

## C15 Decanting / mixing of aqueous/solvent solutions<sup>1</sup>

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 mixing of liquids (aqueous/solvent solutions) containing chromates.

The aqueous/solvent solution may be decanted from a drum or other container to (smaller) containers or mixing vessels for re-filling of baths or for further pre-mixing.

### Equipment Design and Access

- ✓ Use appropriate equipment to ensure a high level of control of flow of chromate from containers.
- ✓ Chromates should be dispensed close to the neck of the container to limit potential for splashing.
- ✓ All equipment should be provided with appropriate secondary containment.

<sup>1</sup> Chromates may include the following substances: Dichromium tris(chromate) (S2), Potassium dichromate (S3), Sodium dichromate (S4).

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### Chromates Emissions

Splashes containing chromates can be released from open containers when chromates are decanted to containers or mixing vessels prior to re-filling of baths or for further pre-mixing.

Residual chromates on equipment surfaces might be possible in some systems.

### Risk Management Measures - Workers

- Carefully add other chromate and other raw materials / water to the receiving container to prevent splashing.
- Implement appropriate measures e.g. provision of local cleaning facilities and hazardous waste management bins to prevent cross-contamination from equipment and personal protective equipment (PPE) to adjacent areas.
- Once empty, gently flush residues from the drum to the vessel with low pressure water.
- Regularly inspect and rinse equipment 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

- 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.
- Empty packaging should be clearly labeled and disposed of by a licensed waste collector, or be decontaminated before leaving the site.

### PPE

To minimize potential exposure to chromates, all persons conducting decanting or mixing of chromates must wear:

- protective goggles
- protective gloves
- safety clothing / footwear.

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

### Training and Supervision

All persons performing 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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