

Dave Dickson
for info

OCCUPATIONAL HEALTH - ARSENIC

Arsenic is the 20th most commonly occurring element in nature. All living things contain some degree of arsenic. It occurs organically in fish, shellfish and vegetables etc. Inorganically in rock, soil etc.

Inorganic form is more toxic. Used to be used in drugs, pesticides, cosmetics, wood preserving etc. Now much rarer.

The arsenic in the ore is arsenopyrite. It will not affect us. When it is roasted it is released as Arsenic Trioxide. This is poisonous in large doses. It will cause many health effects in doses less than lethal. It MAY be carcinogenic.

To protect workers governments develop exposure levels which are safe to work in on a regular ongoing basis. Airborn arsenic levels need to be 50ug/m3 or 5 parts/billion. Levels here are well below that level.

However exposure still occurs. Often we are our own worst enemies in this area. To effect us seriously a substance must enter our bodies. There are four routes of entry.

1) Absorption - through the skin. Not a concern as it doesn't absorb well through the skin. However it will break down if skin is wet and burn etc. Will absorb through broken skin.

Skin irritation may occur. Some more sensitive than others.

2) Inhalation - through the lungs. Levels are controlled and respiratory protection is provided.

Be aware that arsenic will fume at temps above 500 C. Have a clean work surface when welding.

3) Injection - N/A

4) Ingestion - through the G.I. tract. Most exposure is due to this. 80% of the arsenic we ingest is absorbed. How? eating, drinking, smoking, chewing gum or tobacco
NAILBITING, wiping face, etc.

SELF-PROTECTION Guidelines.

- Don't chew gum in these areas
- Always wash THOROUGHLY (scrub nails) before eating or smoking
- Keep hands away from face and mouth.
- Be aware that tobacco contains arsenic.
- " " " " is synergistic

- Wash exposed skin well
- Shower before going home
- Keep work clothes and street clothes separate
- Wash work clothing
- DON'T SHAKE YOUR WORK CLOTHING WHEN REMOVING OR PREPARING TO LAUNDER IT!

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