SAFETECH
Environment
Health
Safety

November 2023

IN TOUCH

EHS Newsletter

CELEBRATING 30 YEARS of making the world a better place

www.safetech.co.za

CONTACT US TO PROVIDE THE FOLLOWING SERVICES FOR YOUR BUSINESS:

- EHS Risk Assessments
- Occupational Hygiene Surveys
- Ergonomics Surveys
- EHS Management System Development and Implementation
- Environmental Monitoring
- Identification of EHS Legal Requirements and Compliance Audits
- Construction EHS Services
- Construction H&S Files
- Internal Auditor Training
- General EHS Training

Department of Employment and Labour Approved Inspection Authority (OH0049-CI-09)

sanas Inspection Body

OH0049

OHAIA association

OHAIA-A 005 (2023)

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Refer to www.sanas.co.za
for Schedule of Accreditation

The Importance of LEGIONELLA Testing for Cooling Towers

Cooling towers are heat rejection devices that transfer heat to the atmosphere through evaporation. They are often part of the centralised air cooling system for buildings or industrial processes: valuable tools for efficiently controlling the temperature of large buildings and fulfilling the structure's HVAC (Heating, Ventilation and Air Conditioning) needs. Cooling towers are inherently more efficient than air conditioners.

Regular maintenance of the tower is critical for proper operation, not only of the equipment, but also of the workflow and occupancy of the building.

Cooling towers contain water and fans to remove heat from the air. If inadequately maintained, the system creates aerosols (droplets of water in the air) that contain Legionella bacteria. The heat-rejection fans in the cooling towers expel infected droplets of water, which can travel large distances (up to several kilometers) and can quickly cause severe or even life-threatening illnesses. Legionella testing is, therefore, one of the most important aspects of regular maintenance because it can be exceptionally dangerous to humans.

Cooling towers are some of the most prolific spreaders of Legionella, largely due to their unique set of risk factors. One such risk is the temperature at which most water passes through a cooling tower. Legionella thrives best in tepid water between 25 degrees and 42 degrees Celsius, which is easy to achieve with lukewarm water being piped through equipment that is sitting in the sun. Additionally, dead legs, where water does not often flow out can provide safe havens for Legionella bacteria to multiply unchecked, since water that is regularly circulating with biocides and other treatment chemicals does not complete its circuit in a dead leg.

Most commonly, illness takes the form of a mild to moderate flu-like sickness called Pontiac fever. However, in severe cases, it may present with Legionnaires' disease: symptoms include rapid and extensive swelling and inflammation of the lungs, which can be fatal.

Many individuals do not seek medical attention in time because they are not even aware that they were exposed to the bacteria. Therefore, in order to keep people who live and work in the surrounding area safe, it is vital that cooling towers are regularly tested for Legionella.

CONTACT US TO CONDUCT LEGIONELLA WATER SAMPLING AT YOUR SITE

LEGAL COMPLIANCE & SYSTEMS AUDITS

APPROVED

Legal Audits are critical for ensuring compliance with legislation, assisting with creating a safe workplace, as well as protecting the natural environment. This proactive approach to improving the environmental, health & safety record not only reduces legal liability, but also enhances both the company's reputation as well as stakeholder confidence.

System Audits are assessments of an organisation's activities, processes, policies and systems in relation to the health & safety of workers and the environment.

Essentially, audits serve two functions:

- determine the level of compliance with HSE legislation.
- identify weaknesses in programmes and systems, so that improvements can be made.

Audits to be conducted by:

- a 'competent person' i.e. someone within the company who has sufficient training and experience or knowledge
- an external Consultant

An external Consultant will conduct a site visit and require access to staff, data, systems and applicable HSE documents. They use their expertise to identify gaps and suggest improvements. This approach may be more comprehensive and insightful.

Need further assistance with regards to your site's legal compliance? Email us at info@safetech.co.za

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Noise Dosimetry

Personal Noise Exposure

Noise Induced Hearing Loss Regulation 7

The industrial environment has changed drastically in recent decades, with an increased level of automation within the workplace. This has given rise to many changes in employee work patterns.

Traditionally, an employee on a production line would remain in one place during a shift and therefore monitoring the worker's noise exposure with a traditional sound-level meter was the answer. However, with the increase in automated production lines, employees now move around from one workstation to the next, varying their exposure to noise in a much more dramatic way than previously.

Noise dosimetry is used for employees who do not have a fixed workplace and move around from one position to another i.e. supervisors, overseers, maintenance staff and drivers of vehicles & equipment.

Dosimeters indicate the total noise exposure received over the measurement period. The monitor is attached to the employee's lapel (close to the ear) and worn for a representative period of time.

SOME HAZARDOUS CHEMICALS FOUND IN THE WORKPLACE

HCA SURVEYS MUST BE CONDUCTED BY AN AIA EVERY 2 YEARS

1. **ARSENIC**
Found In: e.g. agriculture, wood preservatives, glass production, electronics.
Health Risks: cancer; respiratory / circulatory problems; damage to nervous system.

2. **LEAD**
Found In: e.g. near mining sites, car batteries, roofing materials, electronics, ammunition, sailboats and scuba diving gear.
Health Risks: anemia; brain damage; kidney disease; birth defects.

3. **BENZENE**
Found In: e.g. crude oil and gas; also used to make plastics, detergents, pesticides and produced naturally by volcanoes and forest fires.
Health Risks: bone marrow damage; anemia; excessive bleeding; weakened immune system.

4. **CHROMIUM**
Found In: e.g. often mixed with other metals to make alloys and stainless steel. Also used as a coating to prevent rust on metallic surfaces.
Health Risks: asthma; respiratory irritation; cancer; damage to the eyes / eardrums / kidneys / liver.

5. **TOLUENE**
Found In: e.g. paint thinners, nail polish remover, glues, correction fluids, explosives, printing, leather tanning, inks, stain removers.
Health Risks: dizziness and confusion; anxiety; muscle fatigue; insomnia; numbness; dermatitis; liver / kidney damage.

6. **CADMIUM**
Found In: rechargeable batteries, coatings, solar cells, pigments, plastic stabilisers, plating.
Health Risks: flu-like symptoms; lung / respiratory damage; kidney disease; bone disease; cancer; neurological / reproductive / gastrointestinal system damage.

7. **ZINC**
Found In: e.g. auto parts, sensing devices, sunblock, ointments, concrete, paint. Also used to form alloys with other types of metals.
Health Risks: nausea; vomiting; cramps; diarrhea; headaches; kidney / stomach problems.

8. **MERCURY**
Found In: e.g. measuring instruments (thermometers, barometers), fluorescent lamps, dental fillings, telescopes, cosmetics, vaccines.
Health Risks: damage to nervous; digestive / immune systems; lungs; thyroid; kidneys; memory loss; insomnia; tremors; neuromuscular changes; paralysis.

9. **ASBESTOS**
Found In: e.g. automobile clutches and brake pads, roof sheeting and tiles, insulation materials.
Health Risks: non-cancer diseases such as Asbestosis and Pleural disease; Cancers such as mesothelioma / lung / larynx / ovary..

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