Federal Aviation Administration

Memorandum

Date: May 1, 2024

To: Certificate Holders, Shippers, Freight Forwarders

From: Atilla Akgün, Deputy Director, Office of Hazardous Materials Safety

Subject: Cancellation of Outdated Dangerous Goods Advisory Bulletins

Overview:

The Office of Hazardous Materials Safety (AXH) informs certificate holders, shippers, and other regulated entities who transport dangerous goods about the cancellation of the listed Dangerous Goods Advisory Bulletins.

Order Number	Date	Document Title
DGAB-98-01A	03/27/1998	Fireworks Manufactured in Mexico
DGAB-98-02	04/07/1998	Fuel Control Units
DGAB-98-03	08/25/1998	Liquid Nitrogen in Dewars
DGAB-99-02	07/02/1999	Transportation of Batteries and Devices That Contain Batteries
DGAB-00-02	09/07/2000	Transportation of Lithium Batteries
DGAB-01-01	11/28/2001	Transportation of Hydrogen Peroxide (H2O2)
DGAB-02-01	05/23/2002	Transportation of Batteries and Devices That Contain Batteries
DGAB-07-01	07/30/2007	Batteries and Inaccurate MSDS Information
DGAB-2008-01	02/12/2008	Ethyl Chloride in Aluminum Cylinders
DGAB-2014-01	01/30/2014	“Canned Oxygen” May Not Be Carried by Airline Passengers

Reason for Cancellation:

The DGABs listed above have either been harmonized with the Hazardous Materials Regulations (HMR), International Civil Aviation Organization (ICAO), or have been superseded and therefore rendered obsolete. For questions, please forward to email: hazmatinfo@faa.gov.

Enclosures: 10

Federal Aviation Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers

Subject: Fireworks Manufactured in Mexico
Number: DGAB-98-01A
Date: March 27, 1998

INFORMATION: The Federal Aviation Administration (FAA) is investigating several incidents in which fireworks manufactured in Mexico and placed in passenger baggage resulted in a fire. Fortunately, these fires were discovered during the aircraft loading process. The fireworks causing the fires are novelties commonly described as "poppers," "snappers," "torpedoes," "popping seeds," or "popping caps." They are small items that explode when dropped, producing a report and flash.

Both the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) and the ICAO Technical Instructions for the Safe Transport of Dangerous Goods prohibit fireworks and novelties for transportation as cargo to, from, or within the United States unless they have been granted prior approval from the Associate Administrator for Hazardous Materials Safety, Research and Special Programs Administration (RSPA), U.S. Department of Transportation. In addition, both domestic and international regulations prohibit fireworks or novelties to be carried in a passenger's checked or carry-on baggage.

TRANSPORT OF FIREWORKS AND NOVELTIES IN PASSENGER BAGGAGE: Domestic or international transport of any fireworks or novelty, even if approved, is strictly forbidden in a passenger's checked or carry on baggage. Air carriers operating flights with passengers having ready access to these types of fireworks are strongly encouraged to alert passengers of the danger and restrictions associated with them. Violations are to be reported to the nearest FAA Security field office.

TRANSPORT OF FIREWORKS AND NOVELTIES AS CARGO: Based on subsequent FAA investigations into the cause of these fires, it appears that these novelty fireworks are forbidden explosives under 49 CFR 173.54.

Fireworks must be manufactured and approved for transportation in accordance with applicable requirements of American Pyrotechnic Association (APA) Standard 87-1. Either the manufacturer or an authorized examining agency then must conduct a thermal stability test. After testing, the manufacturer must apply in writing for approval from RSPA. If approved, the manufacturer receives from RSPA a written notification with an assigned "EX-number." This approval is required for both domestic and international transport of fireworks and novelties as cargo.

To conform to manufacturing requirements of APA Standard 87-1, these novelty fireworks may not contain more than 1.0 milligram of explosive composition each,

coated on small bits of sand and wrapped in paper. They are limited to individual containers of not more than 50 units cushioned with sawdust to reduce friction.

FAA Enforcement Action: The FAA will continue to actively pursue enforcement actions against all parties offering to an air carrier as cargo or transporting as passenger baggage, fireworks that are not in compliance with the Hazardous Materials Regulations. Violators are subject to civil penalties of $27,500 and criminal prosecution with penalties of $250,000 or more and up to five years in prison.

