

Hexavalent Chromium in Metal Working Operations

Metal working and forming operations can work with a wide variety of metals and alloys. Each presents its own risks to health. Hexavalent chromium (CrVI) can pose a significant hazard to people who work with stainless steel or other alloys. It is a hazard that must be addressed even when welding small amounts.

Hexavalent chromium compounds are present as corrosion inhibitors in stainless steel and some other alloys. The percent as a total amount of the steel can vary. Hexavalent chromium can be divided from the metal during processing and released into the air where it can be inhaled in different forms, such as:

- Mist that is created during electroplating or metal coating operations.
- Dust that is created when grinding, buffing, or cutting metal.
- Fumes that are created when metal is melted, welded, or cut with a torch.

Hexavalent chromium presents several health hazards:

- **Respiratory:** OSHA has linked lung cancer to overexposure to hexavalent chromium. Inhalation at high levels can also irritate or damage the nose, throat, or lungs.
- **Contact:** Damage to the eyes and skin can occur if a high concentration of hexavalent chromium comes in contact with skin or tissue for a long period of time. Symptoms include contact dermatitis, skin ulcerations, rashes, and allergic reactions.

1. Follow best practices to reduce skin contact: Wear proper clothing to keep dust off skin. Wash hands after the material is handled before eating.
2. Know where safety data sheets are located and how to respond if there's emergency contact with eyes or skin.
3. Know where eye wash stations are located and how to use the stations in case dust or other material needs to be flushed from your or someone else's eyes.
4. If required, respirators or air purifying devices must be properly worn and maintained at all times. Anyone who wears an air purifying device must be trained regarding proper fit testing, use, and storage for the device.
5. When provided, ventilation equipment must be used any time that welding, cutting, or other work is being conducted. This applies to working with material for even short durations.
6. Wear gloves and appropriate clothing when sweeping or cleaning up dust or other material to help avoid skin contact. Wash hands after cleanup work. Properly dispose of all waste material.