



AVIATION TURBINE FUEL (ATF)

SAFETY – LIKE IT SHOULD BE

Aviation fuel is a specialized type of petroleum-based fuel used to power aircrafts. It is generally of a higher quality than fuels used in less critical applications, such as heating or road transport, and often contains additives to reduce the risk of icing or explosion due to high temperature, among other properties. Modern jet aircraft require high quality fuel in order for the engines to provide optimum performance and safe flight. Strict quality, handling, traceability and performance criteria must be met before the fuel can be used. With jet fuel testing services from SGS, you can be sure of the very highest degree of quality control.

TYPES OF AVIATION FUELS IN USE

There are two types of aviation fuel in use today:

- Conventional Hydrocarbon Aviation turbine fuel (Avtur, Jet A, Jet A-1, JP8) refined direct from crude oil, also called jet fuel
- Newer innovative fuels such as the SASOL semi and fully synthetic fuels now included in DefStan 91-91 and AFQRJOS specifications. These will soon be joined by a plethora of fuels based on innovative source materials such as gas to liquid fuels, Coal to liquid fuels, biomass to liquid fuels and even fuels from algal growth

WE CAN HELP YOU

As a leader in ATF testing services, we bring to you the best-in-class expertise, resources and domain experience that you deserve.

Jet A-1 must meet the requirements of the standard cited in a given contract, or forming part of a national minimum standard, pipeline agreement (e.g. Colonial or Buckeye in North America). Typically this might be the British Ministry of Defense specification DefStan 91-91 and/or ASTM d 1655 and/or Aviation Fuel Quality Requirements for Jointly Operated Systems (AFQRJOS) or indeed any one of these plus additional parameters set in the contract.

SGS offers:

- Analysis of commercial Jet A-1 to ASTM D1655 and DefStan 91-91
- Analysis of Jet A and Avgas
- Analysis of military aviation fuels JP-4 and JP-8
- Testing to Aviation Fuel Quality Requirements for Jointly Operated Systems (AFQRJOS)
- Testing to all the Department of Defense Specifications including MIL-DTL-83133F
- Full or Short Jet test recertification if specified
- Additive dosing; antioxidants, antistatic, corrosion inhibitors and fuel system icing inhibitors (FSII)
- Fast turnaround times
- Inspection and sampling services for transportation to storage facilities of all sizes of cargoes, from vessel to road tanker

- Services to all aspects of the jet fuel production and supply chain.

Our specific diagnostic analyses include:

- Appearance- Visual
- Acidity mg KOH/gm- ASTM D 3242, IP 354, IS1448 (P:113)
- Aromatics Content % Wt. - ASTM D 1319, IP 156, IS 1448 (P:23)/ ISO 3837
- Aniline Point- ASTM D 611, IP 2 / ISO 2977 Bromine Number- IP 129, ASTM D 1159/ ISO 3839 Bromine Index- ASTM D 1492
- Color (Saybolt)- ASTM D 156
- Copper Corrosion Test Rating- ASTM D 130, IP 154, IS 1448 (P: 15) / ISO2160 Density kg/L- ASTM D 1298, IP 160 IS 1448 (IP: 16)/ ISO 3675
- Density kg/L- ASTM D 4052 / IP 365 / ISO 12185
- Distillation °C- ASTM D 86, IP 123, IS 1448 (P: 18) / ISO 3405
- Doctor Test- ASTM D 4952, IP 30 IS 1448 (P: 19)
- Existent Gum on air mg/100 ml- ASTM D 381 IP 131 IS 1448 (P: 29) Flash Point (Abel) °C- IP 170 IS 1448 (P: 20 method B)
- Mercaptan Sulfur Content ppm- ASTM D 3227, IP 342, IS 1448 (P: 109)
- Naphthalene Content % Vol.- ASTM D 1840, IS 1448 (P: 118) Particulate Matter mg/ltr- ASTM D 2276, IP 216, D 5452
- R.V.P. @ 100°F Psig- ASTM D 323, IP 69 Sulfur Content % Wt. - ASTM D 4294, D-5453 Water Content ppm- ASTM D 6304
- Water Reaction Test Rating- ASTM D 1094, IP 289 Olefins Content- D 1319 IS 1448 (P: 23)
- Kinematic Viscosity @ -20°C- ASTM D 445, IS 1448 (P: 25) / ISO 3104

**TO FIND OUT MORE ABOUT
OUR FUEL OIL TESTING SERVICES,
CONTACT US TODAY**

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SGS

When you need to be sure