



PFAS in the Aerospace Industry

Perfluoroalkyl & polyfluoroalkyl substances (PFAS) are a diverse group of synthetic compounds distinguished by their versatility, strength, and durability, setting them apart from other chemicals. There are perhaps as many as 700 commercially active substances that may be considered PFAS. However, not all PFAS compounds are the same - they contain unique properties and characteristics that yield distinct environmental and health profiles. PFAS compounds are highly differentiated, and while some may require limitations or prohibitions from certain uses, others have well-established profiles and do not pose unreasonable risks to human health or the environment when used appropriately.

From **manufacturing** and **supply chain** to **operation** and **maintenance**, the U.S. aerospace industry depends on the advanced performance characteristics of PFAS compounds to meet critical needs. Broadly, the main uses are:

- **LUBRICANTS:** greases, oils, bearings, bushings
- **SEALANTS:** locations exposed to wind, water, thermal stress, fuel, or vacuum
- **ELECTRONICS AND ENERGY:** wiring, cables, insulation, batteries, semiconductors
- **COATINGS:** protect underlying polymers and metals, reduce friction
- **FIRE SUPPRESSION:** engines, fuels, interior
- **HEAT TRANSFER AND HYDRAULICS:** fluids, hoses, valves, actuators
- **METAL MANUFACTURING AND PLATING:** processing aids, surface treatments for wear

In each case, **PFAS compounds are essential** due to their chemical and thermal durability and unique performance characteristics. Collectively, PFAS compounds are “critical to the national security of the United States”¹ and vital to maintaining airworthiness and safety performance of defense and civilian aircraft.



U.S. AEROSPACE MANUFACTURING IMPACT ²

Aerospace manufacturing and related activity helps contribute over **1.1 million jobs** and **\$191 billion** toward GDP.

DRIVING SCIENCE-BASED MANAGEMENT POLICIES

Creating regulations that treat all PFAS compounds the same, or impose blanket restrictions on uses, would have devastating economic and safety consequences for the U.S. aerospace industry. Sustainable management of PFAS compounds enables continued economic advancement when using a **science- and risk-based approach** to effectively administer regulations that protect human health and the environment.

[1] *Report on Critical Per- and Polyfluoroalkyl Substance Uses, Department of Defense, August 2023*

[2] *Quantifying the Economic Contribution of Key Industries which use PFAS as Vital Inputs, Inforum, Feb. 6, 2023*