

Federal Aviation Administration  
Civil Aviation Security  
Dangerous Goods Advisory Bulletin

**Information of Concern to Air Carriers**

**Subject: Passenger Personal Liquid Oxygen Canister**

**Number: DGAB-00-01**

**Date: August 31, 2000**

**INFORMATION:** The Federal Aviation Administration (FAA) Dangerous Goods and Cargo Security program recently received information from an air carrier concerning a passenger who attempted to carry a personal oxygen canister containing oxygen, refrigerated liquid (commonly described as liquid oxygen) on board the aircraft as a spare oxygen source.

The incident is summarized as follows:

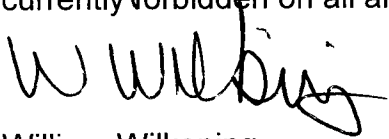
A device containing liquid oxygen was removed from a passenger onboard a flight preparing to depart Newark International Airport. The passenger was using a compressed oxygen cylinder supplied by the airline, as authorized by 49 CFR, but carried the liquid oxygen unit on board the aircraft as a spare. Another passenger heard a hissing sound and notified the flight attendant, who then notified the captain. The captain informed the passenger that she could not fly with the spare liquid oxygen canister, which was stowed in an improper orientation in the overhead bin.

Subsequent investigation revealed that the oxygen container had a capacity for 1.2 liters of liquid oxygen. The canister was marked and labeled in accordance with the Hazardous Materials Regulations applicable to oxygen, refrigerated liquid (cryogenic liquid). The device was fitted with internal coils that allowed the liquid oxygen to be converted into breathing oxygen.

Oxygen, refrigerated liquid (liquid oxygen) is considered a cryogenic liquid under the HMR in addition to being a nonflammable compressed gas and an oxidizer. A cryogenic liquid has a boiling point colder than  $-90^{\circ}\text{C}$  ( $-130^{\circ}\text{F}$ ) at atmospheric pressure. Liquid oxygen may explode on contact with heat or oxidizing materials and is strictly forbidden on both passenger and cargo aircraft.

Passengers needing oxygen during the flight must use carrier-owned and carrier-provided compressed oxygen. Passengers may transport their own personal compressed oxygen bottle, in checked baggage, in accordance with the HMR and any additional air carrier requirements.

Air carriers are advised that personal breathing aids charged with liquid oxygen represent an emerging technology. These devices store oxygen in a liquid form by compressing and cooling the oxygen in a thermos-type container. These systems promise users more portability and longer periods of use. They are currently forbidden on all aircraft, either as cargo or as baggage.

A handwritten signature in black ink, appearing to read 'W Wilkening', with a stylized flourish at the end.

William Wilkening  
Program Manager  
Dangerous Goods and Cargo Security