



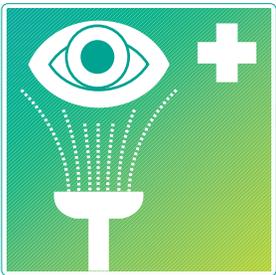
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PRÉVENTEX

Préventex

Association
paritaire
du textile

INFORMATION BULLETIN
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*Warning: danger !
Where is the shower ?
Important news !
Recommended water flow
Emergency intervention
Selecting equipment
Inspection of equipment*

Emergency Eyewashes and Showers

In 1999, over 8,000 workers suffered injuries to the eyes. Some of these accidents involved the use of chemical products and revealed that the organisation of first-aid treatment was deficient in many respects. Whether injuries consist in thermal or chemical burns to the eyes or the body, time is of the essence when such accidents occur. The presence of eyewash or shower equipment, as well as the speed and quality of emergency intervention are factors that can directly influence the extent and seriousness of corporal damages.

This Bulletin is all about emergency eyewashes and showers. It contains practical information on the selection and installation of equipment, the applicable standards and the best methods of intervention in case of accidents.

WARNING: DANGER !

There are many types of hazardous environments in plants of the primary textile and knitting sector. Emergency eyewashes or showers should be installed in every hazardous location, including the following:

- ◆ Hazardous material storage and handling areas
- ◆ Dusty environments
- ◆ Battery recharging stations
- ◆ Laboratories
- ◆ Work stations where compressed air systems are used

WHERE IS THE SHOWER ?

Adequate emergency equipment should be available at every location listed above. Showers and eyewashes should be clearly visible and identified and in perfect working condition. Water should be lukewarm and systems should be flushed regularly to ensure good water quality. Failure to respect these rules can result in permanent damage in the case of eye injuries.

The CSST has issued new recommendations to ensure improved protection for workers.

FIRST RECOMMENDATION EMERGENCY EQUIPMENT SHOULD BE ACCESSIBLE WITHIN 10 SECONDS OR LESS

The location of emergency showers and eyewashes is of crucial importance. They should never be more than 30 meters from hazardous areas. Time lost looking for the nearest emergency installation can aggravate burns.

The best place to install emergency showers and eyewashes is along normal exit lanes.

Emergency showers and eyewashes should not be located near power outlets, electrical devices or extension cords.

The water inlet should not be exposed to major sources of heat or cold.



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2035, Victoria avenue, suite 203
Saint-Lambert QC J4S 1H1
Telephone: (450) 671-6925
Fax: (450) 671-9267
e-mail: asptexti@mblink.net
www.preventex.qc.ca

General manager and newsletter editor
Jean-Marc Champoux

Co-chairman (Employers)
Jacques Hamel
Cavalier Textiles inc.

Co-chairman (Unions)
Pierre-Jean Olivier
TUAC/COUTA

Coordination
Lise Laplante

Copy editor
Pierre Bouchard
Indico Communication

Translation
Paule Champoux-Blair

Graphic design
Anne Brissette Graphiste

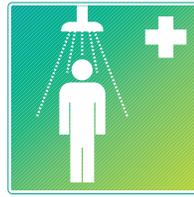
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The CSST also recommends signaling the location of showers and eyewashes with a pictogram such as this one:



SECOND RECOMMENDATION EMERGENCY SHOWERS AND EYEWASHES SHOULD BE EQUIPPED WITH THERMOSTATIC VALVES

Thermostatic valves maintain a stable water temperature of 20°C to 30°C. If water has been at temperatures below 15°C for 15 minutes, hypothermia becomes a risk. Water over 30°C, on the other hand, will add to the discomfort of the victim, fail to reduce the pain caused by thermal burns and be less efficient in the treatment of chemical burns.

Thermostatic valves are available at reasonable prices. Discuss this with your plumber or call Préventex. A consultant can help you with your research.

THIRD RECOMMENDATION EMERGENCY SHOWERS SHOULD BE FLUSHED ONCE A WEEK

This is a very important recommendation: among other things, flushing shower pipes will inhibit the growth of micro-organisms in the pipe sections closest to the unit. To avoid the problem, install an automatic flushing system on the water inlet pipe. Discuss it with your plumber or call Préventex. A consultant can help you with your research.

