

SAFETY



U.S. Department of Transportation

Federal Aviation Administration

Research and Special Programs Administration

DON'T SHIP A PSU, PBE, OR EEBD (CONTAINING A CHEMICAL OXYGEN GENERATOR) WITHOUT A DOT APPROVAL

A CHEMICAL OXYGEN GENERATOR IS A DEVICE THAT RELEASES OXYGEN THROUGH A CHEMICAL REACTION AND IS A HAZARDOUS MATERIAL**

□ WHEN INITIATED, ITS OUTSIDE SURFACE CAN REACH A TEMPERATURE OF 500° F (260° C) AND SET FIRE TO COMBUSTIBLE MATERIALS IN CONTACT WITH IT.

□ THE OXYGEN IT RELEASES INTENSIFIES OR FEEDS A FIRE.

□ IT **MAY NOT** BE SHIPPED ON PASSENGER AIRCRAFT.

□ IT MAY BE SHIPPED ON A CARGO-ONLY AIRCRAFT (OR BY HIGHWAY, RAIL AND WATER) **ONLY** UNDER THE TERMS OF AN APPROVAL ISSUED BY THE US DEPARTMENT OF TRANSPORTATION (DOT).

OXYGEN GENERATORS ARE FOUND INSTALLED OR IN PORTABLE EQUIPMENT ON AIRPLANES. MANY AIRPLANES HAVE OXYGEN GENERATORS INSTALLED IN PASSENGER SERVICE UNITS (PSU), LOCATED IN THE OVERHEAD PANELS OR SEAT BACKS, TO SUPPLY SUPPLEMENTAL OXYGEN TO PASSENGERS IN THE EVENT OF A LOSS OF CABIN PRESSURE.

OXYGEN GENERATORS ARE ALSO FOUND INSTALLED IN PORTABLE EQUIPMENT -- SUCH AS PROTECTIVE BREATHING EQUIPMENT (PBE),



PHOTO COURTESY OF DRAGER AEROSPACE



PHOTO COURTESY OF DRAGER AEROSPACE

EMERGENCY ESCAPE BREATHING DEVICE (EEBD) OR SMOKE HOODS. THESE PERSONAL COMPACT OXYGEN NITS ARE USED BY CREWMEMBERS WHO NEED TO BE ABLE TO MOVE ABOUT THE PASSENGER CABIN DURING AN EMERGENCY.

WHEN REQUIRED ABOARD THE AIRCRAFT IN ACCORDANCE WITH FAA AIRWORTHINESS REQUIREMENTS AND OPERATING REGULATIONS, THESE OXYGEN GENERATORS ARE **NOT** SUBJECT TO DOT'S HAZARDOUS MATERIALS REGULATIONS (HMR 49 CFR 171-180) WHETHER INSTALLED OR IN PORTABLE EQUIPMENT. HOWEVER, THEY HAVE A SPECIFIED SERVICE LIFE, AND THEIR INSTALLATION AND MAINTENANCE MUST BE TRACKED AND RECORDED UNDER THE FAA REGULATIONS.

WHEN SHIPPED AS CARGO, INCLUDING COMPANY MATERIAL OR "COMAT", AN OXYGEN GENERATOR MUST MEET THE REQUIREMENTS IN THE HMR. THIS INCLUDES BOTH --

□ NEW OR USABLE UNITS SHIPPED FOR REPLACEMENT, AND

□ SPENT OR EXPIRED UNITS THAT HAVE BEEN REMOVED FOR DISPOSAL.

APPROVAL

A CHEMICAL OXYGEN GENERATOR THAT IS SHIPPED (BY ANY MODE OF TRANSPORTATION) WITH ITS MEANS OF INITIATION ATTACHED (EITHER EXPLOSIVE OR NON-EXPLOSIVE) MUST BE CLASSED AND APPROVED BY THE DOT'S RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION'S (RSPA) ASSOCIATE ADMINISTRATOR FOR HAZARDOUS MATERIALS SAFETY.

SHIPPING REQUIREMENTS

THIS APPROVAL WILL SPECIFY THAT THE OXYGEN GENERATOR MUST INCORPORATE NO LESS THAN TWO SAFETY FEATURES THAT WILL PREVENT THE UNINTENTIONAL ACTIVATION OF THE GENERATOR.

ANY CHANGE TO THE GENERATOR (SUCH AS BY ALTERING THE MEANS OF INITIATION), OR TO THE PACKAGING SPECIFIED IN THE APPROVAL, REQUIRES THE ISSUANCE OF A NEW APPROVAL BEFORE THE GENERATOR MAY BE TRANSPORTED.

AIR SHIPMENTS (ONLY CARGO AIRCRAFT PERMITTED) - THE APPROVAL MUST AUTHORIZE AIR SHIPMENT. THE GENERATORS MUST BE IN THE PACKAGING PREPARED AND ORIGINALLY OFFERED FOR TRANSPORTATION BY THE APPROVAL HOLDER. A NEW APPROVAL MUST BE OBTAINED IF THE PACKAGING IS ALTERED IN ANY WAY (EVEN OPENING AND RESEALING IT).

