

# Good Practice Sheet for Uses of Chromates

## C4 Surface treatment with chromates<sup>1</sup> by spray application outside a cabin

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 articles by spraying outside a cabin. The process is typically conducted within an aircraft hangar or dedicated space when other options are not possible (e.g. when the item to be treated is not transportable or cannot be disassembled for surface coating).

An even thickness of a surface treatment containing chromates are applied to an article by spraying.

### Equipment Design and Access

Workers spray articles using a spray gun, typically within an aircraft hangar or dedicated space. The system must have all of the following features:

- ✓ The spraying is carried out in an area to which access is restricted.
- ✓ The activity is carried out only in instances when spraying within a booth is not an option from a practical point of view (i.e. the surface area to be sprayed forms part of a larger object).
- ✓ LEV designed, dimensioned, located and maintained to capture and remove chromates is provided to efficiently remove chromates from area.
- ✓ Masking materials may be used to protect equipment during operations such as spraying or maintenance where there is increased potential for release. The masking material is periodically removed and replaced.

In case these features are not in place, this GPS does not apply, but another may. Measures relevant for ancillary tasks are also described in separate GPS. A full list of GPS is available at [Link](#).

<sup>1</sup> Chromates may include the following substances: Chromium Trioxide (S1), Strontium chromate (S6), Pentazinc chromate octahydroxide (S7), and Potassium hydroxyoctaoxidizincatedichromate (S8).

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### Chromates Emissions

Material containing chromates is released during spray operations. Residual chromate solution on equipment surfaces and articles/parts might be possible after treatment.

### Risk Management Measures - Workers

- Controls are in place to ensure access to the area in which spraying is being carried out is restricted when spray activities are ongoing, including adequate clearance time. Clearance time should be determined via an appropriate test.
- The LEV system must be tested regularly and comprehensively to ensure it is operating efficiently.
- Spray equipment must be cleaned after spraying. See GPS D9.
- Implement appropriate measures (e.g. provision of local cleaning facilities and hazardous waste management bins) to prevent cross-contamination from equipment and PPE.

### 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

All persons accessing the surface treatment area must wear:

- protective eye goggles
- air-fed respirator / full-face mask with P3 filter
- protective gloves
- safety clothing and footwear
- chemical resistant disposable suit.

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

### Training and Supervision

All persons with access to the restricted area 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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