



intertek

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COMPREHENSIVE TOTAL QUALITY ASSURANCE JET FUEL SERVICES

Aviation Total Quality Assurance Jet Fuel services is provided by Intertek's global network of certified and accredited laboratories and subject matter experts.



JET FUEL QUALITY TESTING AND INSPECTION

Our aviation fuel laboratories offer expertise and quality analysis services 24/7, testing to ASTM, IP, MIL, DefStan, AFQRJOS, JIG/EI 1530 and other jet aviation industry standards.

No matter what stage of the Jet Fuel supply chain you need help with, our subject matter expertise can support your entire operation.

Intertek provides qualitative and quantitative services supporting the supply chain for feedstock quality, aviation fuel production, sampling and transportation, microbial identification, additization and filtration.

As regulations change and technology is created or innovated, our knowledge and industry expertise ensure your products and business are prepared to meet evolving demands. Intertek's testing and certification services support the quality, performance, regulatory compliance, safety, benchmarking, analysis and other requirements for products, components, raw materials, sites, and facilities.

Testing Aviation Jet A Biofuels

Intertek provides compositional testing for Jet A1 fuel and biofuel blends. Rapid quality control testing helps identify fuel contamination issues, confirmation of fuel safety, detects trace unwanted residues, and more.

Jet A1 testing certification is performed to DEF standard 91-91, ASTM D-1655 and JIG guidelines. Detailed compositional analysis of saturates and aromatics is performed by use of a range of techniques including two dimensional (2D) GC; GC/MS and HPLC.

Intertek laboratories use in-house capabilities and expertise to analyze normal paraffins, iso-paraffins, naphthenes and aromatics for the carbon number range.

The environmental impact and availability of fuel supplies are challenges facing the aviation industry. There is increased interest in alternative biofuels by the aviation industry. The potential use of biofuels based on Fisher-Tropsch technology, using sources such as coal, methane, and biomass, are being evaluated. A key factor in addressing fuel safety concerns is the ability to perform detailed chemical composition of the biofuel jet blends, as well as quality monitoring. Intertek laboratories are ready to provide prompt testing and reporting services, supporting jet fuel clients on a global basis.

Did you Know?

The first ever commercial passenger flight using bio jet fuel was tested and certified by Intertek.



JET FUEL QUALITY AND DEGRADATION TESTING FOR JET FUELS STORED FOR LONG PERIODS OF TIME.

Jet fuel quality degradation occurs during long-term fuel storage operations. Intertek helps clients to monitor jet fuel quality and stability on a world-wide basis.

Depending upon location, trained personnel sample jet fuels from storage tanks, lines, trucks and aircraft. Prepaid sample shipment packages are available to clients for easy sampling and shipping to the labs. Intertek provides full specification testing worldwide for JET-A, JP5, JP8, and other aviation fuels. Intertek conforms to government, ASTM, IP, IATA and other recognized specifications and regulations. Jet fuel labs are located on a global basis and are equipped to handle full jet fuel analysis according to ASTM D1655 protocols.

Fuel quality degradation needs to be identified, characterized and addressed whenever aviation fuel is stored for a length of time. Jet fuel can form gums and must be

regularly monitored in order to avoid problems in the future with aircraft fuel systems.

Another danger to jet fuel quality is the growth of bacteria that develops within the product during storage. Hydrocarbon utilizing microorganisms can grow and develop in untreated Jet Fuel, causing fuel filter problems. If left untreated, bacteria growth can cause catastrophic problems in the future. Bacterial fuel contamination is usually overcome by treating the fuels with a biocide.

Adding biocide to stored fuel solves one problem but creates another. If boron is used, boron levels must be monitored to avoid over-treating of the fuel. Overdosing could cause further mechanical damage to the aircraft's fuel system. Sampling and

testing fuel quality in jet fuel storage tanks and in jet aircraft grounded for extended periods of time is advisable in order to monitor and catch at an early stage any evolving gum or bacterial problems. Routine quality control programs by Intertek are cost-effective and can prevent serious and costly problems with stored aircraft and jet fuel when the aircraft are called back into service.

CONTROL MICROBIAL GROWTH IN STORAGE TANKS

Biocides control microbe infestations in fuels and other refined petroleum product tanks.

Microbes in fuel and crude oil storage tanks, cause corrosion, degrade products, and damage expensive inventories and infrastructure.

