIATION TURBINE SPECIFICATION

ADDITIVE TYPE Chemical or Brand Name ISSUING AGENCY	AFQRJOS Jet A-1 (JOINT CHECK LIST)	ASTM (Jet A)	DEF STAN 91-91 (Jet A-1)	DEF STAN 91-86 (F-44)	DEF STAN 91-88 (F-40)	IATA (JET A-1)	MILSPEC 5624U (JP-4/JP-5)	MILSPEC 38219D (JP-7)	MILSPEC 83133E (JP-8 (+100))	CAN-CGSB 3.24 (F-34/F-44)	GE D50TF2	P&W SB. No. 2016
ANTI-OXIDANT	**R**	**O**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**O/R**	**O**	**R**
2,6-Ditertiary-butyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
2,6-Ditertiary-butyl-4-methyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
2,4-Dimethyl-6-tertiary-butyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
Mix 75%(min) 2,6-Ditertiary-butyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
25%(max) Teriary and Tritertiary butyl phenols	•	•	•	•	•	•	•	•	•	•	•	•
Mix 72%(min) 2,4-Dimethyl-6-tertiary-butyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
28%(max) Methyl and Dimethyl teriary-butyl phenols	•	•	•	•	•	•	•	•	•	•	•	•
Mix 55%(min) 2,4-Dimethyl-6-tertiary-butyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
15%(min) 2,6-Ditertiary-butyl-4-methyl phenol	•	•	•	•	•	•	•	•	•	•	•	•
30%(max) Methyl and Dimethyl tertiary-butyl phenols	•	•	•	•	•	•	•	•	•	•	•	•
STATIC DISSIPATOR ADDITIVE	**R**	**O**	**R**		**R**	**R**	**R/A**		**R**	**R**	**O**	**R**
Stadis 450		•	•		•	•	•		•	•	•	•
Sigbol												•
ANTI-ICING ADDITIVE	**A**	**A**	**O**	**R**	**R**	**A**	**R**	**R**	**R**	**O/A**	**O**	**O**
Ethylene glycol monomethyl ether										•		•
Ethylene glycol monomethyl ether & Methyl Alcohol												•
Diethylene glycol monomethyl ether	•	•	•	•	•	•	•	•	•	•	•	•
CORROSION INHIBITORS		**A**	**O**	**R**	**R**	**A**	**R**	**R**	**R**	**A**	**O**	**O**
Apollo PRI-19		•	•	•	•					•	•	•
Hitec 580		•	•	•	•	•	•		•	•	•	•
Nalco 5403		•	•	•	•	•	•		•	•	•	•
DCI-4A		•	•	•	•	•	•		•	•	•	•
DCI-6A			•	•	•	•	•		•	•	•	•
Nalco 5405						•	•		•	•	•	•
Spec-Aid 8Q22						•	•		•	•		•
Unicor J						•	•		•	•		•
Tolad 351						•	•		•	•		•
Tolad 4410			•	•	•	•	•		•	•		•
RPS-613						•	•		•	•		•
Hitec 515											•	
Tolad 245											•	
Mobilad F-800												•
PWA-536								•				
METAL DEACTIVATOR	**O**	**O**	**O**	**O**	**O**	**O**	**A**	**A**	**A**	**O**	**O**	**O**
N,N'-Disalicylidene-1,2-propanediamine	•	•	•	•	•	•	•	•	•	•	•	•
N,N'-Disalicylidene-1,2-cyclohexanediamine											•	
THERMAL STABILITY ADDITIVE		**A**						**A**			**O**	**O**
Spec-Aid 8Q462								•			•	•
AeroShell Performance Additive 101								•			•	•
Turboline FS100C											•	•
Turboline FS100											•	•
JFA-5												•
LEAK DETECTION ADDITIVE		**O**	**O**							**O**	**O**	**O**
Tracer A		•	•							•	•	•
BIOCIDE		**E**				**O**					**O**	**O**
Biobor JF						•					•	•
Kathon FP 1.5						•					•	•

LEGEND:

OPTION (O): The additive may be added by the fuel manufacturer to the extent permitted by specification without consulting customers. The supplier may be required to declare its presence.

AGREEMENT (A): Purchasing authorities may require that an additive be used to the extent permitted by specification. If the fuel supplier desires to add it, he must secure agreement of the customer.

ENGINE MANUFACTURER'S AGREEMENT (E): Specification authorities may require agreement by engine manufacturers.

REQUIRED (R): The additive must be introduced at the level specified to meet a specific handling requirement. The point of addition is not necessarily into refinery production. (R for anti-oxidant treatment refers to hydrotreated fuel)

NOTE: Not all additives approved by specification and engine manufacturers have necessarily been listed. Consult the Issuing Authority for full details.