/s/
Charles N. Lovinski
Program Manager
Dangerous Goods and Cargo Security

Federal Aviation Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers

Subject: Fuel Control Units
Number: DGAB-98-02
Date: April 7, 1998

INFORMATION: Federal Aviation Administration (FAA) Dangerous Goods and Cargo Security inspectors are encountering fuel control units containing residual amounts of aviation fuel or flammable cleaning solvents which are being transported by air as undeclared or improperly declared shipments. These units are common aircraft parts considered to be air carrier company material (COMAT) and often are being returned to the manufacturer for ongoing maintenance. The units typically are packaged inside a standard fiberboard box, and many of these packages are leaking. If residual amounts of flammable aviation fuel or cleaning solvents remain in the unit, domestic and international hazardous materials regulations apply and the unit must be prepared for transport as follows:

49 CFR

A fuel control unit containing residual aviation fuel is properly described under 49 CFR as follows:
Fuel, aviation, turbine engine, 3 UN 1863, PG (II or III)
or
Residue, last contained Fuel, aviation, turbine engine 3, UN 1863, PG (II or III)

The unit may contain a flammable cleaning solvent instead of the fuel and thus more accurately described using a technical name listed in the 49 CFR 172.101 Hazardous Materials Table or a generic description such as "flammable liquid, n.o.s." with the addition of the technical name. (See 49 CFR 172.203(k))

The outer packaging must be marked with the proper shipping name and identification number and display a Class 3 label.

The unit qualifies for limited quantity exceptions if the net capacity of the unit is not more than 1 L (for PG II) or 5 L (for PG III). Net capacity means the unit is not designed to contain more than 1 L or 5 L, respectively. If the unit meets the net capacity limitation, it can be packaged in a non-specification (not UN tested and certified) packaging. However, the package must meet general packaging standards, such as applicable requirements in 49 CFR 173.24 and 173.24a for strength, impact resistance, cushioning, absorbency, and compatibility with the lading. In addition, the fuel control unit must be capable of withstanding pressure requirements in 49 CFR 173.27(c). If the fuel control

unit cannot withstand this pressure without leaking, then it needs to be packed in a metal or plastic inner container that can meet the pressure requirements.

ICAO/IATA

A more specific shipping description with corresponding packaging provisions for this type of apparatus has been adopted by ICAO/IATA. At present, this entry is under consideration for adoption by the UN Committee of Experts and the US is planning to propose its inclusion into the Hazardous Materials Regulations.

A fuel control unit containing residual aviation fuel or flammable cleaning solvent, prepared for shipment under the ICAO Technical Instructions, would be described as follows:

Dangerous goods in apparatus, 8001

or

Dangerous goods in machinery, 8001

The shipper's declaration must indicate that the shipment is being made under ICAO provisions.

Marking, labeling and packaging must conform to Packing Instruction 916. The outer package must be marked with the proper shipping name and labeled according to each hazard in the apparatus (e.g., Class 3). No UN performance tests are required. General packaging requirements such as strength, compatibility with lading, cushioning and absorbency must be met. Total net quantity of fuel in one unit must not exceed 0.5 L.

Packaging

It has been reported that 60-90% of current packages are leaking and, therefore, not in compliance with either 49 CFR or ICAO/IATA general packaging standards. In order for the unit to be properly packaged, all necessary steps must be taken to ensure the integrity of the package. This may include placing the unit in an inner receptacle, such as plastic or metal container compatible with the lading, surrounding the unit with adequate absorbent material to contain any liquid that may leak, and cushioning the inner receptacle within the outer packaging.

Non-regulated fuel control units

Fuel control units which have been re-filled with a non-regulated material prior to being shipped to the maintenance facility are not subject to either domestic or international hazardous materials regulations.

Charles N. Lovinski
Program Manager
Dangerous Goods and Cargo Security

Federal Aviation Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers

Subject: Liquid Nitrogen in Dewars
Number: DGAB-98-03
Date: Aug 25, 1998

INFORMATION: The Federal Aviation Administration (FAA) is issuing this Advisory Bulletin to alert air carriers to the hazards associated with mishandling authorized packagings utilizing liquid nitrogen as a refrigerant. These packagings are "non-pressurized" flasks and specially designed flasks known as "dry shippers", which are used to transport refrigerated biological specimens. Liquid nitrogen is a regulated material subject to 49 CFR Parts 100 – 180, Hazardous Materials Regulations, (see 173.320(c)) and the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (see Packing Instructions 202).

