BCGA

Jake Lake

Technical Manager

British Compressed Gases Association

28th September 2012

BCGA Profile

MISSION = SAFETY

Est. 1904, BCGA since 1971

73 member companies – growing!

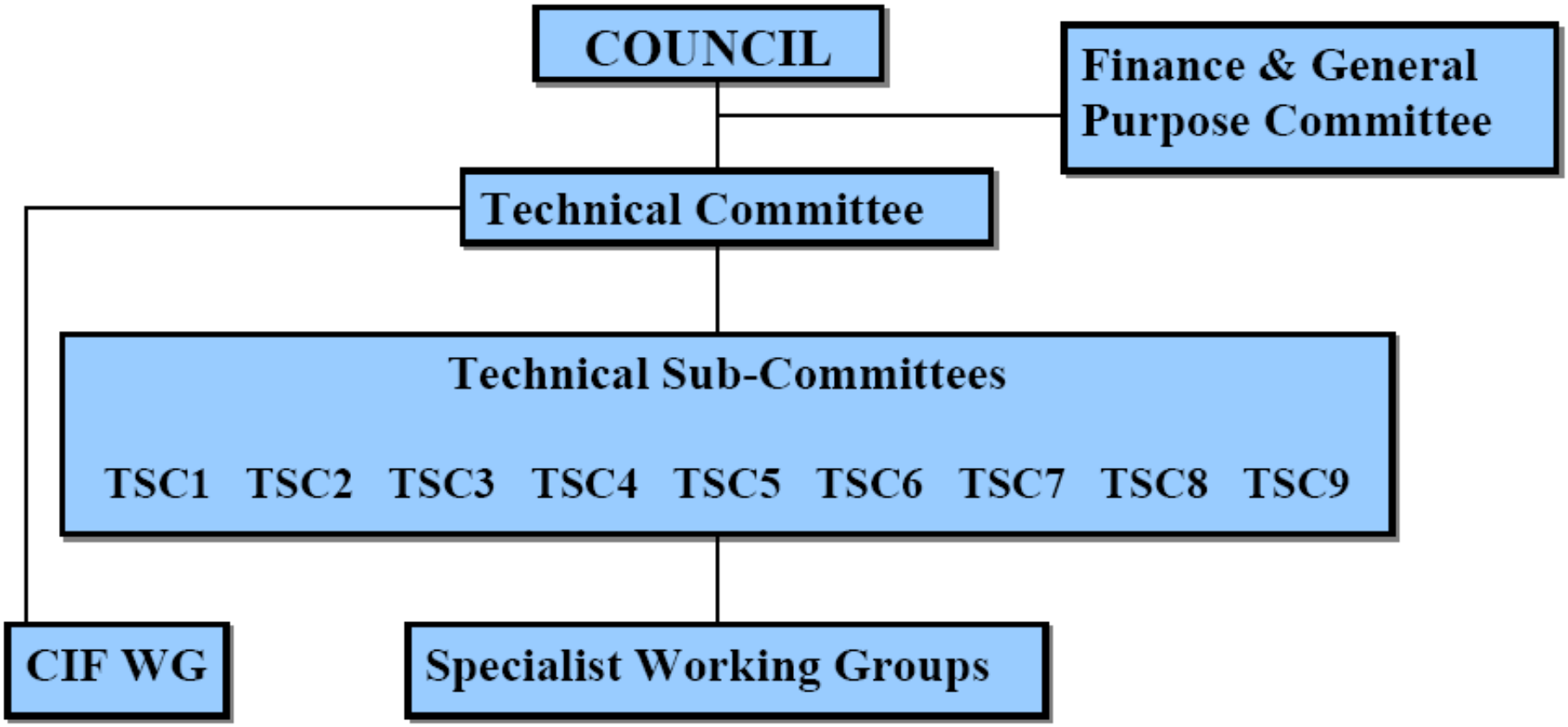
70 + Publications

High level of member satisfaction

Admin. outsourced to TAS

www.bcga.co.uk

BCGA Structure



BCGA Committees

- TSC1 - Tanks + pressure vessels
- TSC2 - Cylinders and valves
- TSC3 - Other equipment
- TSC4 - Transport
- TSC5 - Chemistry and applications
- TSC6 - HASAG (Health and Safety Group)
- TSC7 - Medical gases
- TSC8 - Environment
- TSC9 - Hydrogen
- WG - Cylinders in fires

Major relationships

Government

HSE, DfT, VOSA, HA, BIS, DECC, EA, DCLG, CFRA, MHRA, FSA, BAREMA, ACMD

Other organisations / associations

EIGA, CGA, UKLPG, FIA, CIA, CEFIC, CFOA, ACPO, BBPA, BFBi, BCC, CIEH, TWI, AWD and SMMT

And others! – e.g. EBAY, BBC etc.

