

Only the Danish version is authentic.

Chapter A VIII  
1 July 2002

Technical regulation on  
occupational health in ships

## CHAPTER VIII

### Signalling, safety signs, marking and giving signs

|              |  |    |
|--------------|--|----|
| Part A       | Minimum requirements for signalling, safety signs,<br>marking and giving signs .....     | 2  |
| Regulation 1 | Signalling .....   | 2  |
| Regulation 2 | Safety signs .....   | 4  |
| Regulation 3 | Marking of containers and pipe systems.....  | 11 |
| Regulation 4 | Marking and location of fire-fighting equipment .....                                    | 12 |
| Regulation 5 | Marking of obstacles and places presenting<br>a hazard as well as of traffic routes..... | 12 |
| Regulation 6 | Light signals.....   | 13 |
| Regulation 7 | Light signals.....   | 14 |
| Regulation 8 | Oral instructions.....   | 14 |
| Regulation 9 | Giving signs .....   | 15 |

# CHAPTER VIII

## Signalling, safety signs, marking and giving signs

### **Part A Minimum requirements for signalling, safety signs, marking and giving signs**

This part implement Council Directive 92/58/EEC of 24 June 1992 on the minimum requirements for the provision of safety and/or health signs at work (ninth individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC).

#### **Regulation 1 Signalling**

- 1 Introductory remarks.
  - .1 When signalling is required in connection with health and safety under the general provision of article 3 of the directive, it shall be in accordance with the specific requirements of regulations 2-9.
  - .2 This annex introduces these requirements, the various kinds of signalling in connection with health and safety are described, and the general provisions on alternative and supplementary application are mentioned.
  - .3 Signalling in connection with health and safety may be used only to give the message or information specified in the directive.
- 2 The various kinds of signalling.
  - .1 Permanent signalling.
    - a) In connection with prohibitions, warnings and orders as well as the placing and identification of life-saving and first-aid equipment permanent signalling in the form of safety signs shall be used.
    - b) Permanent signs and/or marking with a safety colour shall be used to show where the fire-fighting equipment is located and what kind of equipment it consists of.
    - c) Containers and pipes shall be marked as stipulated in regulation 3.
    - d) The signalling at obstacles with which there is a risk of colliding and the signalling in places where there is a risk of falling shall be permanent signalling in the form of safety signs and/or marking with a safety colour.
    - e) The marking of traffic routes shall be permanent and shall be made by means of a safety colour.
  - .2 Occasional signalling.
    - .2.1 The signalling of acute emergencies, the calling of persons for the execution of special tasks as well as the evacuation of persons is a kind of occasional signalling for which light signals, sound signals and/or verbal instructions shall be used, and alternative and supplementary use shall be taken into consideration as mentioned in paragraph 3.

.2.2 The directing of persons carrying out manoeuvres involving a risk or danger is a kind of occasional signalling, which shall be carried out by means of giving signs and/or verbal instructions.

3 Alternative and supplementary use of signalling.

.1 If the effect is the same, either of the following may be chosen:

- safety colour or safety sign to indicate a risk in connection with unevenness or differences of height;
- light signals, sound signals and verbal instructions;
- sign giving and verbal instructions.

.2 Some kinds of signalling may be used at the same time, namely:

- light signals and sound signals;
- light signals and verbal instructions;
- sign giving and verbal instructions.

4 The indications in the table below shall apply to all kinds of signalling in which a safety colour is included:

| Colour        | Meaning                       | Instructions – Further information  |
|---------------|-------------------------------|---|
| Red           | Prohibition                   | Dangerous behaviour   |
|               | Danger – Alarm                | Stop, shutdown, emergency cut-out devices<br>Evacuation                       |
|               | Fire-fighting equipment       | Identification and location   |
| Yellow/orange | Warning                       | Be careful, take precautions, examine, control                                |
| Blue          | Order                         | Specific behaviour or action –<br>Order to wear personal protective equipment |
| Green         | Emergency measures, first-aid | Door, means of escape, equipment, emergency and/or first-aid stations, rooms  |
|               | No danger any longer          | Return to normal conditions   |

5 The effect of a given kind of signalling may not be impaired because of:

- .1 the presence of another signal or another source of light or sound of the same kind that may have a disturbing effect on the eyes or the hearing, which shall primarily mean:
  - a) that it shall be avoided placing too many signs in the immediate vicinity of each other;
  - b) that two light signals that may be mistaken for each other may not be used at the same time;
  - c) that a light signal may not be used in the vicinity of another, less powerful source of light;
  - d) that two light signals may not be used at the same time; and
  - e) that a light signal may not be used if the background noise is too strong.
- .2 means or devices for signalling of a poor design, in insufficient numbers, with a poor location, in a poor condition or with an incorrect functioning.

