



Priorities for health and safety in the soft drinks industry

Food Sheet No 19

Introduction

This sheet contains important information for employers and employees in the soft drinks industry and has been agreed with the main trade associations. It draws your attention to aspects of the working environment that deserve special attention.

The information in this sheet is based on an analysis of injuries reported to HSE and local authorities by employers, HSE's investigations and information from the industry. Employers should assess all the information discussed in this sheet to make sure that adequate precautions are in place, and remain in place. If you need further guidance on a particular topic, please refer to the Useful information section which lists both HSE and trade association publications.

Scope of this guidance

This guidance is based on reports to HSE and local authorities from employers whose main activity is coded to Standard Industrial Classification (1992) 1598. This code includes soft drink production and some distribution/delivery.

The priorities

Table 1 lists the most common situations that cause accidents across the whole industry, in order of priority. The table, along with other experience, indicates that it is important to focus on the following issues as they cause over 80% of all injuries:

- (a) manual handling - especially crates, drinks packs and heavy plant;
- (b) slips and trips - 90% of slips are on wet surfaces;
- (c) people being struck by moving objects, including falls of articles - especially while being handled;
- (d) machinery - especially conveyors and packaging plant;
- (e) falls - especially from vehicles, stairs, ladders and work platforms;
- (f) vehicles - especially fork-lift trucks.

Although few injuries arise from entry into confined spaces (entry rarely required) or from fire and explosion (most flavouring essences are highly flammable liquids and sugar dust is explosible), managing these risks will remain priorities for the industry in view of the potential consequences if matters went amiss.

Priorities are likely to be different in the three main parts of the soft drinks industry (production, distribution and dispense) because of the nature of the activities undertaken. Nevertheless, the broad conclusions above will be helpful in targeting effort.

Occupational ill health

Because accident reports do not include occupational ill health, Table 1 only covers safety. But experience suggests that the occupational ill health priorities are likely to be:

- (a) chronic ill health, such as back injuries, from heavy manual handling, eg of crates, drinks packs and items of plant;
- (b) noise-induced hearing loss from noisy plant, eg packaging machinery (especially canning and bottling lines) compressors, boilers etc.

The risks compared with other industries

Incidence rates, that is the number of reported injuries per 100 000 employees, enable comparisons to be made with other industries.

For 1996/97 the incidence rate for the soft drinks industry, from official figures, indicated a rate of 236 for major injuries and 930 for injuries causing over-three-day absences.

The combined overall injury rate for the soft drinks industry for 1996/97 was 1166. This may be compared to the average for all manufacturing industry of 1210.

Table 1 Analysis of injuries reported by the soft drinks industry 1995/97

<i>Kind of injury</i>	<i>Relative importance</i>	<i>Significant factors</i>
Handling	26% of all reported injuries* 16% of major injuries**	Of those specified, 41% were due to weight, 27% due to sharp edges on the load, 15% due to the awkward nature of the load
Slips and trips	23% of all reported injuries 30% of major injuries	Of those specified, 40% were slips (mostly due to wet contamination), 20% tripping over obstructions, 11% from uneven floors/drains
Being struck by moving object (including injury from handtools)	13% of all reported injuries 13% of major injuries	Of those specified, 42% were from articles falling and 6% from handtools. Exploding glass bottles also figure in investigations
Machinery	9% of all reported injuries 14% of major injuries	Of those specified, 44% involved conveyors. Investigations indicate the rest are mostly packaging machines, particularly fillers, labellers, wrappers, palletisers and depalletisers
Falls from a height	8% of all reported injuries 7% of major injuries	Of those specified, 18% from stairs, 17% from vehicles, 15% from ladders, 14% from work platforms, 7% from plant. Often guards rails were defective or missing and large machinery had poor access
Striking against objects	8% of all reported injuries 4% of major injuries	Of those specified, 67% were against fixed objects and 15% against moveable objects
Exposure to hazardous substances/hot objects	5% of all reported injuries 4% of major injuries	34% involved release of hazardous substances, 14% spillages from portable containers, 29% being splashed by hot or cold substances. In many cases appropriate PPE was not used and facial injuries occurred
Transport	3% of all reported injuries 7% of major injuries	Of those specified, 71% involved fork-lift trucks, 9% non-powered trucks and 6% goods vehicles. Investigations suggest they are mostly due to poor visibility (eg reversing), driver inattention and poor pedestrian segregation

* All reported injuries include: fatalities, major and over-three-day absence injuries

** Major injuries include broken bones, hospitalisation over 24 hours, eye injuries etc

It is not possible to determine separate injury incidence rates for soft drinks production and distribution/delivery from official figures. However, industry information suggests that the incidence of injury for drinks distribution and delivery is about 1.5 times higher than that for production.

