

Combatting bacterial growth in emergency tank showers



Emergency safety showers and eye wash stations are essential for sites where workers could come into contact with hazardous chemicals. In some environments providing this life saving equipment can be challenging, for instance a consistent supply of potable water cannot be guaranteed, or a tepid temperature can be difficult to maintain due to extreme ambient temperatures.

In these instances, emergency tank showers provide a viable solution. However, because emergency tank showers can go unused for extended periods of time, the water held in the tanks may become stagnant. This makes it susceptible to bacterial growth and if not properly treated and maintained can become a source of infection.

The tepid water temperature range required by EU and International standards (ANSI Z358.1 and EN15154) is another contributing factor. These standards stipulate that the water temperature in emergency safety showers must be between 16°C (60°F) and 38°C (100°F). Unfortunately, bacteria thrive in temperatures between 20°C (68°F) and 45°C (113°F).

OSHA identified certain bacteria as a potential source of infection in safety showers. These include:

- Acanthamoeba, which may cause eye infections
- Pseudomonas, which may cause eye, skin, muscle, lung and other tissue infections
- Legionella, which may cause serious lung infections

Not everyone is vulnerable to these bacteria, but for those that are the resulting infections can be quite severe.

Practical Steps to Limiting Bacteria Growth

ANSI requires that safety showers and eyewash stations are tested at least once a week. This weekly activation process displaces stagnant water in the pipework and flushes out corrosion or sediment, reducing the risk of bacteria growth. The duration of the flushing depends on the volume of water within the unit but it is recommended to follow a real-life emergency scenario to ensure that the equipment is able to run for the required time.

The UK Health and Safety Executive developed a guide to help

with controlling the risks of exposure to Legionella bacteria. It recommends developing a risk assessment profile for all man-made water systems, including safety showers and eye/face wash equipment. A routine inspection cycle should include sterilising strainers, shower heads and nozzles.

Organise a Hughes service plan to ensure that your safety showers are disinfected regularly to reduce the risk of bacterial growth.

Specific Solutions for Emergency Tank Showers

Hughes Safety Showers treats all the emergency tank showers with a self-sanitizing treatment (SST) on the tank walls prior to leaving the manufacturing facility. The SST inhibits the growth of bacteria, keeping shower users safe from infection. Annual re-treatment is recommended and is part of all annual services provided by Hughes.

An additional operational treatment for sanitizing emergency tank shower water is the use of Hydroclenz. This product provides constant protection against infestations of pathogenic bacteria. The ceramic component serves as an oxidizing agent, while the noble metal acts as an ionizing agent, working together to kill the bacteria. They also aid in inhibiting corrosion and scale build-up.



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