



COMPRESSED GAS ASSOCIATION, INC.

SAFETY ALERT

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POTENTIAL FOR HIDDEN CRYOGENIC LIQUID CYLINDER CONTAMINATION

All cylinders have the potential for exposure to external contamination during their service life. External contamination can occur while in storage or in use in areas where contaminants are present in the form of airborne mist or particulate matter. External contamination can also occur during transportation. Road-film and salts being thrown up by vehicle traffic, oil leaks from the transport vehicle, and even unburned engine fuel can result in the accumulation of contaminants. Ambient weather and local service conditions can cause wide variations in the potential for accumulation. Such contamination is of special concern where oxidizing gases are involved.

Although it is recommended that all cylinders undergo a thorough pre-fill inspection, in some cryogenic liquid cylinder designs, the area beneath the liquid level sight-glass is hidden by a protective cover. Two cryogenic oxygen cylinder fires have been reported, which may have been caused by small leaks at the base of the liquid level sight-glass, augmented by hydrocarbon contamination in the same area.

Liquid oxygen containers must be properly cleaned for oxygen service and must be kept clean and free of grease, oil, or other hydrocarbon materials, which can combine with oxygen with explosive violence. Detailed information on methods of cleaning is provided in CGA G-4.1 *Cleaning Equipment For Oxygen Service* [1].

Reference

[1] CGA G-4.1, *Cleaning Equipment For Oxygen Service*, Compressed Gas Association, Inc., 4221 Walney Rd., 5th Floor, Chantilly, VA 20151.

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