Bacteria and fungi thrive in petroleum, crude oil, and fuel storage tanks if water is present. Biologically contaminated storage tanks experience quality and infrastructure problems. Microbe contamination problems include slime build-up, filter blockage, plugged injectors and burner jets, product discoloration, sludge, tank and pipe corrosion, emulsification and mixing of fuels products with water, plugged fuel gauges, and costly fuel quality degradation.

Diagnosing and Treating Contaminated Storage Tanks with Biocides:

Intertek monitors, identifies, treats, and controls microbial growth in fuel, biofuel, and crude oil storage tanks. Testing tank samples for bacteriological activity is readily available from Intertek. If storage tank microbe infestation is detected, trained Intertek personnel apply biocide treatments on-site at affected storage tanks.

Adopting a routine preventative maintenance program provided by Intertek can help keep microbial activity in storage tanks at low levels,

helping protect the value of products and infrastructure.

Along with a biocide chemical treatment program, consistent storage tank de-watering programs should be maintained, and filter changes should be monitored. Storage tanks with larger de-watering volumes (water heels) are more susceptible to damaging biological activity. If the pH in the water is less than 5, this can indicate active corrosion. If notable biological contamination continues after treatment, this may be indicating a serious contamination problem upstream from the storage tank, which should be investigated.

MICROBIOLOGY MEDIA TEST KITS

As a global Total Quality Assurance operator, we provide oil and gas organizations worldwide with reliable and versatile microbiology media test kits that conform to guidelines and are produced to the highest standards.

Our microbiology media test kits allow for the detection and quantification of the microorganisms responsible for microbiologically influenced corrosion.

Microbiology media test kits are in increasing demand within the oil and gas industry as organizations seek to conduct in-house testing of production fluids.

Utilizing the most probable number method, the bacterial growth media detects and quantifies the microorganisms responsible for microbiologically influenced gums

ADDITIVE SERVICES FOR AVIATION INDUSTRY

Did your jet fuel fail a quality parameter such as the Thermal Stability test, ASTM D3241?

A potential source of Thermal Stability failure can be trace contamination of metals such as copper which can act as a catalyst forming polymers and leading to engine deposits. Metal Deactivator Additive (MDA) reacts with dissolved metals in the fuel to form stable metal chelates.

Intertek Caleb Brett has additive services capable of dosing vessels or tanks. You might consider having a lab blend tested prior to dosing the batch. Testing the final additized Jet Fuel is always required.



Our media kit provides a reliable, fully quantitative assessment of microbiological contamination in fuels, oils and associated waters, in accordance with ASTM D7978 and IP613. Our easy-to-use test kit allows us to detect microbial growth before it becomes a problem.

JET ENGINE LUBRICANT AND FLUIDS TESTING

Oil Condition Monitoring (OCM) testing of jet engine oil and hydraulic lubricants and fluids.

Jet engine oil condition monitoring (OCM) analysis identifies and quantifies wear metal trends in engine lubricants to help isolate specific component problems. Wear debris and contaminants can be created by airborne contaminants, including volcanic ash. These fine contaminant airborne particles when ingested as a dirt or dust can damage the jet engine components. By comparing historical analysis with expected new oil values, Intertek helps identify developing problems early and can suggest corrective action, saving engine owners expensive repair costs and downtime. Scheduled analysis and expert analytical services identify and track trends. Intertek provides a comprehensive and independent service to monitor the overall jet engine health, through programmed analysis.

Intertek oil condition monitoring for jet engines testing is performed by accredited laboratories supporting

aviation companies, jet engine manufacturers, and related businesses. Intertek employs experienced technicians who specialize in oil and lubricant testing and engine wear. OCM analysis measures changes in lubricants, hydraulic fluids and other products, from established trends or in relation to the threshold of control limits. Jet lubricants, oils, fluids and fuel laboratory testing

- Oil Condition Monitoring
- Jet Engine and Gas Turbine Support Services and Debris Analysis
- Engine Oils Testing, including viscosity, acid numbers, wear metals and additive package
- Hydraulic Fluids Testing, including particle count
- Jet Engine Damage Testing for Airborne Dust and Volcano Particles
- Jet Fuel Testing - Full specification jet fuel testing and certification


Did You Know?

Intertek is part of the performance jet fuel testing committee in the production of new airplanes for some of the most recognized global Aviation brands.





Contact our help desk to receive information
about any service, in any country, anytime

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