Manual handling, falls on and from vehicles, and slips/trips are the main causes of injury in drinks distribution. Manual handling and slips/trips are responsible for most of the excess incidence.

Fatal accidents

There have been six fatalities since 1989, giving the industry one of the highest fatal injury rates of the drinks industry. Five of the fatalities involved vehicles, three being crushed by goods vehicles and two in which drivers were struck by fork-lift trucks. The other resulted from a low fall.

In addition to vehicle-related and fall from height injuries, potential for fatal injury also exists with confined spaces, from both toxic (carbon dioxide) and asphyxiant (nitrogen) atmospheres, falling objects and electrical plant. Continued care is needed to properly manage risks arising from these hazards.

Safety checklist

This checklist includes the most common situations that cause injuries, as well as a list of preventative measures:

Handling

- Avoid manually lifting, heavy or sharp objects, or awkward lifting and pulling movements where possible.
- Eliminate manual handling of heavy plant during maintenance.

- (c) Ensure tools and aids are properly used.
- (d) Plan vehicle loading to minimise risks during loading and unloading.
- (e) Where it is not reasonably practicable to mechanise handling, assess the factors leading to the risk and take appropriate precautions, including training staff in correct handling techniques.

Slips

- (a) Prevent spillage and leakage onto the floor (90% of slips occur on wet surfaces).
- (b) Take measures to contain unavoidable spillages (eg proper drainage), so that they do not contaminate walkways and adjacent areas.
- (c) Consider slip-resistance of floor and footwear.
- (d) Extra precautions will be required during adverse weather conditions (eg frost, ice or rain).

Trips

- (a) Avoid obstructions in walkways and at workstations.
- (b) Avoid uneven floors.
- (c) Keep vehicle beds tidy and free from trip hazards (eg shrink-wrap and pallets).

Being struck by falling and moving objects

- (a) Only use undamaged pallets and secure pallet loads with shrink-wrap.
- (b) Plan vehicle loads so that they remain stable in transit.
- (c) Use mechanical aids to prevent articles falling during maintenance.
- (d) Protect warehouse racking from damage and inspect regularly for signs of wear.

Machinery

- (a) Check hazards and guarding, especially at palletisers, conveyors, bottling, canning and labelling machinery.
- (b) Train staff in correct intervention procedures, especially isolation of all forms of power.

Falls

- (a) Identify where access is needed and arrange permanent, safe access on plant/buildings.
- (b) Check condition of and maintain stairs and ladders.
- (c) Devise safe procedures for access on and off vehicles.

Striking against objects

- (a) Improve design, layout and housekeeping of working environment.
- (b) Use tools and personal protective equipment (PPE) to minimise cuts from broken glass.

Exposure to harmful substances

- (a) Minimise need for contact with chemicals by using cleaning-in-place systems, improving plant design etc.
- (b) Assess how substances can be safely used ensuring relevant PPE is worn when required.
- (c) Use formal systems of work for unavoidable entry into confined spaces.
- (d) Monitor conditions during entry into confined spaces and have rescue procedures in place.

Transport

- (a) Segregate vehicles and pedestrians, particularly at interface between production lines, storage areas and vehicle loading.
- (b) Improve visibility and keep manoeuvring space free of obstructions.
- (c) Prevent reversing where possible and, where required, ensure safe reversing procedures and reversing aids are used.
- (d) Train lift truck drivers and regularly assess their competence.