HIGHWAY, RAIL OR WATER SHIPMENTS - THE GENERATORS NEED NOT BE IN THE ORIGINAL PACKAGING USED BY THE APPROVAL HOLDER, SO LONG AS THE PACKAGINGS USED BY A RESHIPPER MEET ALL THE CONDITIONS OF THE APPROVAL.

THE PROCEDURES FOR APPLYING FOR AN APPROVAL OF A CHEMICAL OXYGEN GENERATOR ARE SET FORTH IN 49 CFR PART 107, SUBPART H (BEGINNING AT §107.701). APPLICATIONS SHOULD INCLUDE A DETAILED DESCRIPTION OF THE GENERATOR, DRAWINGS (IF APPLICABLE), AND COPIES OF ANY PREVIOUS APPROVALS.

IN A SAFETY ADVISORY NOTICE PUBLISHED IN THE *FEDERAL REGISTER* ON DECEMBER 13, 1996 (61 FED. REG. 65479), RSPA EXPLAINED THAT THE HMR APPLY TO AN AIR CARRIER'S TRANSPORTATION OF COMAT, INCLUDING REPLACEMENT ITEMS, BUT ALLOW THE USE OF SPECIALIZED PACKAGINGS FOR CERTAIN AIRCRAFT SPARES AND SUPPLIES. THIS LIMITED EXCEPTION DOES NOT ALLOW AN AIR CARRIER TO TRANSPORT REPLACEMENT CHEMICAL OXYGEN GENERATORS WITHOUT OBTAINING THE REQUIRED APPROVAL. SEE "COMAT FACTS" ON THE NEXT PAGE.

ANY PERSON WHO OFFERS FOR TRANSPORTATION A CHEMICAL OXYGEN GENERATOR (INCLUDING A PSU, PBE, EEBD, OR SMOKE HOOD OR OTHER ITEM OF EQUIPMENT CONTAINING A CHEMICAL OXYGEN GENERATOR) MUST:

ENSURE THAT THE GENERATOR IS COVERED BY AN APPROVAL AND PACKAGED AND OFFERED IN CONFORMANCE WITH THE CONDITIONS OF THE APPROVAL.

MARK THE OUTSIDE OF THE PACKAGE, IN ACCORDANCE WITH THE HMR, WITH THE PROPER SHIPPING NAME "OXYGEN GENERATOR, CHEMICAL, 5.1, UN3356, II," AND THE APPROVAL NUMBER (CA ***);

AFFIX THE REQUIRED "OXIDIZER" AND "CARGO AIRCRAFT ONLY" (WHEN OFFERED FOR AIR TRANSPORT) LABELS TO THE OUTSIDE OF THE PACKAGE, IN ACCORDANCE WITH THE HMR.

PROVIDE THE CARRIER WITH A SHIPPER CERTIFICATION PREPARED AND SIGNED IN ACCORDANCE WITH THE HMR.

MAINTAIN A COPY OF THE APPROVAL AT EACH FACILITY WHERE THE CHEMICAL OXYGEN GENERATOR IS PREPARED FOR TRANSPORTATION.

TRAIN ITS EMPLOYEES AS REQUIRED BY THE HMR.



PHOTO COURTESY OF DRAGER AEROSPACE

QUESTIONS CONCERNING APPROVALS OR EXEMPTIONS FOR CHEMICAL OXYGEN GENERATORS SHOULD BE DIRECTED TO:
OFFICE OF HAZARDOUS MATERIALS
EXEMPTIONS AND APPROVALS
(202) 366-4512
FAX (202) 366-3308
E-MAIL: EA@RSPA.DOT.GOV

COMAT FACTS

ANSWERS TO YOUR HMR QUESTIONS

WHAT IS COMAT?

COMAT IS THE ABBREVIATION FOR AIR CARRIER **CO**MPANY **MAT**ERIALS.

MANY OF THESE MATERIALS ARE REGULATED AS HAZARDOUS MATERIALS UNDER THE DOT HMR AND AS DANGEROUS GOODS UNDER INTERNATIONAL REGULATIONS.

WHAT TYPES OF COMAT ARE REGULATED AS HAZARDOUS MATERIALS?

COMAT SHIPPED AS REPLACEMENT ITEMS FOR INSTALLED EQUIPMENT, SERVICEABLE ITEMS, OR ITEMS REMOVED FOR SERVICING AND REPAIR MAY BE REGULATED AS HAZARDOUS MATERIALS/DANGEROUS GOODS. IT IS THE RESPONSIBILITY OF EACH AIRLINE TO DETERMINE WHETHER SUCH ITEMS ARE SUBJECT TO THE HMR/DANGEROUS GOODS REGULATIONS. SOME TYPICAL ITEMS INCLUDE OXYGEN BOTTLES, LIFE RAFTS, PAINT AND MOST OTHER CHEMICALS, FUELS, CHEMICAL OXYGEN GENERATORS, UNPURGED FUEL PUMPS, FIRE EXTINGUISHERS, AIRPLANE BATTERIES, UNDER SEAT LIFE VESTS, RAIN REPELLENT, RADIOACTIVE EXIT SIGNS, AUXILIARY POWER UNITS, FIRST AID KITS AND EMERGENCY SLIDES.