- 6 Means and devices for signalling shall be cleaned, maintained, tested, repaired and possibly replaced regularly according to the circumstances so that they maintain their special properties and are continuously in operating order.
- 7 The number of placing of the means or devices for signalling that are used shall be adjusted to the extent of the risks or dangers in question or of the area concerned.
- 8 Signalling that requires supply of power shall be connected to an alternative source of energy in case the normal supply of power is cut off unless the risk is eliminated when the power supply is cut off.
- 9 A light and/or sound signal shall indicate that a planned action has been initiated when the signalling was started; and the duration of the signal shall correspond to the duration of the action in question. Light or sound signals shall be reconnected immediately after use.
- 10 Light and sound signals shall be checked before being put into operation in order to ascertain whether they are capable of functioning and work as intended; hereafter, such devices shall be tested at regular intervals to the extent necessary.
- 11 In cases where the employees concerned have reduced possibilities of hearing or seeing, such as when using personal protective equipment, suitable measures shall be taken to supplement or substitute the signal in question.
- 12 Areas, spaces or enclosures that are used for the storage of large quantities of hazardous substances or preparations shall be marked with a suitable warning sign chosen among the signs mentioned in regulation 2(3.2) or be marked in accordance with regulation 3(1) unless the label on the packing or the containers as such is sufficient for this purpose.

## Regulation 2 Safety signs

- 1 Important requirements.
  - .1 As regards design and choice of colour, the safety signs shall be in accordance with paragraph 3, indicating the purpose of each individual safety sign (prohibition signs, warning signs, order signs, emergency signs as well as signs relating to fire-fighting equipment).
  - .2 Pictograms shall be as simple as possible, and details that do not contribute to their meaning shall be left out.
  - .3 The pictograms used may be slightly deviating from or be made more detailed than the illustrations in paragraph 3 provided that they have the same meaning and are not made more difficult to understand.
  - .4 The safety signs shall be made of a material that is capable of resisting shocks, adverse weather conditions and other effects from the surrounding environment.
  - .5 The safety signs shall have such a size and the colour and light properties shall be such that the signs are easy to see and understand.
- 2 Use of safety signs.
  - .1 The safety signs shall in principle be placed at a height and in a way that is suitable in terms of the visual angle in consideration of any obstacles either at the entrance to an

area in which it is generally risky to move about or in the immediate vicinity of a given risk or a given item, and they shall be placed in a well lit, easily accessible and conspicuous place.

Subject to Directive 89/654/EEC, phosphorescent colours, reflective materials or artificial lighting where the natural light is insufficient.

- .2 When the situation that was the reason for affixing the safety sign ceases to exist, the safety sign shall be removed.

### 3 Signs.

- .1 Prohibition signs.

Important requirements:

- round
- a black pictogram on a white background, red edging and red downward diagonal line from the left to the right across the pictogram at an angle of 45° in relation to the horizontal level. The red part shall take up at least 35% of the surface of the sign.



No smoking



No smoking or  
naked flames



No pedestrians



Do not extinguish  
with water



Not drinking water



No access for  
unauthorised persons



No industrial vehicles



Do not touch

## .2 Warning signs.

Important requirements:

- triangular
- a black pictogram on a yellow background. The yellow colour shall take up at least 50% of the surface of the sign.

Flammable material or high temperature<sup>(1)</sup>

Explosive material



Toxic material



Corrosive material



Radioactive material



Overhead load



Industrial vehicles



Danger – electricity



General danger

(1) Unless a special sign relating to high temperatures is available.



Laser beam



Oxidant material



Non-ionising radiation



Strong magnetic field



Obstacle



Drop

Biological risk<sup>(\*)</sup>

Low temperature

Harmful or  
irritant material<sup>(\*\*)</sup>

(\*) This sign is described in Council Directive 90/679/EEC of 26 November 1990 on the protection of workers from risks related to exposure to biological agents at work (seventh individual Directive within the meaning of Article 16 (1) of Directive 89/391/EEC) (Official Journal L 374 of 31 December 1991, p. 1).

(\*\*) The background may exceptionally be orange if this colour is justified because a similar traffic sign is available.



## .3 Mandatory signs.

Important requirements:

- round
- a white pictogram on a blue background. The blue colour shall take up at least 50% of the surface of the sign.