Safe Handling:
The closure of the container is designed to allow venting to the atmosphere, through the fill opening, in order to prevent the build up of pressure within the package. Packages are designed to be transported in an "upright" position at all times. These containers release of liquid nitrogen through the venting system when handled adversely to the orientation markings and package design. Therefore, it is important that personnel that handle, load and unload flasks that contain liquid nitrogen maintain the flask in the upright position at all times. Failure to do so may result in the release of liquid nitrogen and cause injury.

Non-pressurized flasks: (*other than "dry-shippers"*)
These types of containers are authorized for liquid nitrogen (Division 2.2, cryogenic), in the ICAO Technical Instructions (TI), and must meet the packing instructions in 202. Non-pressurized flasks are similar in design and appearance to "dry shippers", except they are filled with liquid nitrogen, and the biological specimens are suspended in it.

Dry Shippers:
Dry shippers, when properly prepared (see the Note at the end of Packing Instructions 202) are not subject to the requirements of the regulations. However, if the dry shippers are offered with free liquid nitrogen present, they would be subject to the regulations when offered for transportation by aircraft (see 49 CFR 173.320) and must be offered in accordance with the ICAO Technical Instructions. These packagings use liquid nitrogen (Division 2.2, cryogenic liquid) as a refrigerant. A dry shipper consists of an outer metal jacket and an inner shell, with the space between filled with insulation and vacuum-sealed. The interior of the packaging contains a cylindrical void, which holds the material requiring refrigeration, surrounded by absorbent material. The absorbent material is saturated with the liquid nitrogen. The FAA has found shipments where the nitrogen is not completely absorbed so when handled adverse to the orientation markings, results in a loss of liquid nitrogen.

FAA Enforcement:

The FAA will actively pursue enforcement actions against all parties who violate the Hazardous Materials Regulations or the ICAO Technical Instructions. Violators are subject to civil penalties of $27,500 and criminal prosecution with penalties of $250,000 and up to five years in prison.

/s/
Bruce Butterworth
Director, Office of Civil Aviation Security Operations

Federal Aviation Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers

Subject: Transportation of Batteries and Devices That Contain Batteries
Number: DGAB-99-02
Date: July 2, 1999

INFORMATION: Based on several incidents where heat generated by batteries or devices containing batteries have caused smoke and/or the initiation of a fire, the Research and Special Programs Administration (RSPA) will publish advisory guidance in the Wednesday, July 7, 1999 edition of the Federal Register under [Docket No. RSPA-99-5143 (Notice No. 99-8)] "Advisory Guidance; Transportation of Batteries and Devices That Contain Batteries." The incidents described in the notice occurred while the batteries or devices containing batteries were in air commerce.

The advisory guidance issued by RSPA is intended to remind passengers, persons offering batteries and devices containing batteries as cargo, and air carriers that electrical storage devices or articles that contain batteries are forbidden in air transport unless properly prepared and protected from short circuits and other conditions that may create heat, smoke, or fire. Airline passengers and other persons offering these devices for transport must take appropriate action to ensure that any battery-powered electrical device in carry-on or checked baggage or cargo is protected from short-circuiting or accidental activation while in transport.

William Wilkening
Program Manager
Dangerous Goods and Cargo Security

Federal Aviation Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers

Subject: Transportation of Lithium Batteries

Number: DGAB-00-02 Date: September 7, 2000

INFORMATION: The Federal Aviation Administration (FAA) is aware of an incident in which a fire occurred involving a shipment of primary lithium batteries. The actual incident occurred at Los Angeles International Airport (LAX) on April 2, 1999, and involved two pallets of primary lithium batteries that caught fire and burned while undergoing ground movement and handling at the airport. The two pallets contained 120,000 non-rechargeable lithium primary batteries that were filled with small amounts of lithium metal. The actual cause of the fire was undetermined.

These batteries were shipped as excepted material under 49 CFR 173.185 of the Hazardous Materials Regulations (HMR), and Special Provision A45 of the International Civil Aviation Organization (ICAO) Technical Instructions for the Transport of Dangerous Goods by Air. As a result of this regulatory exception, the shipment was excepted from all hazard communication requirements (i.e., marking, labeling, and shipping papers).

