



Non-Hazardous “No-Haz”

Division 2.2 Gas Sample Kit Shipments

by I.A.T.A. Definition

Dear Customer,

This letter concerns shipment of **non-compressed** Division 2.2 (non-flammable, non-toxic) gases including, for example: air, carbon dioxide (CO₂), oxygen (O₂), nitrogen (N₂) argon (Ar) sulfur hexafluoride (SF₆) samples in limited quantities to our laboratory for quality control testing. We have been assured by recognized experts at the International Compliance Center Ltd. and courier HAZMAT specialists that Division 2.2 gas samples that are taken according to supplied directions and shipped in our *No-Haz* Sampling & Shipping Kits (which include gas sampling bags, minicyls and 1L steel NVR container) can be properly labeled and shipped as a **“non-hazardous commodity sample of no commercial value”**. The technical reasons for this non-hazardous classification of Division 2.2 gas samples taken in our “No-HAZ” kits are as follows:

1.) Division 2.2 gases are those that have non-flammable and non-toxic properties. These gases are properly classified as dangerous materials (hazmat) only when they are **compressed** or **liquefied**. A compressed Division 2.2 gas is defined in IATA regulations as one which is “transported under pressure **at or above** 200 kPag (gauge) = 2.97 atm = 43.7 psia (29 psig) @ 20°C”. This means that Division 2.2 gas samples should not be classified as hazmat if it is contained and shipped at a pressure **less** than this “compressed gas” definition value. As the pressure inside of a gas sampling bag is essentially 0 psig (14.7 psia) @ 20°C, it does not meet the conditions necessary for it to be IATA-defined as a hazardous material. Therefore **non-compressed** Division 2.2 gases in a sample bag is not a Div. 2.2 hazmat. The weight of Division 2.2 gas contained within a 2-3 x 2L sample bag is no more than approximately 37 g = 0.037 kg. The maximum acceptable amount of compressed gas meeting Division 2.2 HAZMAT definition requirements for passenger aircraft is 75 kg and 150 kg for cargo aircraft.

2.) The same IATA “exemption” definition descriptions outlined for a gas sampling bag **also** pertain to a non-compressed Division 2.2-defined gas samples stored in our minicyls. A minicyl is a small (ex. 75 – 500 cc [0.075 – 0.5L]) capacity US DOT cylinder that can be charged with **no more than** 25 psig of Div. 2.2 gas (fill-limited by a 25 psig check valve). Because of its design, the **non-compressed**, minimal amount (approx. 0.22-1.5L) of gas sample contained within a minicyl does **not** meet the definition of a Div 2.2 hazardous material. Therefore, **non-compressed** Div. 2.2 gas sample contained in a minicyl is not IATA-defined as hazardous material as per it’s “exemptions” description.

3.) Concerning our 1L NVR polished steel can, the customer takes a CO₂ snow sample at their location and lets the snow evaporate within this can. This empty NVR can is then clip-lidded and shipped back within our *No-Haz* kit for lab examination for any trace non-volatile residue (ex. Particulates). Therefore this container is shipped as an empty can.

It is the prerogative of your designed carrier to make a final decision concerning acceptance of your shipment. However, based upon the sound technical data listed above, which indicates total compliance with both the letter and spirit of IATA dangerous goods shipping regulations, **ALI recommends that your kit sample be properly labeled as a “non-hazardous industrial sample of no commercial value”**.

Please see the attached confirmation of this letter’s contents by the Manager of Dangerous Goods – FedEx and contact us if you require assistance with your sample shipment. .

Dr. Don Pachuta

PRESIDENT – AIRBORNE LABS INTERNATIONAL



January 9, 2024

Subject: **Airborne Labs International Gas Sample Kit Shipments**

To Whom It May Concern:

The Non-Flammable, Non-Toxic Gas Sample Kit shipments (air, carbon dioxide, oxygen, nitrogen, argon, sulfur hexafluoride) are not Dangerous Goods according to the enclosed information from Airborne Labs International when prepared according to Airborne Labs instructions.

The samples are not dangerous goods when the pressure is below 200 kPa gauge pressure (29 psig, 43.5 psia) according to IATA Dangerous Goods Regulations (see section 3.2.2.4.1). These shipments do not require dangerous goods marking, labeling, or documentation, and should NOT be rejected.

Please contact DG Administration at 1-901-375-6807 or 1-888-288-3786, or the DG Hotline at 1-901-375-6806 prompt 4 or 1-800-463-3339, prompt 81, prompt 4 if you have any questions concerning these shipments.

Sincerely,

A handwritten signature in black ink that reads "Thomas J. Leech III". The signature is written in a cursive, flowing style.

Thomas J. Leech, III
Sr. Manager, Corporate Safety Dangerous Goods Programs

Note: This letter is for use with Airborne Labs International, Inc., "Non-Hazardous "No-Haz" Division 2.2 Gas Sample Kit Shipments by I.A.T.A. Definition" letter.

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