U.S. Department
of Transportation

**Research and
Special Programs
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

OCT 7 1998

Ms. Kathleen Adams
Chair, Transport Section
American Association
for Respitory Care
11030 Ables Lane
Dallas, TX 75229-4593

Ref. No. 98-0184

Dear Ms. Adams:

This is in response to your letter of July 7, 1998, requesting clarification on the use of nitric oxide and nitrogen mixtures for medical use under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically you ask if a mixture comprised of .08% nitric oxide with the balance nitrogen is regulated when used in ground ambulances, medical helicopters and medical fixed wing aircraft.

It is the opinion of this Office that a compressed gas mixture containing .08% of nitric oxide with the balance nitrogen is properly classed as Division 2.2. Such a gas is not poisonous by inhalation.

An ambulance that uses a compressed gas to treat a patient being transported is not regulated under the HMR. Such materials are not being transported as items of commerce and are not subject to the HMR. It is regulated, however, when transported on board commercial medical helicopters and medical fixed wing aircraft.

For your information, as provided by § 175.10(a)(14), a transport incubator unit necessary to protect life transported by aircraft is not regulated under the HMR when: (1) the compressed gas used to operate the unit is in an authorized DOT specification cylinder which is marked, labeled, filled and maintained as prescribed by the HMR; (2) any batteries used in its operation are of the non-spillable type; (3)the unit is constructed so that valves, fittings, and gauges are protected from damage; (4) the pilot in command is advised

that the unit is onboard and when it is intended for use; (5) it is accompanied by a person qualified to operate it; (6) it is secured in the aircraft in a manner that does not restrict access to or use of any required emergency or regular exit or of the aisle in the passenger compartment; and (7) there is no smoking within ten feet of the unit.

An incubator unit using a Division 2.2 (non-flammable gas) compressed gas mixture is not regulated for air transport when the above conditions are met. Therefore, you may transport an incubator as described above as unregulated.

I hope this information is helpful.

Sincerely,

Delmer F. Billings
Chief, Standards Development
Office of Hazardous Materials Standards

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LaValle
§ 172.101 (N)
Nitric oxide

July 7, 1998

Mr. Edward Mazzula
Director
Office of Hazardous Material Standards
400 7th Street Southwest
Washington D.C. 20590

Dear Mr. Mazzula,

I am requesting a letter of clarification for the medical use of compressed gas NOS (UN1956) in ground ambulances, medical helicopters and medical fixed wing aircraft.

Does nitric oxide, .08% concentration to 99.2% nitrogen carried in a DOT approved container in gaseous form, for medical treatment of patients, meet the poisonous inhalation hazard (PIH) criteria. Also are there any specifications or limitations as to container size or securement when used for patients transported both with and without an isolette that your office, and/ or the FAA, would deem necessary to ensure it is used safely.

I am aware that the DOT has received numerous inquiries regarding this matter and Diane LaValle has been most helpful. My hope is to decrease these inquiries by publishing your response in our organizational newsletter and posting it on our website. Your decision in writing will also be most helpful as my organization works to develop clinical practice guidelines for the use of this gas in the medical transport setting.

Your response should be sent to me at the address listed on the enclosed card. Thank you for your time and attention to this request.

Respectfully,

Kathleen Adams RCP, RRT, P/P Spec.
Chair, Transport Section

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