BCGA LEAFLET L7
The Dangers of Industrial Gas Abuse

Prompted by another recent and tragic death resulting from the 'squeaky voice' helium balloon gas trick, BCGA would like the general public and, particularly, the media, to be better aware of the dangers of fooling around with gases.

There has recently been some particularly irresponsible broadcasting, depicting such activities as 'harmless fun' and even, in the case of sniffing nitrous oxide, of it being 'cool' to try. BCGA deplores such activities and such broadcasting.

Gas suppliers within BCGA take great care to advise customers on the safe use of their products and to ensure that users are aware of the hazards they are encountering, but there is nothing illegal about supplying most gases to the general public and it never fails to amaze us the gases that some people have access to.

Helium / Balloon Gas

Helium is a very light and inert, non-toxic gas, but if it displaces oxygen it can be fatal. The 'fun' to be found in the squeaky voice helium trick is far from funny when people, often youngsters, die trying this. *It does not take many breaths of helium to fall unconscious and die in this way.*

Youngsters in particular should be made aware of the danger and BCGA would advocate a warning hazard being attached to or given with every helium filled balloon and with any cylinder of helium balloon gas supplied to members of the general public who are unlikely to read the full detail contained in safety data sheets.

Sulphur Hexafluoride (SF6)

This gas is also inert and non-toxic, but is much heavier than air and does the opposite of the helium trick, producing a very deep voice effect. But it is even more dangerous than the helium trick. There is a chance that helium, being so light, will naturally come up out of the lungs, assuming a victim is upright and breathing clean air. By contrast, *SF6 being so heavy is much harder to expel from the lungs and, like helium, a few breaths can be instantly fatal.*

Nitrous Oxide, Laughing Gas, N_2O

Sniffing nitrous oxide for its narcotic effect as a 'recreational drug' is certainly no laughing matter. *Like many other forms of substance abuse, it is addictive, risks death through asphyxiation and leads to crime to feed the habit.* Think of nitrous oxide abuse in the same vein as glue sniffing. Even at first exposure, a user's awareness and judgement will be seriously impaired, with all manner of dangers attached to being in that state, as with substance abuse.

Be aware - breathing the gas can cause immediate asphyxiation

As an anaesthetic gas, N_2O is a medicinal product, and its supply to other than a qualified medical practitioner is illegal. Other non-medical uses of N_2O include the boosting of power in racing engines and as a propellant in whipped cream dispensers.

Bona fide users of nitrous oxide in the industrial, food and medical sectors alike should be extra vigilant in monitoring stocks of nitrous oxide and be wary of staff and others misappropriating it for their own use or for monetary gain.

Rendering flexible items brittle with liquid Nitrogen or other cryogenic products

It may be interesting to see a fresh flower shatter after immersion in liquid nitrogen but it's not so interesting if it's your hand.

The risks of severe cryogenic burns in 'playing' with liquid nitrogen or other cryogenic products are significant.

Fogging effects

Whilst putting pellets of dry ice (solid CO_2) into someone's drink may look impressive there is the risk of the pellet of *dry ice being swallowed and causing severe, potentially fatal cryogenic burns.*

Similarly the uncontrolled use of dry ice can cause problems of *asphyxiation if used in a confined space or burns if in direct contact with the skin. There was a stunt on a radio show wherein contestants were challenged to see how long they could bear to sit on a block of dry ice. This stupidity led to third degree burns and skin grafts!*

BCGA is also very concerned about the recent development of systems designed to flood nightclub dance floors with dense fog effects by release of liquid nitrogen or liquid carbon dioxide. Again there is significant risk of asphyxiation and of cryogenic burns and use of such systems may well breach the Confined Space Regulations.

Inert gases in confined spaces

With the exception of oxygen and air, any gas which is deliberately breathed, or inadvertently released into a confined space (such as a pub cellar), can lead to death by asphyxiation.

And compressed or liquefied gas cylinders hold a vast amount of gas once released, plenty enough to displace the oxygen in even very large rooms

Most inert gases have no odour or taste and victims will simply fall unconscious without warning. There have been numerous sad examples of colleagues entering confined spaces to try to rescue victims of such asphyxiation, only to also fall victim themselves. Publicans in particular should read BCGA leaflet L10, available free to download from our website. For those who have concerns that their cellar may be a potential death trap BCGA has published a Guidance Note GN9 which enables a simple calculation of the risk, and recommends methods of mitigating it.

Using gas pressure to propel things

There have been a number of examples of the contained pressure in industrial gas cylinders being misused and depicted as such on TV in very dangerous ways – e.g. smashing, with such as a lump hammer, the valves off cylinders of compressed CO_2 or nitrogen and letting the cylinders themselves be propelled through the air, or doing the same with cylinders strapped to improvised 'vehicles' (Shopping trolleys, go-carts etc), has been depicted as great fun!

But people have little understanding of the hazards of releasing contained gas pressure suddenly in this way. The pressure in a car tyre can be sufficient to cause death - industrial gas cylinders contain typically a hundred times this pressure.

If the pressure release causes 80Kg plus of gas cylinder to fly about, the consequences can be dire!

In summary

Industrial gases have wide use in a number of industry sectors and are invaluable in their correct use. But untrained persons, particularly youngsters, should not mess with gas cylinders. Personal insurance will not pay in cases of recklessness such as those highlighted in this leaflet.

The media should adhere to their own codes of practice and stop depicting industrial gas cylinders in irresponsible ways.

For more information

Please refer to our website www.bcga.co.uk

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Leaflet L7 February 2011
ISSN 0260-4809