

Fact Sheet: Transporting Fuel by Air in Alaska or Remote Areas

Overview

- This Fact Sheet provides awareness of 49 CFR 175.310. This Fact Sheet does not replace any regulations and is not considered training.
- Hazardous Materials, also known as Dangerous Goods, pose a risk during transportation.
- Flammable liquids are subject to the Department of Transportation (DOT) Hazardous Materials Regulations (HMR); 49 CFR parts 171-180). These regulations include how to classify, package, communicate, and handle hazardous material for transportation in commerce.
- Section 175.310 provides conditions to transport certain fuels by air in larger quantities and/or different packagings than typically allowed under the HMR. All other requirements of the HMR continue to be applicable.

Understanding the Risk

- Liquid fuels (such as gasoline or diesel fuel) are considered flammable liquids (DOT Hazard Class 3, Packing Groups I, II, or III) or combustible liquids. These fuels pose multiple dangers:
*** Fire * Explosion * Vapor * Flashback * Autoignition**
- All air operators and shippers are required to have **hazardous materials training** to transport fuel under § 175.310. Training is necessary to understand safety measures for hazard classification, packaging, hazard communication, and proper handling. Training is key to reducing hazardous materials aviation incidents that are caused by human error. See 49 CFR part 172, subpart F (§§ 172.700-172.704) for more information on the DOT hazardous materials training requirements.
- All **14 CFR part 121 and 135** certificate holders that carry fuel, or other hazardous materials are required to have an FAA approved hazardous materials program. This program must cover all aspects of the acceptance and transportation process, as well as training for all employees.
- There are important considerations in all of the following areas to apply the conditions in § 175.310:
 - Why is aircraft the only means of transportation?
 - Passenger or Cargo Aircraft?
 - What type of fuel?
 - What is the total volume of packaged fuel onboard the aircraft?
 - What type of packaging?
 - How much fuel is in each individual package?
 - What Type of Operations (14 CFR, Parts 91, 121, or 135)?

When is aircraft the only means of transportation? [§ 175.310(a)]

When other means of transportation are **impracticable**, flammable liquid fuels may be carried on certain passenger and cargo aircraft.

- “**Impracticable**” means: Transportation is not physically possible or cannot be performed by routine and frequent means of other transportation, due to extenuating circumstances.
- “**Extenuating circumstances**” include: Conditions precluding vessel or highway transportation, such as a frozen vessel route; road closures due to catastrophic weather or volcanic activity; or a declared state of emergency.
- “**Extenuating circumstances**” do **not** include the desire of expedience of a shipper, carrier or consignor.

Small Passenger Carrying Aircraft and Helicopter Eligibility [§ 175.310(b)]

If you can answer 'yes' to all of the following questions, then you may be eligible to transport flammable liquid fuel by aircraft.

- Is aircraft the only means of transportation (i.e. are ground or vessel transportation **impracticable**)?
- Is this flight operated entirely within the State of Alaska **or** into a remote area?
- Is this flight **not** part of regular schedule?
- Is the flight necessary to meet the needs of a passenger?
- Is fuel in all packages limited to DOT Hazard Class 3, Packing Group II or Packing Group III up to **76 L (20 gallons) total**?
- Are the individual packaging types and capacities of an authorized type and size? *See summary below.*
- If operating a passenger carrying helicopter, is **the fuel or fueled equipment carried on external cargo racks or slings**?
- Have the additional **aircraft safety measures** and **operator requirements** for the **type of operations** been met? *See summaries below.*

Cargo Aircraft Eligibility [§ 175.310(c)]

If you can answer 'yes' to all of the following questions, then you may be eligible to transport flammable liquid fuel by aircraft.

- Is aircraft the only means of transportation (i.e. are ground or vessel transportation **impracticable**)?
- Do non-bulk packages contain fuel in DOT Hazard 3, Packing Group II or III?
- Are the individual non-bulk packaging types and capacities of an authorized type? *See summary below.*
- Do combustible and flammable liquid fuels (packing groups I, II, or III) carried in **installed aircraft tanks** meet the additional conditions? *See § 175.310(c)(1)(iv) for details.*
- Have the additional **aircraft safety measures** and **operator requirements** for the type of operations been? *See summaries below.*

Summary of Required Packaging Types and Sizes [§ 175.310(b) and (c)]

- Unfamiliar with UN Specification packaging? See 49 CFR Part 178, subpart L (§§ 178.504-178.523) for identification codes and packaging standards.