Immediately after the incident, the National Transportation Safety Board (NTSB) and the FAA conducted an investigation. As a result of this subsequent investigation, the NTSB issued on November 16, 1999, five safety recommendations (A-99-80 through A-99-84) to the Research and Special Programs Administration (RSPA) and the FAA.

In response to the NTSB safety recommendations, RSPA, on September 7, 2000, published the attached Advisory Notice in the Federal Register (FR 64 54336). The U.S. Department of Transportation also issued a related press release on September 7. The advisory notice issued by RSPA, is intended to inform persons of the incident and potential dangerous, recommend actions to offerors and transporters to ensure the safety of such shipments, provide information concerning the current requirements for transportation of lithium batteries, and to identify the actions taken by the Department of Transportation and the battery manufacturing and distribution industry to date.

William G. Wilkening
Program Manager
FAA Dangerous Goods and Cargo Security

Attachments

Federal Aviation Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers and Indirect Air Carriers.

Subject: Transportation of Hydrogen Peroxide (H2O2)

Number: DGAB-01-01 Date: November 28, 2001

Information: The Federal Aviation Administration is aware of an incident that occurred on October 28, 1998 in which two gallons of a 35-percent hydrogen peroxide solution in water spilled in the cargo compartment of a passenger aircraft while in route from Orlando, Florida to Memphis, Tennessee. The spilled hydrogen peroxide contaminated three mail sacks and an undetermined number of passenger bags. Some of those bags were transferred and then transported aboard other passenger aircraft. The National Transportation Safety Board (NTSB) report indicated that although airline personnel were alerted to the potential contamination of the arriving bags, no one was advised of the potential fire hazards. The report indicated that baggage handlers who opened the cargo compartment of one of the aircraft discovered smoke coming from the area of two adjacent suitcases.

On June 8, 2000, the National Transportation Safety Board (NTSB) issued the following recommendation (A-00-51) to the FAA:

> *"Develop, with the assistance of the Hydrogen Peroxide Safety Producers Committee, and distribute to carriers guidance about the difficulty of identifying a hydrogen peroxide spill and about the danger of allowing hydrogen peroxide to dry on organic materials (including paper, fabric, cotton, and leather), which may result in a fire."*

As a result, the following guidance was developed to help identify and control hydrogen peroxide:

Special care must be taken when leakage of baggage or cargo is discovered, even when the liquid is clear, colorless, and odorless. Do not ***assume*** it is water. If you encounter hydrogen peroxide, special care should be taken.

On October 11, 2001, the Hydrogen Peroxide North American Producers Committee and the Department of Transportation, Research and Special Programs Administration (RPSA) approved the following precautionary guidance for industry:

Hydrogen Peroxide (H_2O_2) Identification and Hazards

Hydrogen peroxide solution is a clear, colorless, odorless liquid. Commercially available grades of hydrogen peroxide are aqueous solutions that are miscible with water in any ratio. Due to its water-like appearance, it is difficult to distinguish hydrogen peroxide from water by sight and/or smell. At concentrations of 8% by weight and higher, hydrogen peroxide is classified by DOT as an oxidizer and regulated as a hazardous material. Hydrogen peroxide solutions are acidic (the pH of a 35% hydrogen peroxide solution ranges from 2 to 4; higher concentrations are more acidic). Therefore, the use of pH paper may help to determine if a spill is water or possibly a hydrogen peroxide solution. Alternately, hydrogen peroxide test strips can be used to detect a hydrogen peroxide solution.

IMMEDIATE HAZARDS

Fire - Residual hydrogen peroxide that is allowed to dry (evaporation of water causes hydrogen peroxide solution to concentrate) on organic materials such as paper, fabric, cotton, leather, wood or other combustible materials can cause the material to ignite and may result in a fire.

Exposure - Hydrogen peroxide may cause ***irreversible*** tissue damage to the eyes, including blindness. Hydrogen peroxide solutions are corrosive to eyes, nose, throat, lungs and skin. Also, hydrogen peroxide vapors are corrosive to eyes, throat and lungs.

As a result of this incident, the 2003/2004 version of International Civil Aviation Organization Technical Instructions will be amended to include language that will outline procedures in dealing with suspected contaminated packages.

