



Safety alert 08/2011

Highly toxic beryllium in welding electrodes

The purpose of this Alert is to inform welding machine operators of the potential for electrodes to contain beryllium, a very toxic metal.

Background

During routine maintenance of the non-consumable electrodes on a mesh welding machine (below), it was identified that the electrodes contained up to 2 per cent beryllium. Workers may have been exposed to high levels of beryllium when cleaning the electrodes by sanding or grinding.

Breathing in dust containing beryllium may harm the lungs or other organs, and can cause a serious illness called chronic beryllium disease.

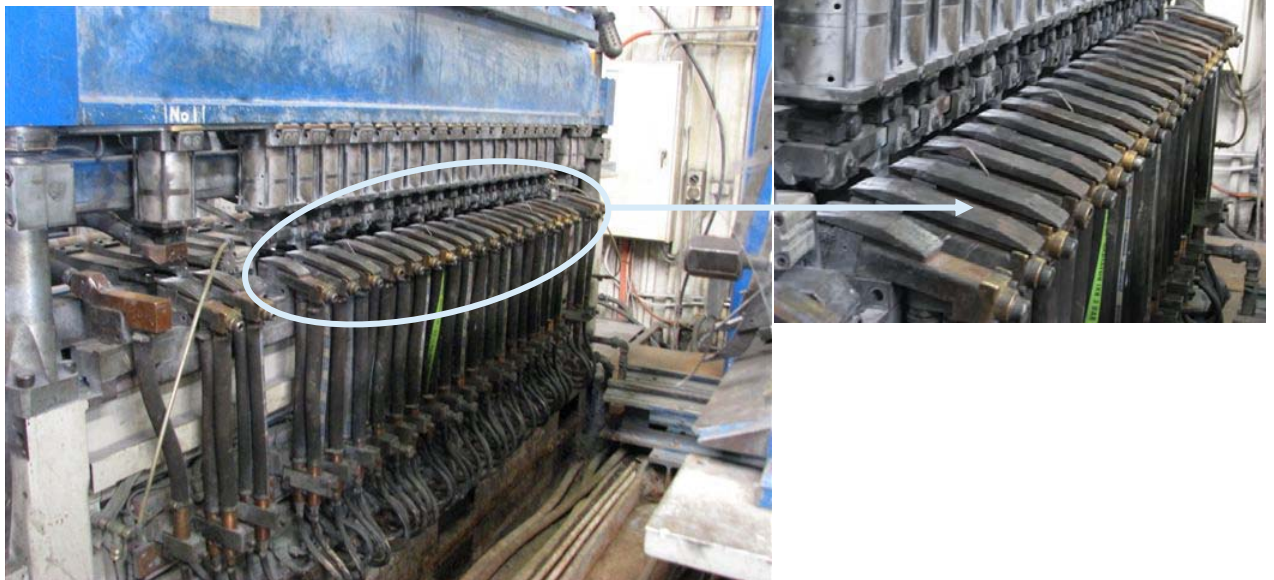


Image 1 and 2 Mesh welding machine (circle indicates the electrodes)

Contributing factors

- No information on the beryllium content of the electrodes was supplied with the plant.
- The agent for the supply of the machine and electrodes was not aware of the beryllium content of the electrodes or the associated hazards.
- Due to the lack of information, the employer had not introduced controls that would have minimised exposure to beryllium.

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Action required

Employers

- Employers using welding electrodes must obtain information on the composition of the electrodes.
- If the electrodes contain any toxic metals, employers must ensure a safe system of work is used to minimise exposure.
- Beryllium free electrodes should be used where practical. However, if this is not practical, systems of work that do not produce dust or fumes must be implemented.
- Air monitoring by a competent person, such as an occupational hygienist, may be required as part of a risk assessment to ensure that controls provide adequate protection to workers and that new hazards have not been introduced.
- Health surveillance by an occupational physician is required where there is a risk to health from exposure to a hazardous substance (such as a toxic metal) and there are suitable health checks available.
- If beryllium exposure is likely to have occurred, health surveillance must be provided to workers or former workers at no cost to the worker.

Suppliers of plant

- A person who designs, manufactures, imports or supplies plant (eg machines or electrodes) for use at a workplace must ensure information on any hazard associated with the plant is supplied with the plant and subsequently on request. This includes information on hazards that may occur during routine maintenance, such as beryllium exposure during electrode cleaning.

Further information

Further information relevant to the metal manufacturing industry can be obtained from WorkSafe's website www.worksafe.wa.gov.au, or by contacting customer service on 1300 307 877 or email safety@commerce.wa.gov.au.

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