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safety showers & eye washes

Posted by Anonymous on Thu, 2019-03-21 14:21

Safety showers & eye washes: We are a very small regional school. We are after a SOP & risk assessment for safety showers and eye washes to use as a guide to write our own. We would like to extend the flushing of the showers out to a month or once per term.

Also, our safety shower does not deliver 70L /min we have tested it and it is around 40L / min. The water lines around town into the school will not allow us to get this water flow. Where do we stand with this and can we write something in our risk assessment or SOP to cover this?

Any suggestions would be welcome.

Voting:



No votes yet

Year Level:

7
8
9
10

Senior Secondary

Laboratory Technicians:

Laboratory Technicians

Showing 1-1 of 1 Responses

safety showers &&& eye washes

Submitted by sat on 21 March 2019

Considering your different questions:

Standard Operating Procedure (SOP) or Risk assessment

Science ASSIST does not currently have an SOP or Risk assessment for the testing of safety showers and eye wash facilities. Your school jurisdiction may have their own policy/guidelines which should be consulted. The University of Sydney has both an Eyewash and Safety Shower Testing SOP and completed risk assessment form which you could use as a guide to writing your own^{1,2}.

The University of Queensland and University of Wollongong also have some guidelines that may be helpful^{3,4}.

Points for consideration include:

- **A site-specific risk assessment** to determine the type and number of shower/eyewash/combo eyewash-drench hoses that are required. You should consider the types of activities and chemicals used in the laboratory and should note:
 - the number and layout of the science laboratories and preparation room(s)
 - the types and concentration of hazardous chemicals used in the laboratories and preparation rooms. Generally pure chemicals and concentrated chemicals such as concentrated acids are used in a preparation room and small quantities of diluted solutions are used in laboratories, although concentrated acids may sometimes be used in the classroom laboratories by teachers for demonstrations. However, generally, the risks are higher in the preparation room.
- **Laboratory rules and safe procedures for handling chemicals:** this could include the risk control measures as per the hierarchy of controls. See our [AIS: Risk Management and risk assessment](#) for further information. The hierarchy of controls include:
 - Elimination
 - Substitution
 - Engineering controls
 - Administrative controls
 - Personal protective equipment (PPE)
- **Information regarding the installation.** Safety showers and eyewash facilities should be:
 - located so that they can be accessed without obstruction within 10 seconds of the hazard.
 - plumbed according to the manufacturer's requirements to a potable water supply.
- **Information regarding the use and maintenance of safety showers and eyewash facilities:**
 - **Instructions for use.** This will depend upon the model(s) that you have.
 - **Staff and student training requirements**

- The location and use of emergency shower/eyewash equipment.
- Records of staff training should be kept.
- **Maintenance schedules should be established**
 - The Australian Standard AS4775-2007 recommends that they should be flushed on a weekly basis and tested on an annual basis and this may be varied subject to a risk assessment.
 - Records of testing should be kept.

Frequency of testing:

It is important to have emergency response equipment working optimally at all times. For example, in the event of an eye injury, it would not be desirable to flood an injured eye with dirty or stagnant water. Science ASSIST does not recommend varying the frequency of testing the eyewash. Changing the frequency of weekly flushing for safety showers should be carefully considered with a site-specific risk assessment in line with the type of hazardous material being handled.

Testing requirements according to AS 4775--2007 are as follows:

- **“weekly activation** for a sufficient time to flush the supply line in order **to show that it is working correctly, and that any dirt/residues and/or stagnant water in the hose/pipe is cleared.** Note: A written site-specific risk assessment can be undertaken in order to change the frequency of how often this task is performed.”⁵
- **“annual flow testing and inspection** in accordance with the equipment manufacturer’s instructions to make sure that it complies with AS 4775-2007. A permanent compliance tag with the inspection records should be attached to this equipment.”⁵

The standard does not specify the qualifications of the person conducting the weekly activation or annual test, but does state that all relevant instructions from the manufacturer should be accessible to the person providing the maintenance.

Many university departments test their shower and eyewash facilities monthly, however if dealing with very corrosive chemicals with a high splash potential then a weekly check is advisable⁴. Some universities test eyewashes weekly and safety showers monthly¹.

If you are concerned about the mess from water when testing a shower, then you may wish to consider purchasing a shower test sock. For example, see <http://prattsafety.com.au/safety-showers/showers-products/se950-2/>. You could collect the water in a bucket and put the water on the garden.

Water flow rate:

The volume required for different safety shower/eyewash equipment varies as indicated below:

- 75.7L/min at 210kPa for plumbed emergency showers (AS 4475 – 2007 Section 6.5.1)⁵
- 11.4 L/min at 210kPa for eye/face units (AS4775 – 2007 Section 8.3)⁵
- 1.5L/min at 210kPa for plumbed eyewash units (AS4775 – 2007 Section 7.3.1)⁵

Note that the maximum flow rate for domestic showers is 9L/min⁶

As your school cannot deliver more water volume than what is supplied (without additional engineering and cost), we consider that it is reasonable to make note of the current flow rate and check that it is effective and continuous to provide:

- a sensible spread of spray and flow from the shower
- low pressure, soft flow from the eyewash to both eyes simultaneously so as not to cause injury.