WHAT REGULATIONS APPLY TO THE TRANSPORT OF COMAT?

HAZARDOUS MATERIALS/DANGEROUS GOODS CONSUMED OR USED IN THE AIRCRAFT INDUSTRY, INCLUDING EXPENDABLE ITEMS OF REPLACEMENT, ARE FULLY REGULATED AND SUBJECT TO ALL APPLICABLE HMR/DANGEROUS GOODS REGULATIONS. THE HMR REQUIRE THE PROPER CLASSIFICATION, DESCRIPTION, MARKING, LABELING, PACKAGING, HANDLING, STOWAGE AND SECURING OF SUCH ITEMS AND TRAINING OF ALL HAZMAT EMPLOYEES .

WHO MAY TRANSPORT COMAT?

ONLY AN AIRLINE WITH A HAZARDOUS MATERIAL/DANGEROUS GOODS PROGRAM WHICH HAS BEEN APPROVED BY THE FAA MAY TRANSPORT ITS OWN MATERIALS AS COMAT. IF AN AIRLINE DOES NOT HAVE AN APPROVED PROGRAM, IT MUST OFFER ITS COMAT TO ANOTHER CARRIER FOR TRANSPORT AS CARGO.

DO THE REGULATIONS PROVIDE ANY EXCEPTIONS FOR THE TRANSPORT OF COMAT?

INSTALLED EQUIPMENT CONTAINING HAZARDOUS MATERIALS **OR** HAZARDOUS MATERIALS REQUIRED ABOARD AN AIRPLANE TO MEET AIRWORTHINESS REQUIREMENTS OF THE FAA ARE EXCEPTED FROM THE HMR. THERE IS LIMITED RELIEF PROVIDED IN 49 CFR 175.10(A)(2) FOR THE TRANSPORT OF COMAT IF IT IS BEING TRANSPORTED AS ITEMS OF REPLACEMENT. SPECIALIZED PACKAGING MAY BE USED IN PLACE OF REQUIRED PACKAGING IF IT PROVIDES AT LEAST AN EQUIVALENT LEVEL OF PROTECTION. AIRCRAFT BATTERIES MAY EXCEED THE 25 KG QUANTITY LIMIT IMPOSED ON OTHER BATTERIES FOR TRANSPORT ABOARD PASSENGER AIRCRAFT. ALL OTHER APPLICABLE HAZARDOUS MATERIALS REGULATIONS - SUCH AS PREPARATION OF SHIPPING PAPERS, MARKING AND LABELING OF PACKAGES, HANDLING, STOWAGE AND SECUREMENT AND TRAINING OF EMPLOYEES - STILL APPLY.

PENALTIES

FEDERAL LAW PROVIDES FOR CIVIL PENALTIES UP TO **\$27,500** FOR EACH VIOLATION OF THE HMR. AN INDIVIDUAL WHO WILLFULLY VIOLATES A PROVISION OF THE HMR MAY BE FINED UP TO **\$250,000**, BE IMPRISONED FOR NOT MORE THAN 5 YEARS, OR BOTH; A BUSINESS ENTITY MAY BE FINED UP TO **\$500,000**.

IF YOU HAVE QUESTIONS OR CONCERNS
REGARDING THE TRANSPORTATION
OF OXYGEN GENERATORS, COMAT,
OR THE HMR, CONTACT THE
HAZARDOUS MATERIALS INFORMATION
CENTER:

1-800-HMR-4922

(1-800-467-4922)

E-MAIL: INFOCNTR@RSPA.DOT.GOV

OR WRITE TO:

US DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS
ADMINISTRATION
OFFICE OF HAZARDOUS MATERIALS STANDARDS
THE INFORMATION CENTER (DHM-10)
400 SEVENTH STREET, SW, WASHINGTON,
DC 20590-0001

VISIT DOT'S HOMEPAGES ON THE INTERNET
TO VIEW THE HMR, COPIES OF THE LATEST
RULEMAKINGS, EXEMPTIONS, CLARIFICATIONS
OF THE REGULATIONS, HAZMAT PUBLICATIONS
AND TRAINING SCHEDULES.

[HTTP://HAZMAT.DOT.GOV](http://HAZMAT.DOT.GOV)

[HTTP://WWW.FAA.GOV](http://WWW.FAA.GOV)

**NEED HAZMAT
PUBLICATIONS
IN
"PLAIN"
ENGLISH?**



TRAINING MATERIALS, FACT SHEETS,
NEWSLETTERS AND OTHER SAFETY RELATED
INFORMATION ARE AVAILABLE FROM RSPA
AT:

(202) 366-2301

FAX (202) 366-7342

E-MAIL: TRAINING@RSPA.DOT.GOV

Research and
Special Programs
Administration

U.S. Department
of Transportation

DHM-50
400 Seventh St., S.W.
Washington, DC 20590

Official Business
Penalty for Private Use \$300