Good Practice Sheet for Uses of Chromates

C9 Surface treatment with chromates[1] by spray application in a purpose designed room

This sheet will help employers to comply with the requirements of EU Directive 2004/37 and the terms of the REACH authorizations for uses of chromates. Working with chromates may cause cancer. This sheet describes good practice to reduce exposure. It covers the points that should be followed to reduce exposure. It is important to follow all the points, or use equally effective measures. This document should be made available to all persons who may be exposed to chromates in the workplace so that they make the best use of the control measures available.

The Process

This GPS covers the industrial surface treatment of large sized parts by spray application. Parts such as aircraft, helicopters, wings are sprayed in a specifically designed large paint room or shop.

Equipment Design and Access

The spray area is in a purpose designed, closed room. The spray room is maintained under negative pressure when the system is operating. Workers spray articles using a spray gun inside the room.

The system must have all of the following features:

- ✓ Spray operations are carried out within the closed room.
- ✓ LEV designed, dimensioned, located and maintained to capture and remove chromates is provided to efficiently remove chromates from the room.
- ✓ Overspray is captured within the room.
- ✓ Access to this area is restricted to authorized personnel.

Measures relevant for ancillary tasks are also described in separate GPS. A full list of GPS is available Link.

1 Chromates may include the following substances: Strontium chromate (S6), Pentazinc chromate octahydroxide (S7), and Potassium hydroxyoctaoxodizincatedichromate (S8).

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Chromates Emissions

Material containing chromates is released during spray operations. Contamination due to overspray on equipment surfaces and articles/parts might be possible after spraying.

Risk Management Measures - Workers

- Controls are in place to ensure access to the designated room is restricted to authorized personnel when the plant is operational, including adequate clearance time after completion of a production cycle. Clearance time should be determined via an appropriate test.
- The restricted zone should be managed through use of physical barriers and signs.
- LEV must be tested regularly and comprehensively to ensure it is operating efficiently.
- Process equipment must be regularly inspected and rinsed to remove residual chromates. See GPS D4.
- Implement appropriate measures to prevent cross-contamination from equipment and PPE.
  Provide worker decontamination area, including adequate hygiene facilities. Workers must wash hands and face before eating, drinking or smoking.

Risk Management Measures – Environment

- The air extraction system must discharge to atmosphere via a filtration or scrubber unit capable of removing chromates efficiently and consistent with best practice. Wastewater containing hexavalent chromium should not be discharged to surface or groundwater, but treated to effectively remove hexavalent chromium prior to release to the environment or disposed of as hazardous waste.
- Floors, drains and equipment in process areas and chemical and waste storage areas should be sealed and regularly maintained to ensure integrity.

PPE

To minimize potential exposure to chromates, all persons accessing the designed room must wear:

- protective eye goggles
- protective gloves
- safety clothing / footwear
- air-fed respirator /full-face filter mask with P3 filter.

GPS E1 and your supplier's extended SDS provide relevant information on PPE.

Training and Supervision

All persons with access to the designated room must be instructed about the risks of working with chromates, the safe way of handling chromates and use of PPE and other control equipment. Workers must be properly trained and equipped to carry out their duties, and to safely cease such duties as needed. Adequate supervision must be provided at all times.

Monitoring

Adequate monitoring data must be available to evidence that potential exposure of workers and potential environmental release are maintained to as low as reasonably practicable level. Annual programs of inhalation exposure monitoring for chromium (VI) through personal sampling must be implemented in combination with post-shift biomonitoring for chromium. Expert input is advisable.

Monitoring should be carried out at least annually. Downstream users may reduce the frequency of measurements once it is demonstrated that exposure of humans and releases to the environment has been reduced to as low a level as technically and practically possible and that the risk management measures and operational conditions correspond to the exposure scenarios and function appropriately.

GPS E2 provide further information on monitoring, including reference to relevant standards.

Other Relevant Good Practice Sheets

Other GPS are also likely to be applicable. A full list can be accessed at Link.

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