



Priorities for health and safety in the potable spirits industry

Food Sheet No 20

Introduction

This sheet contains important information for employers and employees in the potable spirits (whiskey, gin etc) 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 by employers, HSE's investigations and information from the industry's own trade associations. 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 that 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) 1591. This code covers spirit distillation and compounding, including blending, maturing and bottling of spirits.

The priorities

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

- (a) manual handling - especially casks and heavy plant;
- (b) slips and trips;
- (c) falls - especially from moveable ladders, work platforms and work areas;
- (d) people being struck by moving objects, including falls of articles - especially casks;
- (e) confined spaces - avoiding entry, minimising entry and formal systems of work.

Hazards caused by machinery (especially conveyors and bottling plant), exposure to hazardous substances, transport and striking against objects also need to be considered.

Although the order of these priorities is slightly different for the three main industry environments (distillation, maturation and packaging), with appropriate emphasis they remain the key areas for consideration.

Fire and explosion

Few injuries have been caused by fire and explosion, yet they are ever-present risks because the industry produces, handles and stores large quantities of highly flammable ethanol with a flashpoint between 15 °C and 28 °C depending on the process. The avoidance of fire and explosion remains a high priority for the industry because of the potential for major loss of life on-site and business loss. Where sites are situated in towns and cities close to housing etc, there are possible off-site consequences.

Occupational ill health

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

- (a) chronic ill health from heavy manual handling, eg of casks, sacks and items of plant;
- (b) work-related upper limb disorders (WRULDs) from repetitive handling and poor ergonomics, eg in bottling halls;
- (c) occupational lung disease from exposure to grain and malt dust;
- (d) occupational lung disease and nasal cancer from exposure to hardwood dust in cooperages;
- (e) noise-induced hearing loss from noisy plant, eg bottling and packaging machines, compressors, boilers and steam plant.

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

<i>Kind of injury</i>	<i>Relative importance</i>	<i>Significant factors</i>
Handling	31% of all reported injuries* 5% of major injuries** the load	43% due to heavy weight, 27% due to sharp edges on the load and 15% due to the awkward nature of the load
Slips and trips	22% of all reported injuries 33% of major injuries	51% due to slippery conditions, 27% tripping over obstructions and 7% due to uneven floors
Being struck by moving object (including injury from handtools)	14% of all reported injuries 12% of major injuries and one fatality	53% from articles falling (including casks) and 12% from handtools
Falls from a height	9% of all reported injuries 26% of major injuries and one fatality	28% from work platforms and work areas, 24% from ladders (mostly moveable ladders), 15% on stairs, 9% from vehicles and 5% from plant
Striking against objects	7% of all reported injuries 5% of major injuries	69% against fixed objects and 18% against moveable objects
Machinery	4% of all reported injuries 7% of major injuries	Of those specified, 43% involved conveyors: investigations also suggest labelling, palletising and bottling machines are significant
Exposure to hazardous substances/hot objects	3% of all reported injuries 2% of major injuries and two fatalities	51% involved release of hazardous substances (33% of these from plant) and 37% were splashes by hot or cold substances
Transport	3% of all reported injuries and 7% of major injuries	71% involved fork-lift trucks, 10% goods vehicles and 7% private vehicles

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

** Major injuries include broken bones, hospitalisation over 24 hours, eye injuries 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 spirits industry, from official figures, indicated a rate of 249 for major injuries and 1736 for injuries causing over-three-day absences. The combined overall injury rate for the spirits drinks industry for 1995/97 was 1986. This may be compared to the average for all manufacturing industry of 1210. Encouragingly, the trend in the spirits industry appears to be a continuing overall gradual decline.

Fatal accidents

Between 1989 and 1993 there were four fatalities (although there have been none since then):

- (a) a fitter fell from a raised access platform;
- (b) a cask falling from racking struck an operative;
- (c) two operators were overcome by hydrogen sulphide fumes while working in a confined space of an effluent plant.

The fatalities involved hazards in common with other drinks industries - falls from a height, falling objects, and confined spaces. Transport is the other main cause of fatal accidents in drinks industries.

The potential for fatal injuries is always present and particular care needs to be taken to adequately manage these risks at all times.

Safety checklist

This checklist covers the most common situations causing injuries and lists preventative measures:

Handling

- (a) Avoid manually lifting heavy or sharp objects, or awkward lifting and pulling movements where possible.
- (b) Eliminate manual handling of heavy plant during maintenance.
- (e) Where it is not reasonably practicable to mechanise handling, assess the factors leading to a risk and take appropriate precautions, including training staff in correct handling techniques.

- (d) Handling problems can be caused by restricted space - identify and control these at the planning stage.

Slips

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

Trips

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

Being struck by falling and moving objects

- (a) Use appropriate methods for handling goods.
- (b) Use cask end stops in racked warehousing.
- (c) Use suitable, well maintained handtools and ensure appropriate training in their use.

Falls

- (a) Identify where regular or frequent access is needed and arrange permanent, safe access.
- (b) Check condition and use of ladders.
- (c) Maintain stairs.

Striking against objects

- (a) Avoid crowded conditions.
- (b) Pad or highlight obstructions that cannot be removed.

Machinery

- (a) Check hazards and guarding, especially at conveyors, bottling, labelling and palletising machinery.
- (b) Train staff in correct maintenance and operating procedures.

Exposure to harmful substances

- (a) Assess how substances can be used safely ensuring appropriate personal protective equipment (PPE) is worn when required.

- (b) Minimise the need for entry into confined spaces with cleaning-in-place systems etc.

- (c) Use formal systems of work for unavoidable entry into confined spaces.

Transport

- (a) Train lift truck operators and assess competence.
- (b) Segregate vehicles and pedestrians.

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Scotch Whisky Association; Malt Distillers Association of Scotland; Bonded Warehouse Keepers Association; National Cooperage Federation; Wine and Spirit Association of Great Britain and Northern Ireland; Gin and Vodka Association of Great Britain.

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

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

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

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 HSE 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

Cask end stops (second edition) Scotch Whisky Association and Bonded Warehousekeepers Association

The bulk storage and handling of medium and high strength potable alcohol (third edition) 1997 Scotch Whisky Association

Code of practice on fire standards for new single-storey spirit maturation storages within the Scotch whisky industry (second edition) Scotch Whisky Association

Guidance note on electrical apparatus used in potentially flammable atmospheres within the potable spirit industry Scotch Whisky Association

Electrical apparatus for explosive gas atmospheres - Part 10: Classification of hazardous areas BS EN 60079-10 BSI

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

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

Useful information: newsletters, videos etc

The Scotch Whisky Association (SWA) publishes a Health and Safety Bulletin about four times a year giving

details of recent publications, incidents and comment on issues relevant to the industry.

SWA training videos for the whisky industry

Entry into Confined Spaces; Slips, Trips and Falls; Cask Handling; Grain Dust; Noise; Occupational Health; Office Safety; Safety Rules for Contractors; Control of Legionella; Fire Safety Management; Bulk Storage and Handling of Potable Alcohol; Operation of Woodworking Machinery in Cooperages; Maintenance Safety - Think risk! Think action!

SWA interactive training packages

Fire Safety Management; Cask End Stops; Maintenance Safety; Bulk Storage and Handling of Potable Alcohol; Fork Lift Trucks

Useful information: sources

SWA publications, videos etc are available from:
The Scotch Whisky Association,
20 Atholl Crescent, Edinburgh EH3 8HF
Tel: 0131 222 9200 Fax: 0131 222 9248

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 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>

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance as illustrating good practice.

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