www.bcga.co.uk

BRITISH COMPRESSED GASES ASSOCIATION

MEMBERS AREA LOGIN

HOME
PUBLICATIONS
MEMBERSHIP
RISK ASSESSMENTS
CYLINDERS IN FIRES
STANDARDS WORK
ENVIRONMENT
WELDING MATTERS
PIPEWORK INSTALLERS
CYLINDER TESTING
CYLINDER RECOVERY & DISPOSAL
TRAINING PROVIDERS
NEWS
USEFUL LINKS
CONTACT US

WELCOME TO BCGA'S WEBSITE

BCGA is a not-for-profit Trade Association, representing the interests of about 70 member companies:-

- manufacturers and suppliers of bulk liquid and cylinder gases
- manufacturers of cylinders, vessels and tanks for their storage and distribution
- manufacturers of equipment for controlling the application and use of gases
- installers of distribution pipework and systems
- providers of specialist safety, health, quality, inspection and training services

- Which we do through dialogue with relevant Government Departments and Agencies, Standards Organisations and other Trade Associations.

We were established as BCGA since 1971, having previously existed since 1904 as the British Acetylene Manufacturers Association.

BCGA's Mission is to ensure safety in the use, storage, transportation and handling of industrial gases, which we do in part through our many respected publications. These are kept up to date through regular updates and may be viewed through the tab above and left.

The term "industrial gases" refers to gases such as acetylene, argon, ammonia, carbon dioxide, chlorine, hydrogen, oxygen, nitrogen, etc., used in a wide range of applications.

It also covers speciality gases and equipment used in the electronics, food, scientific and medical sectors. BCGA does not represent the interests of the compressed air or natural gas industries.

Current major issues

- Acetylene cylinders in fires
- Counter terrorism gas security
- Metal theft
- Emergency preparedness
- Gas abuse
- Rogue traders
- Welding fume
- Packaging obligation
- REACH
- Cylinder ID improvement
- ADR / CDG matters, e.g. Tunnels!
- Environment – CCA, CCL, CRC, ETS, EPR

BCGA Publications

BCGA Leaflet 07

- The dangers of industrial gas abuse

BRITISH COMPRESSED GASES ASSOCIATION
Registered office: 4a Mallard Way, Pride Park, Derby, UK, DE24 8GX
Company Number: 71788, England

BCGA Leaflet 07: 2012
Revision 2
The Dangers of Industrial Gas Abuse

BCGA would like the general public and, particularly, the media, to be better aware of the dangers around trying to have 'fun' with industrial and medical gases.

There has been some irresponsible broadcasting and journalism around gases, 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 what people will try never fails to amaze us.

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 (SF_6)

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, *SF_6 being so heavy is much harder to expel from the lungs and, like helium, a few breaths can be instantly fatal.*

Nitrous Oxide (N_2O), Laughing Gas

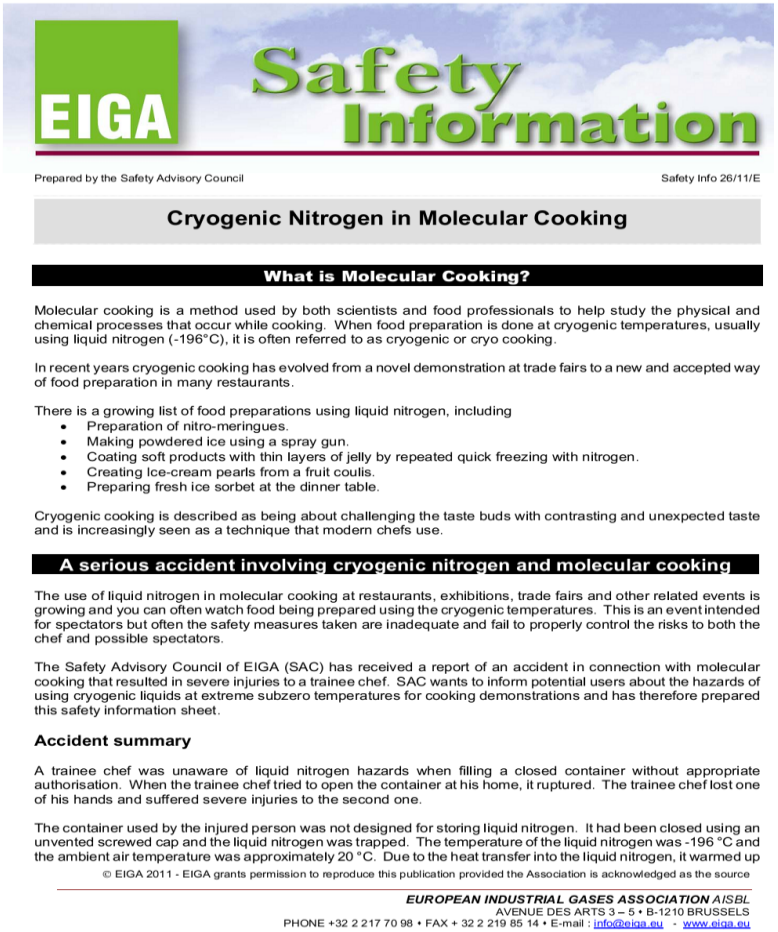
Sniffing nitrous oxide for its narcotic effect as a 'recreational drug' is certainly no laughing matter. *Like many other forms of substance abuse, it is addictive, risks death through asphyxiation and leads to crime to feed the habit.* Think of nitrous oxide abuse in the same vein as glue sniffing. Even at first exposure, a user's awareness and judgment 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

EIGA Publications

BCGA is supported by its European partner - **EIGA**

- Security Alert 19/12, The theft of nitrous oxide from medical premises.
- Safety Info 26/11, Cryogenic Nitrogen in Molecular Cooking.
- Position Paper 24, Abuse of gases.