If these parameters are met then Science ASSIST considers that your school is doing what is reasonably practical to meet its first aid obligations to provide a suitable emergency shower/eyewash facility

First aid obligations

Workplaces have a duty to provide adequate first aid facilities. The Model Code of Practice for First Aid in the workplace provides guidance on meeting these obligations. Contact the regulator in your state/territory to determine if this code of practice applies in your jurisdiction.

This code of practice states⁷:

“Eye wash and shower equipment

Emergency eye wash equipment should be provided where there is a risk of hazardous chemicals or infectious substances causing eye injuries.

Immediate access should be provided to emergency shower equipment in workplaces where there is a risk of:

- exposure to hazardous chemicals resulting in skin absorption or contamination from infectious substances, or
- serious burns to a large area of the face or body, including chemical or electrical burns or burns that are deep, in sensitive areas or larger than a 20 cent piece.

Shower facilities can consist of:

- a deluge facility
- a permanently rigged hand-held shower hose, or
- a portable plastic or rubber shower hose designed to be easily attached to a tap spout—for small, relatively low risk workplaces where a fixed deluge facility would not be reasonably practicable, but the risk of serious burns is still foreseeable, for example a fish and chip shop.

Eye wash and shower equipment may be permanently fixed or portable, depending on the workplace. Portable, self-contained eye wash or shower units have their own flushing fluid to flush chemicals, foreign objects or substances from the eyes or body. They need to be refilled or replaced after use.

Further guidance is available in AS 4775–2007: *Emergency eyewash and shower equipment.*”

In summary:

We suggest that you prepare information for your administration to consider and seek confirmation from your jurisdiction or governing body that the school is meeting compliance with the Workplace Health and Safety duties. This information should include but not limited to:

- a site-specific risk assessment outlining the hazards, risks and control measures that you have in place.
- a proposal to vary the frequency of the testing of the safety shower,
- the eyewash unit status regarding meeting the requirements specified in Australian Standard AS 4775,
- the emergency shower
 - providing 40L/min which is less than the 76L/min specified in Australian Standard AS 4775 because of insufficient pressure being supplied to the school.
 - exceeding the water flow rate of 11.4L/min for a combination eyewash/face shower
 - exceeding the water flow rate of the 9L/min specified for domestic showers⁶

Previous Q&As

We have previously answered a few questions on the topic of emergency showers and eyewash facilities, that may be helpful.

[Chemical use in Junior laboratories](#)

[Emergency eye wash basins, showers and gas taps](#)

[LAB SAFETY](#)

[Safety Shower Requirements](#)

[AIS: Plant and equipment maintenance and servicing schedule](#)

References:

¹ University of Sydney. 2014. *Standard operating procedure. Eyewash and safety shower testing*, University of Sydney website, https://sydney.edu.au/science/molecular_bioscience/ohs/documents/sop/SOP...

² University of Sydney. 2015. *Risk Assessment Form. Eyewash and safety shower testing*, University of Sydney website, https://sydney.edu.au/science/molecular_bioscience/ohs/documents/RAs%202...

³ ‘2.30.03 Emergency Eyewash and Safety Shower Equipment’, University of Queensland website. <https://ppl.app.uq.edu.au/content/2.30.03-emergency-eyewash-and-safety-shower-equipment> (29 August 2014)

⁴ University of Wollongong. 2016. *Emergency eyewash station and safety shower guidelines*. University of Wollongong website, <https://staff.uow.edu.au/content/groups/public/@web/@ohs/documents/doc/uow148621.pdf>

⁵ Standards Australia. 2007. *AS 4775-2007 Emergency eyewash and shower equipment*. Sydney Australia. Reproduced with permission from SAI Global Ltd under Licence 1407-c117.

⁶ Victorian Building Authority. 2014. *Technical Solution Sheet 5.06. 5: Cold Water Plumbing (Duplicate of 6.05 (Hot Water Plumbing))*, Victorian Building Authority website, https://www.vba.vic.gov.au/_data/assets/pdf_file/0014/22361/5.06-Cold-Water-Plumbing-Maximum-Outlet-Pressure-Within-Buildings-Water-Supply-Flow-Rates.pdf

⁷ Safe Work Australia. 2018. *'First aid in the workplace – Code of Practice'*, Safe Work Australia website, <https://www.safeworkaustralia.gov.au/doc/model-code-practice-first-aid-w...>

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Standards Australia. 2007. *AS4775-2007 Emergency eyewash and shower equipment*. Sydney, Australia.

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