For additional information, two documents are available which provide additional guidance to emergency responders when an incident involving dangerous goods has occurred:

a. International Civil Aviation Organization "Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods." This document contains general information on factors to be considered when there is potential risk for a dangerous goods incident. The guidance includes instructions on actions to be taken by the flight crew to mitigate or prevent emergencies involving dangerous goods. This information is intended to be used in association with existing emergency procedures already contained in the aircraft flight operations manual.

b. Emergency Response Guidebook. This guidebook is jointly issued by the governments of Canada, Mexico and the U.S. and has been translated and printed in numerous languages. It applies to transportation by all modes, and is intended to provide guidance to first responders during the initial phase of a dangerous goods incident. It cross-references an extensive list of dangerous goods with specific as to the appropriate emergency response procedures.

W Wilkening

William G. Wilkening
Program Manager
FAA Dangerous Goods and Cargo Security

Transportation Security Administration
Civil Aviation Security
Dangerous Goods Advisory Bulletin
Information of Concern to Air Carriers

Subject: Transportation of Batteries and Devices That Contain Batteries

Number: DGAB-02-01 **Date: May 23, 2002**

INFORMATION: The Transportation Security Administration has recently became aware of several incidents where heat generated by batteries or devices containing batteries have caused the initiation of a fire. The recent incidents are lead acid nonspillable batteries reported to have been successfully tested in accordance with 49 CFR 173.159(d). These batteries have aviation related applications which may pose a danger to air carriers in several ways. The batteries are used in various configurations as power supplies in some aircraft. Air carriers could be using the batteries in aviation related equipment, shipping the batteries as non-revenue COMAT, or accepting the batteries as revenue cargo. A previous Dangerous Goods Advisory Bulletin alerting air carriers to the dangers of batteries and devices containing batteries generating heat was issued by the FAA on July 2, 1999. The Research and Special Programs Administration (RSPA) published an advisory guidance in the Wednesday, July [illegible], 1999 edition of the Federal Register under [Docket No. RSPA-99-5143 (Notice No. 99-8)] "Advisory Guidance; Transportation of Batteries and Devices That Contain Batteries" warning of the dangers of batteries initiating fires in air transportation. This guidance issued by RSPA included the following advisory:

> Even without a short-circuit condition existing, a component in circuitry connected to a battery may become heated to a point where combustion is initiated in the component itself, or in near-by combustible materials, even if the battery or the device in which the battery is installed functions normally. RSPA has become aware of several incidents in which devices that contain batteries, although shipped in compliance with Sec. 173.159, have produced dangerous quantities of hear while in transportation in commerce. RSPA is evaluating the conditions surrounding these incidents.

We urge air carriers accepting batteries and devices containing batteries as cargo to take extra precautions that electrical storage devices or articles that contain batteries are properly prepared and protected from short circuits and other conditions that may create heat, smoke, or fire. Any battery not properly protected is forbidden in air transportation regardless of whether it meets all other regulatory requirements. Airline passengers and other persons offering these devices for transport must take appropriate action to ensure that any battery-powered electrical device in carry-on or checked baggage or cargo is protected from short-circuiting or accidental activation while in transport.

W Wilkening

William Wilkening
Manager, Dangerous Goods and Cargo Security

Federal Aviation Administration
Office of Security and Hazardous Materials
Dangerous Goods Advisory Bulletin

Information of Concern to Air Carriers and Freight Forwarders

Subject: Batteries and Inaccurate MSDS Information

Number: DGAB-07-01 Date: July 30, 2007

Information: Attached is a Dangerous Goods Advisory Circular (DGAC) from the Civil Aviation Department of Hong Kong. This advisory discusses battery manufacturers providing inaccurate transportation information about their batteries on Material Safety Data Sheets (MSDS) and laboratory certificates in order for the batteries to be accepted for air transport as "not restricted."

Although the US Department of Transportation (DOT) does not regulate MSDS information (the US Dept. of Labor / OSHA does), many shippers use MSDS's and similar documents as a tool to show air carriers that their batteries are excepted from the DOT and international hazmat regulations. Whether it is intentional or unintentional, MSDS's created in the US and abroad may contain inaccurate and/or outdated hazmat transportation information. This can lead to regulated hazardous materials being offered as general cargo or declared as "not restricted."

Though an air carrier or freight forwarder may not always be in a position to refute the information provided by a shipper, carriers and forwarders are urged to continue to use caution and to ask appropriate questions when accepting batteries for transport. Air carriers and freight forwarders are also reminded that ANY battery is forbidden for transport if not protected from damage or short circuits.

