



In Touch

EHS Newsletter November 2019

WE PROVIDE A NUMBER OF DIFFERENT SERVICES TO ASSIST OUR CLIENTS THAT INCLUDE:

- 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



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OH0049



DEL Approved Inspection Authority (OH0049-CI-09)

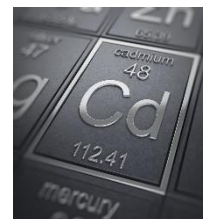
Newsletter compiled by
Lee Rands

Occupational Health

CADMIUM EXPOSURE

Cadmium (Cd) is a naturally occurring heavy metal found in the earth's crust. Most soil and rocks, including coal and mineral fertilizers, contain some cadmium. Cadmium is usually extracted from zinc, lead and copper ores, in which it occurs as a minor component. Excessive exposure to cadmium and its compounds are harmful to most of the body's systems, especially to the lungs, bones and kidneys.

The most common occupational exposure to Cadmium occurs during battery recycling, fabrication of Nickel-Cadmium batteries, manufacturing of Cadmium-containing paint pigment, lead smelting, galvanising of steel and in nuclear power plants. Cadmium is also used as an anti-corrosive agent and a stabiliser in plastics, and phosphate fertilisers contain large concentrations of Cadmium.



In Humans, Occupational Exposure Occurs Mainly From:

- Inhalation (particularly during welding and soldering);
- Ingestion (consumption of contaminated water and foods such as high fibre-containing foods, shellfish, organ meats and leafy vegetables);
- Dermal absorption (there are negligible amounts of cadmium exposure through the skin. It is not considered a major route of exposure to this chemical).

Cigarette smoking is also a significant source of Cadmium exposure. The lung can absorb up to 60% of Cadmium present in tobacco smoke and smokers can have up to five times the blood levels of Cadmium present in non-smokers. Absorption of Cadmium in the lung alveoli from inhaled Cadmium-containing respirable dust and fumes is dependent on particle size and solubility.

Several factors influence Cadmium absorption, such as age, composition of the ingested contaminant and zinc and calcium deficiencies - which increase the likelihood of Cadmium absorption. Iron deficiency also enhances Cadmium absorption in the gut. Generally, urinary Cadmium levels in women and children may be higher than in men as iron deficiency tends to be more prevalent in these groups.

Cadmium is classified as a suspected human carcinogen. The International Agency for Research on Cancer (IARC) has classified Cadmium and its compounds as a Group 1 human carcinogen implicated in lung cancer. Recently, further epidemiological studies have shown a link between Cadmium exposure and prostate, breast and pancreatic cancers. As excretion of Cadmium is very slow (excreted mainly in the urine but also in faeces, hair and nails), concentrations within the body increase with age.

Five Ways to Reduce Cadmium Exposure in the Workplace:

- Look for less toxic alternatives to Cadmium in materials and processes;
- Implement effective housekeeping and industrial hygiene practices;
- Implement effective engineering controls for Cadmium dust collection;
- Use personal protection as a last resort;
- Implement health education and monitoring programs for employees.


<https://www.ampath.co.za/pdfs/occupational-health/Cadmium.pdf>

SAFETECH IS NOW ALSO ACCREDITED WITH SAIOSH FOR THE FOLLOWING TRAINING COURSES

South African Institute of
Occupational Safety and Health

- HIRA (5 CPD points)
- SHE Reps (5 CPD points)
- Incident Investigation (5 CPD points)
- Fire Prevention (2 CPD points)



SAFETECH ANNUAL SHUTDOWN DATES

Our offices will close on **Friday 13th December 2019** and
re-open on **Tuesday, 7th January 2020**.



Safetech cc t/a Safetech is a SANAS Accredited Inspection Body, No. OH 0049. Refer to www.sanas.co.za for Directory Accredited Facilities, Inspection Bodies for schedule of accreditation.



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LOWER BACK PAIN

Back pain is one of the most common work-related injuries and is often caused by ordinary work activities such as sitting in an office chair or heavy lifting.

A number of factors can contribute to back pain at work:

- **Force** - exerting too much force on your back, such as by lifting or moving heavy objects, can cause injury.
- **Repetition** - repeating certain movements, especially those that involve twisting or rotating your spine, can injure your back.
- **Inactivity** - an inactive job or a desk job can contribute to back pain, especially if you have poor posture or sit all day in a chair with inadequate back support.



You can take steps to avoid and prevent back pain and injuries at work:

■ Pay attention to posture

When standing, balance your weight evenly on your feet. Don't slouch. To promote good posture when sitting, choose a chair that supports your spinal curves. Adjust the height of your chair so that your feet rest flat on the floor or on a footrest and your thighs are parallel to the floor. Remove your wallet or cellphone from your back pocket when sitting to prevent putting extra pressure on your buttocks or lower back.

■ Lift properly

When lifting and carrying a heavy object, lift with your legs and tighten your core muscles. Hold the object close to your body. Maintain the natural curve of your back. Do not twist when lifting.

■ Modify repetitive tasks

Use lifting devices, when available, to help you lift loads. Try to alternate physically demanding tasks with less demanding ones. If you work at a computer, make sure that your monitor, keyboard, mouse and chair are positioned properly. If you frequently talk on the phone and type / write at the same time, place your phone on speaker or use a headset. Avoid unnecessary bending, twisting and reaching. Limit the time you spend carrying heavy briefcases and bags.

■ Listen to your body

If you must sit for a prolonged period, change your position often. Periodically walk around and gently stretch your muscles to relieve tension.

<https://www.mayoclinic.org/healthy-lifestyle/adult-health/in-depth/back-pain/art-20044526>

BUND WALLS



A **bundling wall** is an enclosure around oil and chemical tanks or drums that provide emergency containment in the event of failure of the tank or drum. A well-designed oil and chemical bund will stop hazardous materials leaking to ground or surface water.

For large oil and chemical tanks, bunding is usually provided by a concrete bund composed of walls surrounding the tank. For small tanks and for drums, plastic portable bunding is common as well as banded steel storage cabinets.

Concrete works very well for many liquids, but it is unsuitable for some applications (i.e. those containing strong acids). The material used depends on the chemical properties of the liquid as well as its density (i.e. plastic tanks cannot hold very dense liquids at high wall levels). Bunding must be able to withstand both the weight and the pressure of the contents being stored. It is convention to make the holding capacity of the banded area at least 110% of the net capacity of the stored contents.

Large, exposed bunding will need a sump pump or some other system to remove precipitation, though it may also be used to transfer spilled liquid into another container. Rainwater must be treated if the liquid being stored is toxic, because there may be small amounts of it surrounding the tank. The bund may have a roof to prevent precipitation from getting in, but steps must be taken to provide adequate ventilation when storing flammable liquids. If the wall is over a meter high, it may require a ladder or steps to allow people to escape quickly.



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