



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

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

APR 18 2002

Mr. William Barlen
Barlen and Associates, Inc.
90 Dorset Lance
Madison, CT 065443-8107

Ref. No. 00-0364

Dear Mr. Barlen:

This is in reference to your inquiry concerning the soldering or brazing of an outlet connection onto the valve of a DOT 4L cylinder under the Hazardous Materials Regulations (49 CFR Parts 171-180). Your inquiry also is in further reference and clarification to our May 24, 1999 response to Mr. Mike Lopez, Safety and Compliance Associate, Inc. I apologize for the delay in responding and regret any inconvenience it may have caused.

Specifically, you inquired whether the work can be done by a "qualified person" who is not an authorized facility as specified in § 173.34(i). The work involves permanently attaching, by soldering or brazing, the outlet connection onto the cylinder valve. Outlet connections are designed for a specific gas or group of gases. They are used to prevent a person from making connections that could, for example, result in the mixing of non-compatible gases or unloading the cylinder's contents into unintended connections, such as in medical gases applications.

After reviewing the supplemental information you submitted and based on the location of the connections, as we have illustrated on the enclosed sketch, it is the opinion of this office that the work may be performed by a qualified person who is knowledgeable of the proper soldering or brazing procedures. The person need not be registered under § 173.34(i).

If I can be of further assistance, please feel free to contact this office.

Sincerely,

Hattie L. Mitchell
Chief, Regulatory Review and Reinvention
Office of Hazardous Materials Standards

Enclosure

cc: Mr. Mike Lopez



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173.34

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400 7th Street SW
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Stevens
8173.34
Cylinders

19 December 2000

00-0364

Dear Mr. Mazzullo,

My name is William Barlen and I represent Airgas, Inc. at technical meetings of the Compressed gas Association and the National Fire Protection Association. I am also the task force chairman that has written a CGA Safety Alert SB- 7 and CGA Safety Bulletin SB-26 concerning a problem with DOT 4L cylinders that has caused the death of at least 15 people in the last several years.

The problem is that the CGA connections on these cylinders are attached in such a manner that they can be changed using no more than a pair of pliers and generally just by hand. The CGA - in conjunction with the FDA - is recommending that the connections be permanently connected to the valve, preferably by silver soldering.

On May 24 Mr. Thomas Allan of your office issued an interpretation (copy attached) saying that the containers had to be returned to the manufacturer or sent to a registered DOT repair facility to do this retrofit. Mr. Allan's interpretation is based on 49 CFR paragraph 173.34(i).

By Mr. Allan's interpretation the CGA connections, (which are not under pressure when the cylinder is shipped and which are downstream of the cylinder valves), are considered by the DOT as "a part of the cylinder". We respectfully feel that the interpretation was wrong, and its effect will be costly to the compressed gas industry, adds nothing to the safety of the cylinder and has a negative impact on "safety measures" that the compressed gas industry is trying to implement. Safety measures we want to implement in order to prevent any more deaths from this problem.

The paragraph Mr. Allan cites is: 49 CFR 173.34

- (i) **Repair by welding or brazing of DOT-4 series and DOT-8, welded or brazed cylinders. Repairs on DOT-4 series and DOT-8 series welded or brazed cylinders are authorized to be made by welding or brazing. Such repairs must be made by a manufacturer of these types of DOT cylinders or by a repair facility approved by the Associate Administrator for Hazardous Materials Safety and by a process similar to that used in its manufacture and under the following specific requirements:**

We do not believe that parts of the cylinder valveing that is not under pressure are in fact a part of the "cylinder". The DOT currently does not mandate a pressure rating on the valves and does not indeed even mandate a valve.

We believe that the applicable paragraph that should be cited is 49 CFR 173.34


- (j) **Repair of non-pressure attachments. Repair of non-pressure attachments by welding or brazing without affecting a pressure part of the cylinder must be followed by visual examination for weld quality.**

Note that SB-26 states that only "qualified professionals" be used for the retrofiting.

- We believe that safety will not be compromised if we are allowed to do the repairs with our people, i.e. not removing it from service and returning it to the manufacturer or DOT shop.
- No component that is pressurized during shipment would be affected.

If it would be beneficial for me to come to Washington to discuss this matter I would be glad to do so.

Sincerely,



William Barlen

Enclosures: CGA SB-26
Thomas Allan DOT letter