

What you can do

- Provide enclosures and direct (local) ventilation to all machines used for wet or dry grinding of tungsten carbide or stellite.
- Test the ventilation system to ensure that contaminants are effectively drawn away at the grinding area.
- Change coolant fluids regularly (for example, once a month) to minimize cobalt concentrations in the coolant. Don't top up the grinder coolant and don't mix different types of coolant. For example, mixing an ethanolamine-based coolant with a nitrate-based one can form a cancer-causing substance.
- Monitor for exposure to cobalt, chromium, lead, and cadmium on a regular basis when metals containing these substances are used.
- Provide direct ventilation when using babbitt pots and molds.
- Provide effective direct ventilation to carbide tipping benches.
- Provide direct ventilation to the chipper knife grinding machine.
- Wash hands and face before eating or smoking to guard against ingesting traces of toxic metals that may be on your skin.
- Use lead-free babbitt and cadmium-free solder.



We're here to help

- For more information on the potential hazards related to hard metal exposures, or to obtain a copy of the UBC study, contact the SAFER Council at the address and phone number below.
- Contact a WCB occupational hygiene officer for information on monitoring hard metal exposures and providing effective mechanical ventilation. Call 604 276-3100 or toll-free 1 888 621-SAFE (7233).
- Discuss and review your operation's exposure levels and prevention methods with your management and your joint health and safety committee or worker health and safety representative.

Who to contact

SAFER

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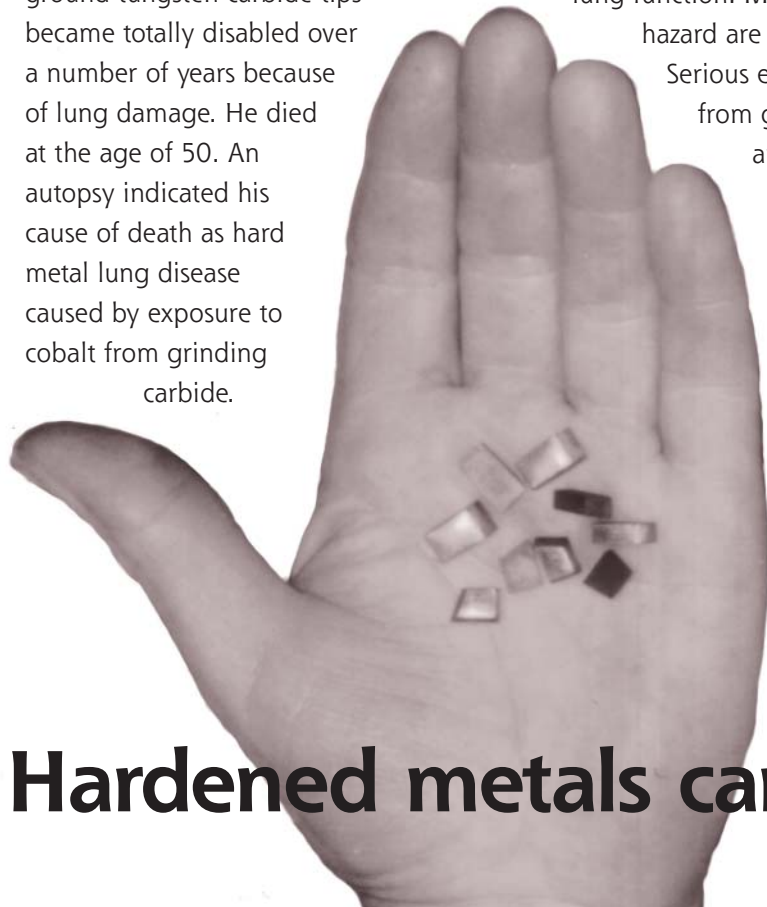
HARD METAL HAZARD

**Important
health
information
for saw filers &
knife grinders**



Most saw filers know that cadmium or lead can be hazardous to their health. In most instances they have switched to solders and babbitts that are free of these metals. What filers often don't know is that the hard metals (tungsten and stellite) they are now using also contain hazardous materials that may be released when they are ground or welded.

In fact, a B.C. saw filer who ground tungsten carbide tips became totally disabled over a number of years because of lung damage. He died at the age of 50. An autopsy indicated his cause of death as hard metal lung disease caused by exposure to cobalt from grinding carbide.



UBC SAW FILER STUDY PINPOINTS HAZARDS

A study of eight coastal sawmills by the UBC Department of Health Care and Epidemiology provides important information to saw filers who work with hardened metals.

For the study, air samples and grinder coolants were tested for the presence of airborne metals. The effectiveness of local exhaust systems was also tested. During the study the health of more than 100 sawfilers was examined. The study found that some saw filers, particularly those grinding carbide or welding stellite, showed varying signs of reduced lung function. Metals that pose the greatest hazard are cobalt and chromium.

Serious exposures to cobalt may come from grinding carbide, wet or dry, and from welding stellite. The most serious exposures to chromium come from knife grinding. Stellite welding and stellite grinding can also expose workers to unhealthy levels of chromium.

Metals such as cobalt and chromium pose the greatest hazard



Tests were done on 118 saw filers like this one, and findings revealed some substantial health risks.

FILING ROOM AIRBORNE METALS		
METAL	SOURCE	HAZARD
Cobalt	<ul style="list-style-type: none"> Grinding carbide Grinding and welding stellite 	<ul style="list-style-type: none"> Hard metal lung disease Cobalt asthma
Chromium	<ul style="list-style-type: none"> Grinding or welding stellite Grinding chipper or planer knives 	<ul style="list-style-type: none"> Nasal and upper respiratory irritation Lung or nasal cancer
Lead	<ul style="list-style-type: none"> Babbitt for saw guides and chipper knife balancing 	<ul style="list-style-type: none"> Anemia, nerve damage and reproductive effects
Cadmium	<ul style="list-style-type: none"> Silver soldering of carbide tips 	<ul style="list-style-type: none"> Kidney damage Lung disease

Hardened metals can be harmful when inhaled