Stephen M. Joseph
Acting Director
FAA Office of Security and Hazardous Materials

Attachment

香港特別行政區政府
民航處
Civil Aviation Department
The Government of the Hong Kong Special Administrative Region

Dangerous Goods Advisory Circular (DGAC) 3/2007

Incorrect Laboratory Certificates and Material Safety Data Sheet (MSDS) involved in the Transport of Battery by Air

(I) What is happening

It has recently come to the attention of this Dangerous Goods (DG) Office that many air cargo consignments containing battery departing Hong Kong International Airport are accompanied by incorrect transport documents including laboratory certificate and Material Safety Data Sheet (MSDS) etc. During the process of cargo acceptance by freight forwarders and airlines, some battery shippers submit forged or sub-standard laboratory certificates and MSDS claiming that their batteries are safe for air transport. Typical information in these documents are simply stressing that their batteries are: -

(a) non-hazardous;
(b) complying with all ICAO or IATA requirements; or
(c) not regulated by ICAO or IATA.

We believe some battery shippers did this for the purpose of disguising their batteries, which are dangerous for air transport, to become general air cargo and in turn saving a lot of transport cost as well as gaining some handling convenience.

(II) What are actually the requirements

We wish to remind that only certain types batteries (e.g. "Battery, Dry") can be transported as Not Restricted and at the same time the relevant Special Provisions (SP) under: -

(a) ICAO Technical Instructions (TI) for the Safe Transport of Dangerous Goods; or
(b) IATA Dangerous Goods Regulations (DGR),

must be complied with. These include the fulfillment of SP A123 and the provision of short-circuiting protections etc.

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In fact, many other batteries, like lithium battery and battery, wet, non-spillable can also be safely transported by air but in this case under the DG mode and relevant SP under ICAO TI or IATA DGR should be complied with. For the case of lithium battery, the requirements include the fulfillment of SP A45 and the completion of UN Manual of Tests and Criteria Part III, sub-section 38.3 testing.

[Remarks: UN Manual of Tests and Criteria Part III, sub-section 38.3 testing service is available from several laboratories in Mainland China approved by the General Administration of Civil Aviation of China (CAAC)]

(III) What is our view

This DG Office condemns this kind of dangerous, selfish and irresponsible act. The mis-declaration of those batteries dangerous for air transport as general air cargo is a serious threat to aviation safety because, say for example, the fire-extinguishing agent on board aircraft is unable to put out a lithium battery fire. Lithium battery fire on board aircraft can be disastrous. Moreover, the use of forged documents to wrongly classify DG is a criminal offence in Hong Kong under the Dangerous Goods (Consignment by Air) (Safety) Regulations Cap 384A. The offender is liable to a maximum fine of HK$250,000 and 2 years of imprisonment. If in case the shipper is based outside Hong Kong and not falling under the jurisdiction of these Regulations, we will notify all relevant competent Civil Aviation Authorities worldwide (including CAAC) requesting their appropriate actions against these battery shippers.

(IV) What should freight forwarders and airlines do

All freight forwarders and airlines are reminded to exercise due diligence in checking whether any battery laboratory certificates or MSDS submitted is reasonable or logical. Though we are not expecting any freight forwarders or airlines' staff to have the technical knowledge in distinguishing the correctness of any battery related documents, it should however be noted that most incorrect documents are unreasonably brief (e.g. just a few sentence for a laboratory certificate or only a few sections in a MSDS) and/or containing conflicting information (e.g. the MSDS of a dry battery claims that the physical property of the product is a soluble liquid, how can this be possible?).

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Freight forwarders and airlines are also encouraged to cooperate and share with others your experiences of mis-declaration of dangerous battery so as to help each other to prevent being misled again.

Should you have any query about this circular, please contact Safety Officers (Dangerous Goods) Mr. Eric CHIM at 2182 1221 or Mr. Alex MOK at 2182 1214.

- END -

Issue date: 12 July 2007

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Office of Security and Hazardous Materials

Dangerous Goods Advisory Bulletin

Information for Shippers, Air Carriers, and Freight Forwarders

Subject: Ethyl Chloride in Aluminum Cylinders

Number: DGAB-2008-01 **Date: February 12, 2008**

The Federal Aviation Administration (FAA) advises shippers, air carriers, and freight forwarders to avoid transporting Ethyl Chloride (including mixtures) in aluminum cylinders.