Eye protection  
must be worn

Hard hat area



Wear ear protectors

Respirators  
must be wornWear protective  
footwearHand protection  
must be wornProtective clothing  
must be worn

Wear face shield



Wear safety harness



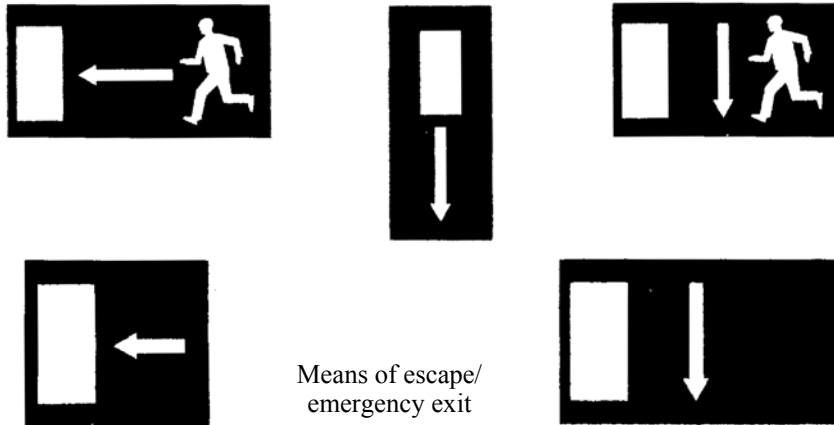
Mandatory pedestrian crossing

General mandatory sign  
(if relevant, with supplementary sign)

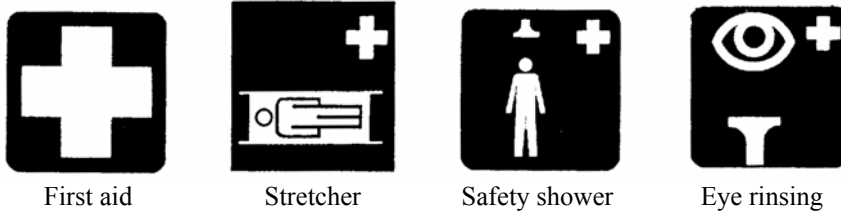
.4 Emergency signs.

Important requirements:

- rectangular or square
- a white pictogram on a green background. The green colour shall take up at least 50% of the surface of the sign.



Indications of direction  
(to be used as supplementary to the signs shown below)

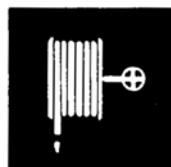


Emergency and first-aid telephone

## .5 Signs related to fire-fighting equipment.

Important requirements:

- rectangular or square
- a white pictogram on a yellow background. The red colour shall take up at least 50% of the surface of the sign.



Fire hose



Ladder



Fire-extinguisher



Fire phone



Indications of direction

(to be used as supplementary to the signs shown below)

**Regulation 3 Marking of containers and pipe systems**

- 1 Containers used on the workplace containing dangerous substances or preparations, as defined in Council Directives 67/548/EEC<sup>1</sup> and 88/379/EEC,<sup>2</sup> and containers used for storing such dangerous substances or preparations as well as visible pipe systems containing or carrying such dangerous substances and preparations shall be fitted with a marking/label (pictogram or symbol on a background colour) as stipulated in the said Directives.

The first part shall not apply to containers used for a short duration during work or containers the content of which is replaced frequently provided that suitable alternative measures are taken, such as rendering of information, training or instruction guaranteeing the same level of protection.

The marking mentioned in the first part may:

- be substituted by warning signs as shown in regulation 2 with the same pictogram or symbol;
- be supplemented by further information about, for example, the name and/or formula of the dangerous substance or preparation as well as further information about the risk involved;
- in the case of the transportation of the containers on the workplace, be supplemented by or substituted by the signs used in the European Communities in connection with the transportation of dangerous substances and preparations.

- 2 The marking shall be placed as follows:

<sup>1</sup> Official Journal L of 16 August 1967, p. 1.

<sup>2</sup> Official Journal L of 16 July 1988, p. 14.