IMPORTANT NEWS !

The Montréal-Centre regional health board recently published an important notice regarding the recommended rinsing time for burns.

- ◆ Thermal burns to the skin should be rinsed for 20 minutes and chemical burns for 30 minutes.
- ◆ Thermal burns to the eyes [flash] should be rinsed for 20 minutes and chemical burns for 30 minutes.

These new recommendations on the duration of rinsing can influence your choice of equipment. For example, the portable eyewashes sometimes found in plants of our industry can only provide 15 minutes of rinsing time, which is now considered insufficient to prevent serious permanent effects. Companies using this type of equipment should think of replacing it.

Recommended water flow

All types of emergency showers and eyewashes should provide a water flow corresponding to their use. Here are the recommended water flows:

- ◆ Emergency shower: 113.6 liters/minute
- ◆ Eyewash: 1.5 liter/minute
- ◆ Facewash: 11.4 liters/minute

Emergency intervention

When burn injuries occur, evaluate the situation and make the premises safe. The first objective of the emergency intervention is to save the victim's life or prevent the injury from getting worse. The injured worker should then be taken to the emergency shower or eyewash as quickly as possible. Following is a description of the proper technique.

Skin burns

- ◆ Place the victim in the shower, fully dressed.
- ◆ Ask the victim to remove contaminated clothing but to avoid letting it touch the face and other unaffected body parts.
- ◆ Ask the victim to remove glasses or contact lenses.
- ◆ Sponge off powder chemical product with a compress before rinsing.
- ◆ Continue rinsing for the recommended time.

After rinsing

- ◆ Cover burns with non adhesive sterile gauze strips.
- ◆ Cover burns over large areas with a clean, sterile cloth.
- ◆ Provide ambulance attendants with product safety data sheet, or consult without delay.

Reading material

The Montréal-Centre regional health board has sent Préventex a promotional brochure listing the documents and teaching tools developed for a project called "Brûlures thermiques et chimiques en milieu de travail" (Thermal and chemical burns in the workplace). Here is the list of materials. The Régie régionale de la santé et des services sociaux de Montréal-Centre can be reached at: (514) 528-2400.

Brûlures thermiques et chimiques en milieu de travail : pistes d'intervention en premiers secours; 50 pages plus annexes (Document on first-aid intervention)

Brûlures thermiques et chimiques en milieu de travail. Cahier de formation et d'animation pour les premiers secours; 100 pages plus annexes (First-aid training manual)

Brûlures thermiques et chimiques en milieu de travail : premiers secours ; jeu éducatif constitué de 52 transparents illustrés en couleurs (Educational game with 52 colour transparencies)

Brûlures thermiques et chimiques en milieu de travail : premiers secours ; jeu éducatif constitué de 27 affiches géantes illustrées en couleurs (Educational game with 27 giant colour posters)

Brûlures thermiques et chimiques : les premières minutes comptent ! Affiche laminée de format 11 po. x 17 po. (Laminated sign on intervention delay)

Matériel et équipement supplémentaires pour une organisation efficace des premiers secours lors de brûlures thermiques et chimiques ; affiche laminée de format 8 ½ x 11 (Laminated sign listing first-aid equipment and material)

Brûlures oculaires thermiques et chimiques : premiers secours ; affiche laminée de format 8 ½ x 11 (Laminated sign on first-aid treatment of thermal and chemical burns to the eyes)

Brûlures cutanées thermiques et chimiques : premiers secours ; affiche laminée de format 8 ½ x 11 (Laminated sign on first-aid treatment of thermal and chemical burns to the skin)

Brûlures oculaires thermiques et chimiques en milieu de travail. Tout ce qu'il faut savoir sur les premiers secours ; affiche laminée de format 8 ½ x 20 (Laminated sign on first-aid treatment of thermal and chemical burns to the eyes in the workplace)

Brûlures oculaires thermiques et chimiques en milieu de travail. La prévention a bien meilleure peau ; affiche laminée d'un diamètre de 5 ½ po. (Laminated poster on prevention of burn injuries)

WARNING

- ◆ Do not tear off clothing that is adhering to skin.
- ◆ Do not apply ointments or other substances to burns.