Acknowledgements

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Useful information: publications

Slips and trips: Guidance for the food processing industry HSG156 HSE Books 1996 ISBN 0 7176 0832 8

Slips and trips: Summary guidance for the food industry HSE Food Sheet 6 HSE Books 1996

Manual handling in drinks delivery HSG119 HSE Books 1994 ISBN 0 7176 0731 3

Manual handling: Solutions you can handle HSG115 HSE Books 1994 ISBN 0 7176 0693 7

Upper limb disorders: Assessing the risks INDG171 HSE Books 1995 Single copies free, multiple copies in priced packs ISBN 0 7176 0751 8

Getting to grips with manual handling: A short guide for employers INDG143 HSE Books 1993 Single copies free, multiple copies in priced packs ISBN 0 7176 0966 9

Essentials of health and safety at work HSE Books 1994
ISBN 0 7176 0716 X

A recipe for safety: Health and safety in the food and drink industries TOP05(rev1) HSE Books 1999 Single copies free, multiple copies in priced packs
ISBN 0 7176 2432 3

General COSHH Approved Code of Practice: Control of Substances Hazardous to Health Regulations 1999 L5
HSE Books 1999 ISBN 0 7176 1670 3

COSHH: The new brief guide for employers INDG136
HSE Books 1996 Single copies free, multiple copies in priced packs ISBN 0 7176 1189 2

Bulk storage and use of liquid carbon dioxide: Hazards and procedures Guidance Note CS9 HSE Books 1985
ISBN 0 11 883513 0

Safe management of ammonia refrigeration systems
Guidance Note PM81 HSE Books 1995
ISBN 0 7176 1066 7

The control of legionellosis including legionnaires' disease HSG70 HSE Books 1993 ISBN 0 7176 0451 9

Guidance on the Noise at Work Regulations 1989 L108
HSE Books 1998 ISBN 0 7176 1511 1

Safety in working with fork lift trucks HSG6 HSE Books 1993 ISBN 0 7176 1440 9

Rider operated lift trucks: Operator training: ACOP and guidance L117 HSE Books 1999 ISBN 0 7176 2455 2

Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice and guidance L24 HSE Books 1992 ISBN 0 7176 0413 6

Safety in roof work HSG33 HSE Books 1998
ISBN 0 7176 1425 5

Dust explosion in the food industry Food Information Sheet No 2 HSE Books

Safe handling of combustible dusts: Precautions against explosions HSG103 HSE Books 1994
ISBN 0 7176 0725 9

Safe use and handling of flammable liquids HSG140
HSE Books 1996 ISBN 0 7176 0967 7

Health and safety in retail and wholesale warehouses HSG76 HSE Books 1992 ISBN 0 11 885731 2

Health and safety in the bottling industries: Notes of guidance (second edition) BSDA Joint Working Party on Bottling Safety

Carbonated drinks are safe in glass bottles: guidance for production employees BSDA

Carbonated drinks are safe in glass bottles: guidance for distribution and warehouse employees BSDA

Health and safety in retail and wholesale warehouses HSG76 HSE Books 1992 ISBN 0 11 885731 2

Guide to the conduct of pallet racking and shelving surveys Guideline No 6 (rev 1997) SEMA

Code of practice for the dispense of soft drinks by pressure systems BSDA 1991

The Electricity at Work Regulations 1989: Guidance for the soft drinks industry BSDA 1993

Safety of packaging machines - palletisers and depalletisers BS EN 415-4: 1998 BSI

Guidance for consignors of dangerous goods by road and rail: classification, packaging, labelling and provision of information HSG160 HSE Books 1996
ISBN 0 7176 1255 4

Guidance for vehicle operators and others involved in the carriage of dangerous goods by road HSG161 HSE Books 1996 ISBN 0 7176 1253 8

Useful information: newsletters etc

A free newsletter *New Books News* giving details of new HSE priced publications and free leaflets is produced monthly by HSE Books

Useful information: sources

BSDA publications are available from:
British Soft Drinks Association
20/22 Stukeley Street, London WC2B 5LR
Tel: 0171 430 0356 Fax: 0171 831 6014

SEMA publications are available from:
Storage Equipment Manufacturer's Association
6th Floor, McLaren House, 35 Dale End,
Birmingham B4 7LN
Tel: 0121 200 2100 Fax: 0121 200 1306

British and European Standards are available from:
BSI Sales and Customer Services, 389 Chiswick High Road, London W4 4AL Tel: 0181 996 7000

HSE priced and free publications are available by mail order from: HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995

HSE priced publications are also available from good booksellers.

For other enquiries ring HSE's InfoLine Tel: 0541 545500 or write to HSE's Information Centre, Broad Lane, Sheffield S3 7HQ.

HSE home page on the World Wide Web:
<http://www.open.gov.uk/hse/hsehome.htm>

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