- on the visible side or visible sides;
  - in the form of signs, self-adhesive marks or paintings.
- 3 The important requirements mentioned in regulation 2(1.4) as well as the provisions of regulation 2(2) on the use of signs shall, if relevant, also apply to the marking/labelling mentioned in paragraph 1 of this annex.
- 4 The marking of pipes shall be fitted in a visible place in the vicinity of the places presenting the greatest hazard, such as valves and joints and with suitable spacing, cf. however paragraphs 1, 2 and 3.
- 5 Areas, spaces or enclosures used for storing great quantities of dangerous substances or preparations shall be marked with a suitable warning sign which is chosen from among the signs in regulation 2(3.2) or shall be marked in accordance with regulation 3(1) unless the labels on the various packings or containers are sufficient for this purpose in consideration of annex II(1.5) concerning size.
- The storing of a number of dangerous substances or preparations may be indicated by a general warning sign.
- The above-mentioned signs or marking/labelling shall, according to the circumstances, be placed at the storage area or on door leading to the storage room.

#### **Regulation 4 Marking and location of fire-fighting equipment**

- 1 Introductory remark.
- This regulation shall apply to equipment that is solely used for fighting fires.
- 2 Fire-fighting equipment shall be marked with a colour and its location shall be indicated by means of a sign and/or a colour marking of the areas where its is located or at the entrance to such areas.
- 3 Red shall be the colour used for marking such equipment.
- The red colour shall cover such a great part of the surface that the equipment becomes easily identifiable.
- 4 The signs mentioned in regulation 2(3.5) shall be used for indicating the location of such equipment.

#### **Regulation 5 Marking of obstacles and places presenting a hazard as well as of traffic routes**

- 1 Marking of obstacles and places presenting a hazard.
- .1 The places in a company's built-up areas in which the employees move about in connection with their work and where there is a risk of colliding with obstacles, a risk of being hit by falling objects or a risk of persons falling shall be marked by means of yellow and black-striped or red and white-striped bands.
  - .2 The dimensions of the marking shall be adjusted to the size of the obstacle or the place presenting a hazard.
  - .3 The yellow and black or red and white stripes shall have an angle of about 45 and shall have almost the same breadth.
  - .4 Example:



## 2 Marking of traffic routes

- .1 When the use and equipment of the rooms necessitates so in consideration of the protection of the employees, traffic routes used by vehicles shall be clearly marked with a continuous stripe in a distinct colour, preferably white or yellow, which has been chosen in consideration of the colour of the foundation.
- .2 When placing the stripes, consideration shall be paid to the distance necessary for safety purposes between the vehicles and items in their vicinity as well as between pedestrians and vehicles.
- .3 Traffic routes in the open air in the company's built-up areas shall also be marked, if necessary, unless they have been delimited or tiled in a suitable way.

## Regulation 6 Light signals

### 1 Important requirements

- .1 The light emitted from a signal shall, considering the conditions of its use, form a suitable contrast to the surroundings without blinding due to a too great luminance and without being too difficult to see due to insufficient luminance.
- .2 The luminous surface from which a signal is emitted may be of one colour or fitted with a pictogram on a specific background colour.
- .3 The background of one colour shall be in accordance with the list of the meaning of colours as stipulated in regulation 1(4).
- .4 If a signal is fitted with a pictogram, it shall be in accordance with the rules that apply to the safety sign in question as stipulated in regulation 3.

### 2 Special rules of application

- .1 If a device is capable of emitting a constant and flashing light signal, the flashing light signal shall indicate a higher degree of hazard in relation to the constant light signal or that action is more urgent.

In the case of a flashing light signal, each flash shall have such a duration and the flashes shall be so frequent:

- that the message is fully understood;
  - and that any mistake for other light signals or for a constant light signal is avoided.
- .2 If a flashing light signal is used instead of or together with a light signal, an identical signal code shall be used.
  - .3 In the case of light signals intended to indicate critical hazardous situation, they shall be made subject to a special control or be fitted with a spare lamp.

**Regulation 7 Light signals**

- 1 Important requirements
  - .1 A sound signal shall:
    - a) have a clearly higher sound than the surrounding noise so that it is audible, but it may not be unnecessarily loud or painful;
    - b) be easily recognisable and clearly different from both another sound signal and other sounds in the surroundings, among others in terms of pulse duration and dissociation between impulses and series of impulses.
  - .2 If a system is capable of emitting a sound signal at a varying and homogenous frequency, the varying frequency shall be used to indicate a higher level of danger in relation to the homogenous frequency or a greater necessity for the intervention or action that is requested or required.
- 2 Codes

Evacuation sound signal shall be uninterrupted.