Recently, an aluminum compressed gas cylinder containing Ethyl Chloride ruptured in an air cargo warehouse in Dubai, U.A.E. The cylinder had traveled by cargo aircraft from Manchester, U.K. The investigation of this incident suggests the possibility that a reaction occurred within the aluminum cylinder as a result of the incompatibility between the Ethyl Chloride gas and the aluminum cylinder.

ICAO Prohibits Ethyl Chloride in Aluminum Cylinders

The International Civil Aviation Organization's *Technical Instructions for the Safe Transport of Dangerous Goods* (ICAO TI) prohibit the transportation of Ethyl Chloride, UN 1037, in aluminum alloy pressure receptacles (gas cylinders). (*See* ICAO TI Packing Instruction 200, special packing provision "a".) In addition, ICAO TI Packing Instruction 200 requires shipments of Class 2 materials to conform to general packaging provisions, including a requirement that the parts of gas cylinders that come in contact with dangerous goods must not be affected or weakened by those dangerous goods (see ICAO TI 4; 4.1.1.2). The cylinder involved in this incident contained over 99% Ethyl Chloride. However, it was shipped under a generic shipping name: *"Liquefied gas, flammable, n.o.s. (trichloroethylene, ethyl chloride mixture)."* As a result, the special packing provision prohibiting aluminum receptacles was not applied.

US DOT Prohibits Ethyl Chloride in Aluminum Cylinders

The U.S. Department of Transportation (DOT) Hazardous Materials Regulations (HMR), found in 49 CFR Parts 100-185, prohibit the transportation of Ethyl Chloride in UN pressure receptacles constructed of aluminum alloy. (See 49 CFR §172.102, Special Provision N86.) Though the assigned 49 CFR packaging section for Ethyl Chloride, §173.322, does not specifically exclude aluminum DOT cylinders, compatibility requirements for cylinders in §173.301(d)) supersede specific packaging sections. In addition, the HMR require persons who offer hazardous materials for transportation to ensure that packaging materials are compatible with the lading. Specifically, 49 CFR §173.24(e)(1) states:

"Even though certain packagings are specified in this part, it is, nevertheless, the responsibility of the person offering a hazardous material for transportation to ensure that such packagings are compatible with their lading."

The U.S. DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) is evaluating the need to specifically prohibit the use of all aluminum DOT cylinders and other aluminum packagings for Ethyl Chloride.

Until further guidance is published by DOT/PHMSA, the FAA Office of Security and Hazardous Materials strongly urges all shippers, air carriers, and freight forwarders to avoid transporting Ethyl Chloride and Ethyl Chloride mixtures in aluminum cylinders or other aluminum packagings.

Air carriers are encouraged to share this information with their ground handling personnel and contractors.

Christopher J. Bonanti
Director, Office of Hazardous Materials
FAA Office of Security and Hazardous Materials

Federal Aviation Administration
Office of Security and Hazardous Materials Safety

Dangerous Goods Advisory Bulletin

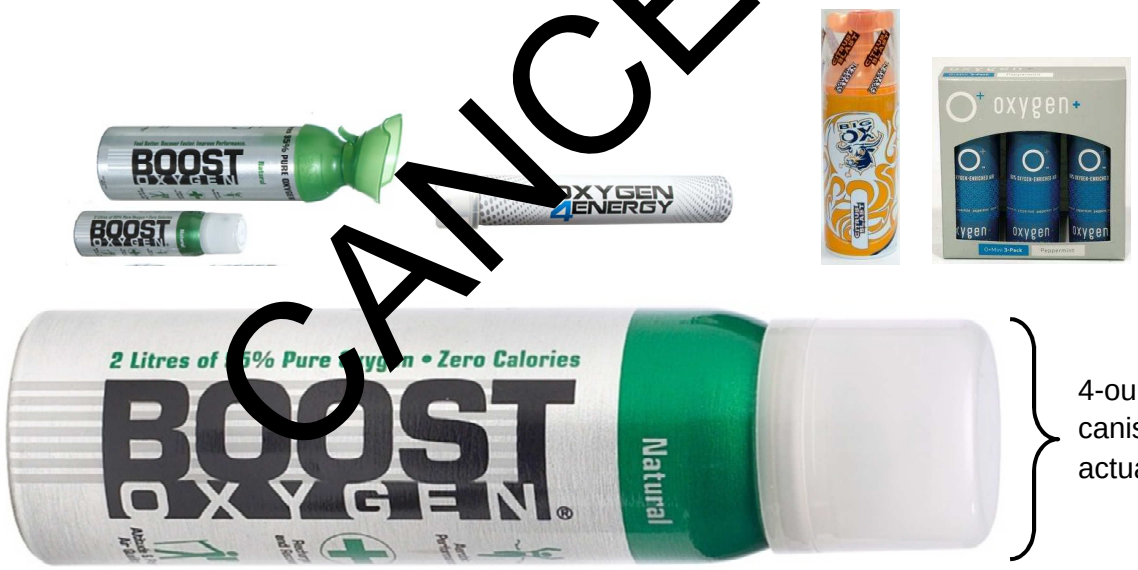
Information of Concern to Air Carriers and Airline Passengers

