

C16 Decanting / mixing and weighing of solids¹

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 weighing and decanting/mixing of solids containing chromates.

Equipment Design and Access

- ✓ Equipment should be configured to limit the potential for dust generation.
- ✓ For example, containers and equipment should be covered where possible. Gentle mixing should only be possible when covers are fully in place. Equipment should be provided with appropriate secondary containment.

¹ Chromates may include the following substances: Dichromium tris(chromate) (S2), Potassium dichromate (S3), Sodium dichromate (S4), Strontium chromate (S6), Pentazinc chromate octahydroxide (S7), and Potassium hydroxyoctaoxodizincatedichromate (S8).

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Chromates Emissions

Chromates in solid form can generate dust. Exposure to chromate dust is possible when drums are opened, during weighing and during transfer to the mixing vessel or plating tank. Splashing can occur when adding liquids to chromates or vice versa. Residual chromates on equipment surfaces might be possible in some systems.

Risk Management Measures - Workers

- When formulating aqueous solutions, flush residues from the drum to the vessel with low pressure water. Carefully add other raw materials / water to prevent splashing.
- LEV must be in place.
- LEV must be regularly inspected and maintained to ensure full working order.
- Implement appropriate measures to prevent cross-contamination from equipment and personal protective equipment (PPE) to adjacent areas.
- Regularly inspect and rinse or wipe equipment (as appropriate) to remove residual chromates.
- Restrict access to the process area to permitted workers only by appropriate measures, such as signage or procedural measures.

Risk Management Measures - Environment

- LEV must discharge to the 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 a 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 conducting decanting or mixing of chromates must wear:

- protective goggles
- protective gloves
- safety clothing / footwear
- disposable coveralls
- full-face mask with P3 filter when handling open drums.

GPS E1 and your supplier's extended Safety Data Sheet (SDS) provide relevant information on PPE.

Training and Supervision

All persons performing weighing/decanting/mixing activities 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 available 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. 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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