Non-Bulk Package Types for Small Passenger Carrying Aircraft and Cargo Aircraft

§ 175.310	Non-Bulk Outer Containers	Inner Container / Capacity Limits
(b)(i)	UN 4G fiberboard box , at the Packing Group II performance level, or each packed inside a UN 4C1 wooden box , at the Packing Group II performance level	Strong tight <u>metal</u> containers of not more than 20 L (5.3 gallons) capacity
(b)(ii)	UN 4C1 wooden box , at the Packing Group II performance level	Airtight, leakproof, inside containers of not more than 40 L (11 gallons) capacity and of at least 28-gauge metal
(b)(iii)	UN 1A1 steel drums , at the Packing Group I or II performance level	Drums may not exceed 20 L (5.3 gallons) capacity
(b)(iv)	In fuel tanks attached to flammable liquid fuel powered <u>equipment</u> under <u>all</u> of the following conditions: <ul style="list-style-type: none">• Each piece of equipment is secured in an upright position.• Each fuel tank is filled in a manner that will preclude spillage of fuel during loading, unloading and transportation.• Fueling and refueling of equipment is prohibited in or on the aircraft.	
In addition to the above options, for Cargo Aircraft the additional packaging option in § 175.310(c)(iii):		
(c)(iii)	Fuel is carried in <u>metal drums</u> (UN 1A1, 1B1, 1N1) authorized for Packing Group I or Packing Group II liquid hazardous materials. <i>Note: These single packagings may not be transported in the same aircraft with Class 1, Class 5 or Class 8 materials.</i>	Drums must have rated capacities of 220 L (58 gallons) or less.

Summary of Additional Aircraft Safety Measures [§ 175.310(d)]

All of the following apply to loading, handling, or carrying fuel:

- During loading and unloading, **no person** may smoke, carry a lighted cigarette, cigar, or pipe, or operate any device capable of causing an open flame or spark **within 15 m (50 feet) of the aircraft**.
- No person** may fill a container, other than an approved bulk tank, with a Class 3 material or combustible liquid or discharge a Class 3 material or combustible liquid from a container, other than an approved bulk tank, while that container is inside or **within 15 m (50 feet) of the aircraft**.
- When filling an approved bulk tank by hose from inside the aircraft, the doors and hatches of the aircraft must be fully open to **ensure proper ventilation**.
- Each area or compartment in which the fuel is loaded is suitably ventilated to prevent the **accumulation of fuel vapors**.
- Fuel is transferred to the aircraft fuel tanks only while the aircraft is on the ground.
- Before each flight, the pilot-in-command:
 - Prohibits** smoking, lighting matches, the carrying of any lighted cigar, pipe, cigarette or flame, and the **use of anything that might cause an open flame or spark**, while in flight; and
 - For passenger aircraft, **informs each passenger** of the **location of the fuel and the hazards involved**.

Summary of Additional Operator Requirements [[§ 175.310\(e\)](#)]

- The aircraft and the loading arrangement to be used must be approved for the safe carriage of the particular materials concerned by the FAA Principal Operations Inspector assigned to the operator.
- If the aircraft is being operated by a holder of a certificate issued under **14 CFR part 121 or part 135**, operations must be conducted in accordance with conditions and limitations specified in the certificate holder's operations specifications or operations manual accepted by the FAA.
- If the aircraft is being operated under **14 CFR part 91**, operations must be conducted in accordance with an operations plan accepted and acknowledged in writing by the FAA Principal Operations Inspector assigned to the operator.

Resources / Contact Us

You have an important role in protecting the aircraft. Cargo safety is everyone's responsibility. We encourage you to visit and link to:

- FAA's Dangerous Goods website: <https://www.faa.gov/hazmat/>
- Help air shippers to prepare SafeCargo: <https://www.faa.gov/go/safecargo/>
- Help air carriers find resources to OperateSafe: <https://www.faa.gov/go/operatesafe/>

Questions, feedback, or requests for stakeholder collaboration for FAA's Office of Hazardous Materials Safety?

- Email: hazmatinfo@faa.gov

Questions or resource requests for DOT's Hazardous Materials Information Center?

- Call: 1.800.HMR.4922 or (1.800.467.4922) / E-mail: infocntr@dot.gov
- Publications: <https://www.phmsa.dot.gov/training/hazmat/publications>