

Accidents and incidents

Some examples to think about.....

Valujet, 11 May 1996



The remains of the aircraft....



The memorial

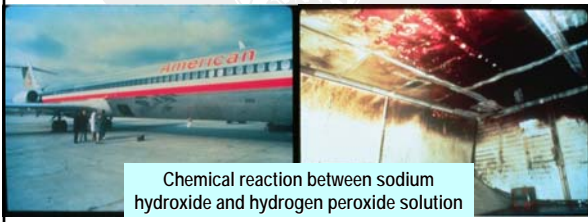


Boston 1973 - Pan Am



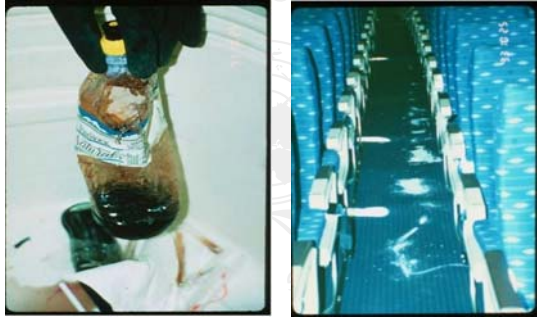
1988 - AMERICAN AIRLINES FL132

- 120 passengers & crew -
- in-flight cargo fire -
- Nashville, TN -



Chemical reaction between sodium hydroxide and hydrogen peroxide solution

1993 Passenger with Sulphuric Acid



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1995 - Continental in Panama
Safety Matches burst into flames during loading



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Fedex - Newburgh 1996









1998 - NW FL 957 - MEM
Passenger with Hydrogen Peroxide



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1999 Unijet

Can Of Gas

+

12 volt Battery in overhead bins =



Common Items - Uncommon Problems

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UPS, Philadelphia, 2006



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FLARE GUN IGNITED DURING LOADING OF PASSENGER AIRCRAFT



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Ethyl chloride mixture



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The remains of the cylinder.....



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Qantas



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Battery Issues...

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maxell CR2032 3V
Hitachi Maxell Ltd. Japan

Li-ion

Li-ion

Li-ion

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Laptop with Lithium-ion battery in carry-on baggage



Started burning in the overhead bin in the passenger cabin. Fire extinguished on the ramp.

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Prototype Lithium Battery shipped by a PHMSA Approval Holder



Fire discovered as ULD was being loaded for trans-Atlantic cargo flight in Memphis.

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Two 12-volt nonspillable batteries packed together



Batteries were packaged together in same box. Package caught fire in air cargo sort facility.

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Portable drill in checked baggage



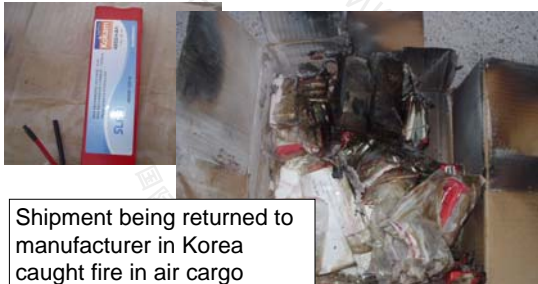
Battery-powered drill accidentally activated in checked baggage. Drill/battery overheated and caused suitcase to catch fire on the ramp right before loading on passenger flight.

12-volt nonspillable battery in powered hand truck



Hand truck activated during taxi for takeoff on passenger flight. Packaging prevented motor movement. Overheated battery and motor and melting cables set off smoke alarm and aircraft returned to gate.

Lithium Ion Batteries for Remote Control Model Cars



Shipment being returned to manufacturer in Korea caught fire in air cargo warehouse.

i-Theater Video Eyewear -Model N

Personal viewing device for:
iPod, DVD, TV, VCR, gaming systems

Primary components:

- Binocular display unit
- Control module with integral lithium polymer battery (3.7V, 1000mAh)
- Connection cords (2)



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Event Summary

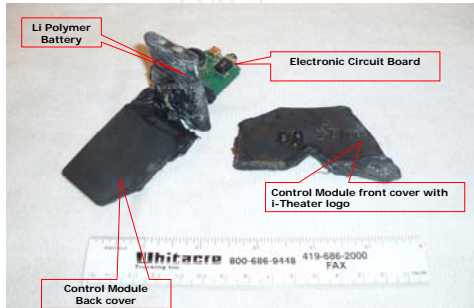
- Control Module charged at home prior to the flight
- Unit was in use for 2.5 hrs.
- Control Module began to generate heat and plastic case began to swell
- The Control Module emitted a 10" plume of sparks and debris
- The customer threw the Control Module to the cabin floor
- Captain on rest break doused the Control Module with water
- No damage to the aircraft
- No injuries were reported to passengers or crew



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i-Theater Control Module Remains

Original Control Module was replaced by the customer on May 1, 2007 due to a broken connection receptacle



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Suspected Incidents Involving:

Static Electricity and Flammable Vapors in Airline Baggage

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Luggage Explosion

- Chicago, O'Hare, six years ago. Small travel bag exploded.



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Cause?



- Again, a damaged hairspray can (flammable aerosol) was found in the luggage. Static discharge from the luggage conveyor belt was the suspected ignition source.

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Luggage Fire



- Ottawa, Canada, December 2002, a shoulder bag traveling as checked baggage started to smoke when being loaded from the ramp to the conveyor belt at the terminal. It was discovered to be on fire.

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Cause?



- The Ottawa Office of the Fire Marshall investigated and found that the most likely cause of the fire was the ignition of vapors from an aerosol hairspray can. The nozzle had been separated from the can. Static electricity was the suspected source of the ignition—possibly generated by a wool sweater in the bag.

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Luggage Explosion

- February, 2003, Boston, a suitcase exploded as it arrived at the bottom of a conveyor belt after check-in.
- No injuries




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Cause?

- Undetermined
- A can of hairspray (flammable aerosol) that had been full was still intact but was dented and had apparently lost much of its contents
- Possible ignition sources:
 - Spark from metal contact
 - Electrostatic discharge (Conveyor belt? Cell phone?)



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Luggage Explosion

- May, 2003, San Francisco, a case containing electronic equipment exploded when being loaded on to a passenger aircraft.
- Minor injuries sustained by a baggage handler.



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Cause?

- Undetermined
- No explosives or other hazardous materials were found.
- Adhesive and foam had been applied to the inside of the case shortly before sealing it. Flammable vapors from the adhesive may have been ignited by a spark or electrostatic discharge.



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Wheelchair fire - unloading