



Description of Event

Workers frequently and sustainably exposed to Hexavalent Chromium can result in serious health problems especially in confined work environment.

Population at Risk

Construction and Maintenance Workers, Inspectors

Hazardous Activity and Residual Risk Description

- Hexavalent chromium (Cr(VI)) is a banned substance under EU regulations due to its associated health risks. This compound can be found in various paints, inks and plastics.
- Steel structures built in the 20th century may use paint systems containing Hexavalent Chromium compounds. Maintenance, repairs and repainting of such structures carries the risk of disturbing the hazardous paint system and generating dust contaminated with Cr(VI). This is particularly prudent when working within confined spaces where there is no natural ventilation.
- There are published workplace exposure limits for working with paints containing Cr(VI), however, there are no established standards akin to more common hazardous substances such as lead.

Potential consequences of this event

- Short term exposure to Hexavalent Chromium can induce skin irritation and swelling.
- Long term and repeated exposure to Hexavalent Chromium can lead to a range of severe health problems, including nose tissue damage, skin & respiratory allergic reactions, kidney damage and lung cancer.



Contaminated waste disposal

Safety Hub Alert Database

- Category Occupational Health with Sub-category 1 Hazardous Substances has 19 alerts including 7 with injury.

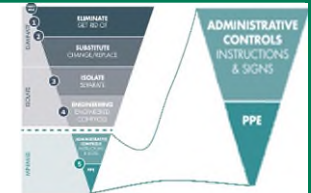
Potential Mitigation Measures

Design

- It is crucial to conduct a material assessment to identify the composition of the existing paint before commencing work.
- Refer to CM 431 for suitable paint testing methods to ensure detection of any substance which should include Chromium and Hexavalent Chromium.
- Immediate contact and engagement with health hygienists to identify appropriate controls, ie a COSHH assessment.

Construction and Maintenance

- To ensure the safety of the workforce, the following safety measures should be implemented:
 - Respiratory equipment
 - Disposal coveralls
 - Enhanced cleaning
 - Contaminated waste disposal
 - Ongoing paint testing
 - Air monitoring
 - Regular health checks of the workforce
- Record COSHH assessment on Health and Safety File



Workers in full PPE and RPE

Further Guidance and Reading

- [RtB 26](#) – Safety by Design
- [Chromium and you](#) – HSE Guidance
- [EH40/2005](#) – Workplace Exposure Limits
- [CM 431](#) Maintenance painting of steelwork
- [Control of Substances Hazardous to Health \(COSHH\)](#) – HSE Guidance



Please send ideas for Whole Life Design safety shares to wellbeing@nationalhighways.co.uk

LEAN

Improved end user benefits

Reduced Activity Duration

Reduced Defects

Reduced Reportable Accidents