

Potential safety problems in the beverage gas supply sector

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This session

- The nature of the hazard
- Legal controls
- emerging problems

The nature of the hazard

- Stored energy
- asphyxiation
- Product quality issues not included here

Stored energy



**What can
happen when
the energy
gets out of its
box
unexpectedly**

The current context

- Fatal accident last June – also seriously injured second man
- Serious accident about 6 weeks ago
- In both cases a cylinder failed during or just after filling
- One nitrogen and one mixed gas

Asphyxiation

- CO₂ and nitrogen not toxic in their own right
- Release in a closed space can be an asphyxiation hazard
- No more on that today

Legal controls

- Somewhat bizarrely the main controls over the pressure fitness of cylinders are in the transport legislation
- Currently these stem from the “transportable pressure equipment directive” (TPED)
- Implemented in GB by the “Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009” (CDG)

How do the controls work?

- **Regulate the standards to which cylinders are made.**
- **Regulate periodic inspection**
- **Regulate filling standards (in ADR jargon, filling is called “packing”)**
- **Done by reference to ADR, chapter 6.2 and packing instruction P200**
- **In turn, ADR references international standards of construction for both cylinders and fittings**

Old cylinders

- For national purposes UK has only been fully in the ADR “club” since 2004
- Special arrangements for old cylinders
- Regulation 14
- “obsolete” standards listed on HSE’s website
- <http://www.hse.gov.uk/cdg/pressure.htm>
- But - subject to proper inspection test regime

How do legal duties arise?

- CDG 2009 Regulation 5:
- *No person is to carry dangerous goods, or cause or permit dangerous goods to be carried, where that carriage is prohibited by ADR or RID, including where that carriage does not comply with any applicable requirement of ADR or RID.*

Who has duties?

- Anybody in the overall chain of transport
- Supply of packaging (cylinders are “packaging”)
- Use of packaging – including inspection and test
- Packing (filling cylinders)
- Consignment
- Loading
- Carrying

Other legal duties

- HSWA 1974
- Provision and Use of Work Equipment Regulations 1999
- Both impose duties on employers and the self-employed to ensure safety in various ways.
- Apart from the proper use of suitable equipment, suitable training and record keeping is a vulnerability in many workplaces

Emerging problems

- “White van man” suppliers
- Unsuitable cylinders (e.g. fire extinguishers)
- Weak or non-existent inspection / tests
- Inspections/ tests by non-authorized persons
- Failure to recognise potential problems arising from cylinder contamination such as back flow of liquids

Emerging problems

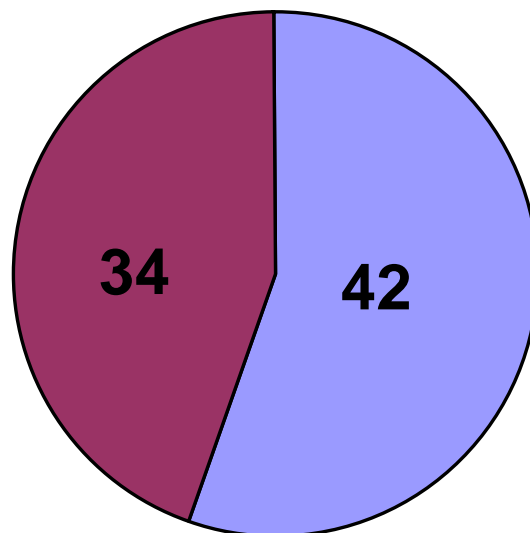
- Stolen cylinders
- Grinding off i/d marks
- Poor knowledge and weak training of personnel at all stages
- Willingness to cut corners

What are we doing

- Investigating the accidents of course.
- About 80 beverage gas suppliers – not members of BCGA – have been contacted

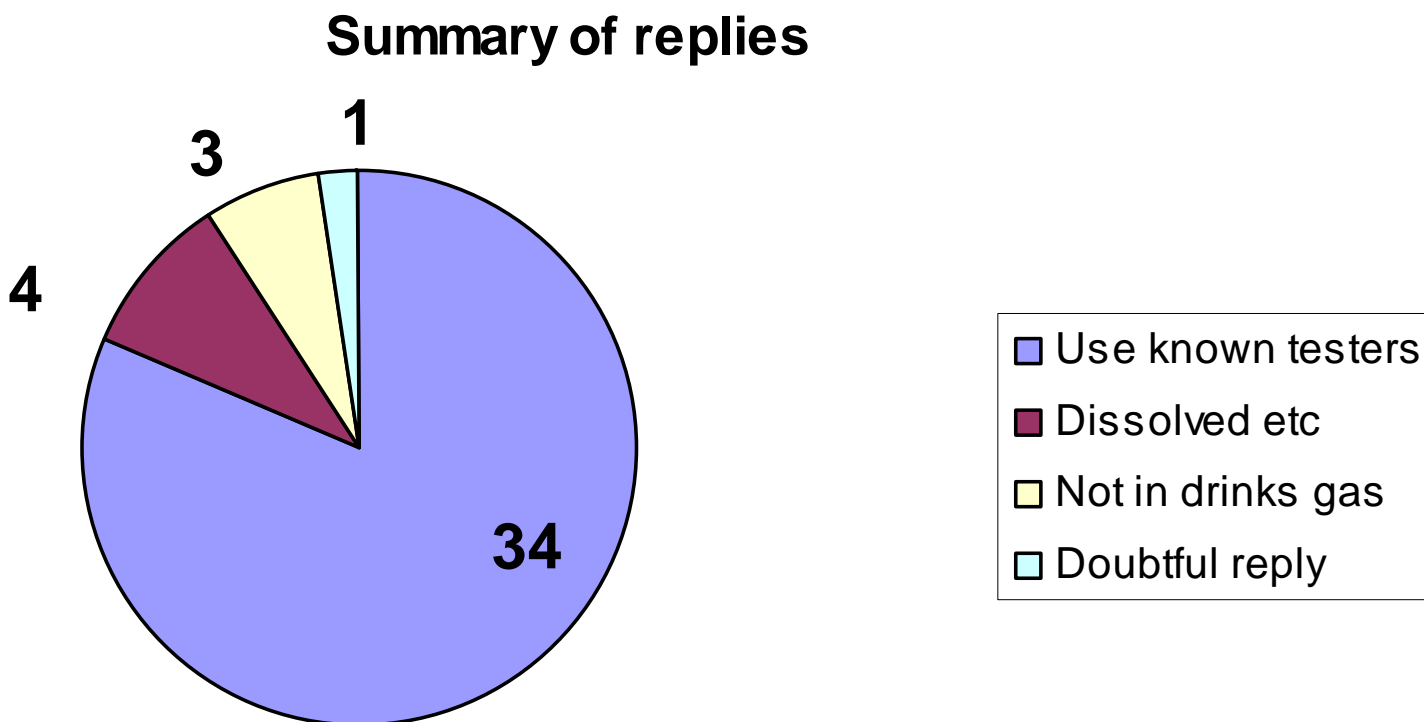
Results so far

Firms contacted



■ Total replies
■ to follow up

Summary of replies so far



**Follow up letters are now
planned**