Burns to the eyes

- ◆ Ask the victim to remove contact lenses, if applicable.
- ◆ Spread eyelids with fingers to keep eyes open.
- ◆ Douse the surface of the eye with water while victim rolls eyeball.
- ◆ If only one eye is affected, avoid splashing the other eye.
- ◆ Lift eyelids several times to ensure thorough rinsing.
- ◆ Continue rinsing for the recommended time.

After rinsing

- ◆ Cover eyes with dry, non adhesive sterile compresses.
- ◆ Provide ambulance attendants with product safety data sheet, or consult without delay.

WARNING

- ◆ Do not use neutralizing agents, ointments, swabs, etc.

Selecting equipment

There are no regulation standards applicable in Quebec to help you select emergency shower and eyewash equipment. You may refer to the "American Standard for Emergency Eyewash and Shower Equipment" (ANSI Z358.1-1990 Revision of ANSI Z358.1-1981).

Emergency shower

The most common type of emergency shower is called the "overhead drench". It is permanently fixed to the ceiling or wall, or supported by its water pipe system. It should provide a 1.5 m high "column" of water with a diameter of 0.5 m.

Shower stalls with multiple streams direct strong jets of water over all parts of the body. Emergency showers are often combined with eyewash equipment.

Permanent eyewash equipment

Permanent eyewashes are directly connected to the plumbing and provide a constant supply of water. Some models include a facewash. These systems ensure efficient rinsing of the eyes and face for a period of 20 minutes. However, remember that a thermostatic valve should be installed to regulate water temperature, as well as an automatic water flushing device.

In-sink wash

This type of equipment is used only as eyewash. It is not subjected to the ANSI standard and has many disadvantages. For instance, the water temperature has to be adjusted manually, which increases the intervention delay. In addition, this type of equipment does not supply the recommended water flow of 1.5 liter/minute.

Portable eyewash

There are two kinds of portable eyewash systems:

- ◆ Connected to a pressure tank
- ◆ Integrated into a gravity system

Like the in-sink models, these systems have disadvantages:

- ◆ Eyewashes connected to a pressure tank can only provide 15 minutes of rinsing time. According to the Montréal-Centre regional health board, 20 or 30 minutes of rinsing are required depending on the type of burn.
- ◆ Integrated eyewash fixtures also fail to provide the recommended rinsing time. In addition, the rinsing solution in the tank has to be changed as soon as it comes into contact with air, so caps must be sealed.

In short, portable eyewash systems do not represent a good safety investment, particularly in view of new recommended rinsing times.

Standards and regulation

Regulation respecting industrial and commercial establishments: Section 11.3.1

ANSI Standard Z358.1-1990

INSPECTION OF EQUIPMENT

Emergency showers and eyewashes have to be inspected properly and regularly. Here are some recommendations:

- ◆ Designate a person responsible for inspection and preventive maintenance.
- ◆ Keep a register of inspections.
- ◆ Check condition of equipment by activating once a week.
- ◆ Measure the water flow with adequate device.
- ◆ If there is no automatic flushing system, flush pipes once a week or every day for eyewashes.
- ◆ Check condition of pipes.
- ◆ Correct any defect without delay.

Quizz

TRUE OR FALSE ?

1. Showers and eyewashes should be equipped with thermostatic valves.
2. Water for emergency showers or eyewashes should be maintained at a stable temperature of 20°C to 30°C.
3. Shower and eyewash systems should be flushed once a month.
4. Emergency showers and eyewash equipment should be accessible within 10 seconds or less.
5. Thermal burns to the skin or eyes should be rinsed for 20 minutes.
6. Chemical burns to the skin or eyes should be rinsed for 20 minutes.
7. In-sink eyewash systems provide the recommended water flow of 1.5 liter/minute.
8. Portable eyewashes connected to a water tank provide enough water flow to rinse affected parts for 20 minutes.
9. Emergency showers should be activated once a week during inspections.
10. In the absence of automatic flushing systems, pipes should be flushed once a week and once a day for eyewashes.

Answers
1.T, 2.T, 3.F, 4.T, 5.T, 6.F, 7.F, 8.F, 9.T, 10.T