"Canned Oxygen" May Not Be Carried by Airline Passengers

Number: DGAB-14-01 Date: January 30, 2014

INFORMATION: The Federal Aviation Administration's (FAA) Office of Hazardous Materials Safety (ADG-1) recently became aware that personal oxygen canisters are being marketed to airline passengers. Also called "canned oxygen," "recreational oxygen," and "flavored oxygen," these products contain compressed oxygen in metal canisters and are being sold in airport shops, airport vending machines, specialty shops, hotels, ski resorts and online. Though these products may be marketed to help disembarking airline passengers recover from the effects of flying, their availability for purchase at airports may cause passengers to believe that they are allowed on commercial aircraft. These products are hazardous materials that are not allowed to be carried onto commercial aircraft by passengers or crewmembers.

Canned oxygen comes in a variety of brands and sizes, ranging from four to 22 ounces.



4-ounce oxygen canister shown actual size.

*Canned oxygen products like these may **not** be carried onboard commercial aircraft by passengers or crewmembers.*

Forbidden in aircraft cabin, carry-on baggage, and checked baggage

Canned recreational oxygen products are forbidden in the aircraft cabin (including carry-on baggage) and in checked baggage by the U.S. Department of Transportation's Hazardous Materials Regulations, 49 CFR 171-180 (the HMR). Although the HMR contain exceptions allowing airline passengers and crew to carry a limited amount of hazardous materials that are medicinal/toiletry items (49 CFR 175.10), recreational oxygen does not qualify as an exception.

Further, FAA regulations stipulate that medical oxygen used by passengers during flight must be provided by the airline (14 CFR 121.574 and 135.91).

Available at some airports beyond the TSA screening checkpoint
Canned oxygen products have been seen in shops and/or vending machines at John F. Kennedy International Airport (JFK), LaGuardia Airport (LGA), and Minneapolis-St. Paul International Airport (MSP). Some of these retail shops and vending machines are located beyond the Transportation Security Administration (TSA) screening checkpoints (within the sterile area of the airport). This gives the appearance that passengers may carry and use these recreational oxygen products on the aircraft—they may not.

Note: Neither FAA nor TSA regulations prohibit the use of personal oxygen equipment for medical purposes in airport gate areas when the oxygen is prescribed by a physician. However, passengers may not use this oxygen on the aircraft nor put it in carry-on or checked baggage. This oxygen equipment is typically left at the gate with an oxygen service or passenger escort.

Passengers needing oxygen during a flight
Passengers that require oxygen during a commercial flight have two options:

1. Contact the airline and arrange oxygen service via the airline (surcharges apply). Most U.S. airlines do not provide onboard oxygen service.
2. Passengers may carry an FAA-approved portable oxygen concentrator. These devices do not contain oxygen but concentrate it from the ambient air. Passengers should contact their airline for additional instructions for carrying portable oxygen concentrators.

For more information:
Additional information on hazardous materials carried by passengers may be found on the FAA "Pack Safe" web page: http://www.faa.gov/go/PackSafe

Contact information:
FAA Office of Hazardous Materials Safety, ADG-1
470 L'Enfant Plaza East, SW, Ste. 8100
Washington, DC 20024
Tel: 202-267-7530

E-mail: 9-AWA-ASH-ADG-HazmatInfo@faa.gov

Web site: http://www.faa.gov/go/HazmatSafety