SAFETY BULLETIN 04/09

ASIA INDUSTRIAL GASES ASSOCIATION

298 Tiong Bahru Road, #20-01 Central Plaza, Singapore 168730
www.asiaiga.org

Adopted from EIGA Info 22/08 - Globally Harmonized Document

POTENTIAL HAZARDS OF QUICK OPENING CYLINDER VALVES USED WITH FIREFIGHTING GASES

Several accidents with quick opening valves installed on fire fighting system gas cylinders have been reported. In one case, a worker died; in other cases workers suffered bone fractures (shinbone, hand).

In all cases, the cause of the accidents was the unintended opening of the valve fitted to the gas cylinder during handling of the cylinder. The consequences were that the cylinders went out of control after the valve suddenly opened. This type of valve is used on cylinders containing carbon dioxide or gas mixtures in fire fighting systems. The cylinder valves referenced in this Safety Bulletin have different designs and are not commonly encountered. They require additional safety precautions when handling.

The handling of gas cylinders (during filling, storage and transport) equipped with this type of valve is only safe if the quick opening valves have a locking device for the opening lever or a gastight outlet seal cap (blanking nut) to prevent accidental release. If not, there is no protection against the unintended opening of the valve. See Figures 1 and 2 for an example of this type of valve and a typical locking device. Cylinders equipped with a quick opening valve without a locking device on the opening lever or a gastight outlet seal cap (blanking nut) at the outlet shall not be handled or accepted for filling.

During discharge or filling, the gas cylinders must always be secured from falling by a holding device, and the gas cylinders shall only be released from this device if a blanking nut is installed at the valve outlet and/or the opening lever is locked and secured. Note that these cylinders are commonly larger and heavier than the usual industrial gas cylinders, and special precautions might be required when connecting them to filling equipment and during handling.

Figure 1—Cylinder valve with valve closed and locking device engaged

Figure 2—Cylinder valve with locking device disengaged and valve open

As part of a programme of harmonisation of industry standards, this Safety Bulletin has been prepared with input from regional gases associations and a similar publication will be issued by these associations.