



Priorities for health and safety in the brewing industry

Food Sheet No 18

Introduction

This sheet contains important information for employers and employees in the brewing 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's own trade associations. Employers should assess all of the aspects 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 and training material.

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) 1596. This code includes beer production and some beer 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 as they cause over 80% of all injuries, or have the potential for serious accidents:

- (a) manual handling - especially of casks, kegs, crates 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 - sometimes from vehicles;
- (d) falls - especially from vehicles, stairs, ladders and work platforms;

- (e) vehicles - especially fork-lift trucks.

Occupational ill health

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

- (a) back injuries from heavy manual handling, eg of casks, kegs, crates and items of plant;
- (b) noise-induced hearing loss from noisy plant, eg packaging machinery (kegging, bottling and canning lines), compressors, boilers and steam plant;
- (c) occupational lung disease from exposure to grain and malt dust.

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, such as the soft drinks industry.

For 1996/97 the incidence rates for the brewing industry, from official figures, indicated a rate of 676 for major injuries and 2845 for injuries causing over-three-day absences.

The combined overall injury rate for the brewing industry for 1996/97 was 3521. The soft drinks industry had an overall injury rate of 1166. The average for all manufacturing industry was 1210.

The brewing industry has consistently had a high injury incidence rate, primarily because of the high level of manual handling. The Brewers and Licensed Retailers Association are working with HSE to reduce this and has produced a guidance note *Manual handling in the brewing and licensed retail industry* (see Useful information: publications).

Table 1 Analysis of injuries reported by all parts of the brewing industry 1995/97

<i>Kind of injury</i>	<i>Relative importance</i>	<i>Significant factors</i>
Handling	35% of all reported injuries* 14% of major injuries**	Of those specified, 60% were due to weight, 23% due to sharp edges on the load and 17% due to the awkward nature of the load
Slips and trips	20% of all reported injuries 27% of major injuries	Of those specified, 51% were slips, 32% tripping over obstructions and 17% due to uneven floors
Being struck by moving object (including injury from handtools)	14% of all reported injuries 14% of major injuries	Of those specified, 32% were from articles falling (9% from vehicles) and 9% from handtools
Falls from a height	11% of all reported injuries 26% of major injuries	Of those specified, 24% were from vehicles, 23% from stairs, 19% from ladders, 8% from work platforms and 3% from plant
Striking against objects	6% of all reported injuries 3% of major injuries	Of those specified, 72% were against fixed objects and 24% against moveable objects
Exposure to hazardous substances/hot objects	4% of all reported injuries 6% of major injuries	41% involved release of hazardous substances, 20% spillages from portable containers and 35% being splashed by hot or cold substances
Transport	3% of all reported injuries 3% of major injuries	Of those specified, 73% involved fork-lift trucks, 9% goods vehicles and 7% non-powered trucks
Machinery	3% of all reported injuries 5% of major injuries	Of those specified, 42% involved conveyors. Investigations also suggest labelling, palletising, bottling and kegging machines

* 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 beer production and distribution/delivery from official figures. The rates quoted are for the industry as a whole. However, industry information suggests that the incidence of injury for distribution and delivery is two to three times higher than that for production. Injury incidence in production is therefore more comparable with the other parts of the drinks industry than the overall reported injury incidence rate suggests. Manual handling, falls and slips/trips are the main causes of injury in distribution - manual handling being responsible for most of the excess incidence.

Fatal accidents

The brewing industry has a lower fatal injury rate than other parts of the drinks industries. However, as there has been an average of one fatality each year over the last decade, continued care is required to properly manage the risks arising from the hazards most commonly linked with such injuries.

These potential hazards include: entry into confined spaces from both toxic (carbon dioxide) and asphyxiant (nitrogen) atmospheres; falls into vessels which may contain hot liquids; falls of kegs and casks during

mechanical handling; fork-lift trucks and reversing vehicles; electrical plant and access at heights.

Safety checklist

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

Handling

- (a) Install and use mechanical lifting aids where possible.
- (b) 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.
- (c) Avoid heavy or awkward lifting and pulling movements where possible.
- (d) Avoid handling loads with unprotected sharp edges.
- (e) Eliminate handling of heavy plant during maintenance.

Slips

- (a) Prevent spillage and leakage onto the floor (90% of slips occur on wet surfaces).
- (b) Take measures to contain unavoidable spillages, so that they do not contaminate walkways and adjacent areas.
- (c) Have systems in place to clear up spillages and, where possible, dry the floor immediately.
- (d) Consider slip-resistance of floor and footwear.

Trips

- (a) Avoid obstructions in walkways and at workstations.
- (b) Avoid uneven floors.

Being struck by falling and moving objects

- (a) Only use undamaged pallets, locator boards and containers.
- (b) Plan vehicle loads so they remain stable in transit.
- (c) Ensure suitable hand tools are available with training in their correct use and maintenance.

Falls

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

Striking against objects

- (a) Improve design, layout and housekeeping of working environment;

Machinery

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

Transport

- (a) Segregate vehicles and pedestrians.
- (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.

Exposure to harmful substances

- (a) Assess how substances can be safely used, ensuring relevant personal protective equipment (PPE) is worn when required.
- (b) Minimise need for entry into confined spaces by cleaning-in-place systems, plant design etc.
- (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.

Acknowledgements

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Brewers and Licensed Retailers Association (BLRA)
Society of Independent Brewers (SIBA)
Maltsters Association of Great Britain (MAGB)

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 HG115 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

Grain dust in maltings HSE Guidance Note EH67 HSE Books 1993 ISBN 0 11 886357 6

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 lift trucks HSG6 HSE Books 1993 ISBN 0 7176 1440 9

Rider operated lift trucks - operator training: Code of Practice COP26 1988 HSE Books ISBN 0 7176 0474 8

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 explosions 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

Manual handling in the brewing and licensed retail industry BLRA 1999

Code of practice for safety in the pub (third edition) BLRA 1987 (being revised)

Code of practice for the dispense of beer by pressure systems in licensed premises (fourth edition) BLRA 1994

Instructions for the safe operation of gas pressure systems used in the dispensing of beers and lagers BLRA

Code of practice for the electrical safety in beer dispense in licensed premises (third edition) BLRA 1995

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

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

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

BLRA publications are available from:
The Brewers and Licensed Retailers Association,
42 Portman Square, London, W1H 0BB
Tel: 0171 486 4831 Fax: 0171 935 3991

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

British and European Standards 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 6FS 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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