EIGA Safety Information

Prepared by the Safety Advisory Council — Safety Info 26/11/E

Cryogenic Nitrogen in Molecular Cooking

What is Molecular Cooking?

Molecular cooking is a method used by both scientists and food professionals to help study the physical and chemical processes that occur while cooking. When food preparation is done at cryogenic temperatures, usually using liquid nitrogen (-196°C), it is often referred to as cryogenic or cryo cooking.

In recent years cryogenic cooking has evolved from a novel demonstration at trade fairs to a new and accepted way of food preparation in many restaurants.

There is a growing list of food preparations using liquid nitrogen, including

- Preparation of nitro-meringues.
- Making powdered ice using a spray gun.
- Coating soft products with thin layers of jelly by repeated quick freezing with nitrogen.
- Creating Ice-cream pearls from a fruit coulis.
- Preparing fresh ice sorbet at the dinner table.

Cryogenic cooking is described as being about challenging the taste buds with contrasting and unexpected taste and is increasingly seen as a technique that modern chefs use.

A serious accident involving cryogenic nitrogen and molecular cooking

The use of liquid nitrogen in molecular cooking at restaurants, exhibitions, trade fairs and other related events is growing and you can often watch food being prepared using the cryogenic temperatures. This is an event intended for spectators but often the safety measures taken are inadequate and fail to properly control the risks to both the chef and possible spectators.

The Safety Advisory Council of EIGA (SAC) has received a report of an accident in connection with molecular cooking that resulted in severe injuries to a trainee chef. SAC wants to inform potential users about the hazards of using cryogenic liquids at extreme subzero temperatures for cooking demonstrations and has therefore prepared this safety information sheet.

Accident summary

A trainee chef was unaware of liquid nitrogen hazards when filling a closed container without appropriate authorisation. When the trainee chef tried to open the container at his home, it ruptured. The trainee chef lost one of his hands and suffered severe injuries to the second one.

The container used by the injured person was not designed for storing liquid nitrogen. It had been closed using an unvented screwed cap and the liquid nitrogen was trapped. The temperature of the liquid nitrogen was -196 °C and the ambient air temperature was approximately 20 °C. Due to the heat transfer into the liquid nitrogen, it warmed up

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Incidents

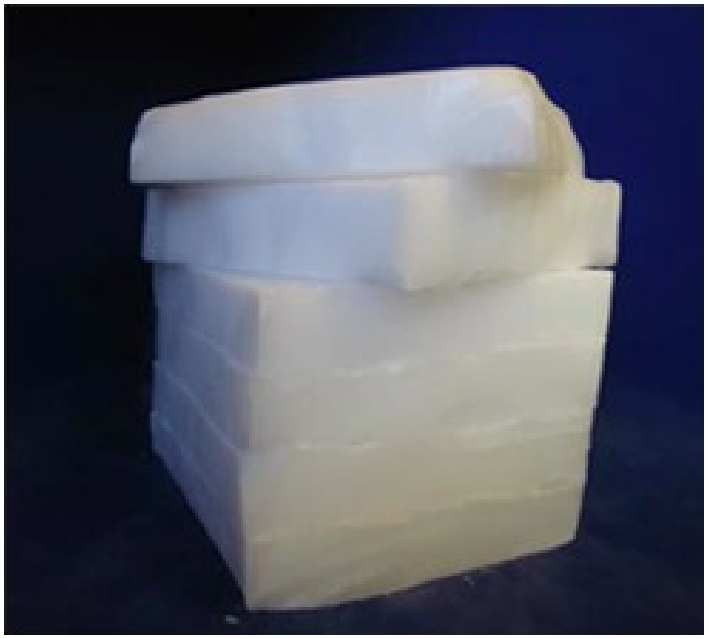
"German Heston Blumenthal blows off both hands in liquid nitrogen kitchen accident"

Daily Telegraph – July 2009

Incidents

"The Coolest Seats in Town Event"

Daily Telegraph – August 2001



Incidents

"Woman suffers serious burns in M61 car fire"

Lancashire Evening Post – Sept 2011

BCGA Publications

- CP 20 – Bulk liquid oxygen storage
- CP 22 – Bulk liquid argon or nitrogen storage
- CP 25 – Revalidation of cryogenic tanks
- CP 30 – Safe use of liquid nitrogen Dewars up to 50 Litres
- CP 36 – Cryogenic liquid storage at users' premises
- GN 19 – Cryogenic sample storage systems (Biostores)

BCGA

Thank you

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