**Regulation 8 Oral instructions**

- 1 Important requirements
  - .1 An oral instruction in the form of short messages, phrases, groups of words and/or single words, possibly in code, shall be transmitted from the speaker to one or more listeners.
  - .2 Oral messages shall be as short, simple and clear as possible; the speaker shall, to the extent needed, be capable of formulating himself, and the listener or the listeners shall, to the extent needed, be capable of hearing in order that the oral instruction be understood.
  - .3 The oral instruction shall be transmitted directly by means of the human voice or indirectly by means of the human voice or a synthetic voice transmitted by an apparatus or system intended for this.
- 2 Special rules of application
  - .1 The staff concerned shall know the language usage in order to be able to transmit and fully understand the oral message and in order to act as required in terms of health and safety on the basis of the message given.
  - .2 If oral instructions are used instead of or as a supplement to the giving of signs, word codes shall be used, such as:

|         |                                    |
|---------|------------------------------------|
| -start: | to indicate the start of a command |
| -stop:  | to interrupt or end a movement     |
| -end:   | to stop the operation              |
| -raise: | to have a load raised              |
| -lower: | to have a load lowered             |

- forwards:
- backwards:
- right:
- left: to be coordinated with the corresponding hand signals
- danger: for an emergency stop
- quickly: to speed up a movement for safety reasons.

### Regulation 9 Giving signs

#### 1 Requirements

The giving of signs shall be precise, simple, consist of large movements, easy to carry out and understand and be absolutely unambiguous.

If both arms are used at the same time, they shall be used symmetrically, and only one sign may be given at a time.

On the precondition that the above requirements are met, the signs used may deviate somewhat from or be more detailed than the signs listed in paragraph 3 if their meaning and the understanding of them are just as clear.

#### 2 Special rules on the application of signs

- .1 The person giving a signal, referred to as the signal man, shall give instructions by means of signs to a receiver, referred to as the operator, in connection with the manoeuvring of a load.
- .2 The signal man shall be able to see what is to be manoeuvred and to follow the item thus manoeuvred with his eyes without thereby being endangered in connection with the manoeuvring.
- .3 The signal man shall concentrate solely on giving instructions in connection with the manoeuvring and the safety of the employees' in the immediate vicinity.
- .4 If the conditions mentioned in paragraph 2.2 are not met, more signal men shall be used.
- .5 The operator shall stop during the manoeuvring to ask for new instructions when he does not carry out the orders received in a sufficiently safe way.
- .6 Equipment in connection with sign giving

It shall be easy for the operator to identify the signal man.

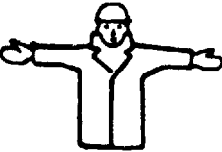





The signal man shall wear one or more items of clothes or the like that make him easy identifiable, such as a jacket, a helmet, sleeves or armbands, or he shall carry a bat.

The above-mentioned items of clothes or the like shall have a strong colour, preferably the same colour as the one that is solely used by the signal man.







#### 3 Codes used when giving signs

Introductory remark:

The codes given below shall not exclude the use of other code systems within special fields of activity if such codes are used at the Community level and concern the same manoeuvres.

| Meaning                                    | Description   | Illustration   |
|--|---|--|
| <b>A. General movements</b>                |   |  |
| START<br>Attention<br>Start of sign giving | Both arms are extended horizontally with the palms facing forward                     |    |
| STOP<br>Interruption<br>End of movement    | The right arm points upwards with the palm facing forwards                            |   |
| END<br>of the operation                    | Both hands are clasped at chest height  |   |
| <b>B. Vertical movements</b>               |   |  |
| RAISE                                      | The right arm points upwards with the palm facing forward and slowly makes a circle   |  |
| LOWER                                      | The right arm points downwards with the palm facing inwards and slowly makes a circle |  |
| VERTICAL<br>DISTANCE                       | The hands indicate the relevant distance  |  |



| <b>C. Horizontal movements</b>     |  |   |
|------------------------------------|--|---|
| MOVE FORWARDS                      | Both arms are bent with the palms facing upwards, and the forearms make slow movements towards the body                          |    |
| MOVE BACKWARDS                     | Both arms are bent with the palms facing downwards, and the forearms make slow movements away from the body                      |    |
| RIGHT<br>to the signal man's right | The right arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the right |    |
| LEFT<br>to the signal man's left   | The left arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the left   |   |
| HORIZONTAL<br>DISTANCE             | The hands indicate the relevant distance   |  |
| <b>D. Danger</b>                   |  |   |
| DANGER<br>Emergency stop           | Both arms point upwards with the palms facing forwards   |  |
| QUICK                              | All movements faster   |   |
| SLOW                               | All movements slower   |   |