

## Summary of representative risk management measures (RMMs) and operational conditions (OCs)

### ***Hexavalent Chromium in substances in operation at Robert Stuart Ltd***

ECS and WCS	Task (ERC/spERC or PROC)	Duration of activity	Annual amount per site  (tonnes/year)	Technical RMMs, including: *Containment, *Ventilation (general, LEV...) *customized technical installation, etc	Organisational RMMs, including: *Duration and Frequency of exposure *OSH management system *Supervision *Monitoring arrangements *Training, etc	PPE (characteristics)	Other conditions	Effectiveness of waste water and waste air treatment  (for ERC)	Release factors: water, air and soil  (for ERC)
<b>ECS 0</b>	The use of Hexavalent Chromium in substances for the surface treatments on engineering components for the aerospace and defence industry.	<= 8 h/day	<1 Tonne	RSL operates with several control measures in place to reduce risk. The technical installations involve:  Lids to cover vats.  Local Exhaust Ventilation (LEV)  Separate gullies to keep Acid and Alkaline separate.	RSL operates from Monday to Friday with an average of 39 hours a week per employee. The worker exposure limit is kept in line with EH40/2005 Iss 4.  All staff receive area related training and only operate in the section they are trained in.	Operators have access to appropriate PPE for the Role Performed.  The PPE used at RSL is:  1. Gloves (both Reusable and single use)  2. Apron		RSL has testing Performed to confirm the efficiency of the waste treatment system as well as set maintenance of the treatment plant	The infrastructure at RSL means that there are no factors that impact soil.  Reports by external bodies are preformed to ensure that RSL stays below all derived legal limits.

				<p>Waste treatment system with its own Failure control measures included.</p> <p>A below ground membrane to prevent any structural failure from causing ground contamination.</p>	<p>The staff at RSL are all opted into a yearly health check with added biological monitoring programs active for workers that operate around Hexavalent Chromium compounds. Individual PPE is supplied to and maintained by staff. A supply of PPE is kept in house so that items can be replaced in an efficient and timely manner upon request.</p>	<p>3. Wellington Boots</p> <p>4. Eye Protection</p> <p>5. Respiratory Protective Equipment (RPE)</p> <p>6. Safety Boots</p> <p>All PPE supplied meets the appropriate British and international standards.</p>			
<b>WCS 1</b>	PROC 1 Storage of Hexavalent Chromium Chemicals	<= 0.5 h when Required	<1 Tonne	<p>All Hexavalent substances are kept in secure containers from the manufacture until the point they used.</p> <p>These containers remain in a allocated secure area at RSL until they are needed.</p>	<p>This task is less than an hour of potential exposure and does not require interaction with chemicals, only movement to a storage area.</p>	<p>See Above</p> <p>1,6</p>	<p>Additional Equipment such as pump trucks, Fork trucks and sack barrows are used to aid in movement of the chemicals in a secure manner.</p>	See Above	See Above

<p><b>WCS 2</b></p>	<p>PROC 5, 8b,9  Mixing Chemical Solution</p>	<p>&lt;= 0.5 h when Required</p>	<p>&lt;1 Tonne</p>	<p>Tanks with LEV will be in operation while chemical solution is being added to the required vats.  The vats stay in set locations so, if a spillage were to occur, chemicals would be captured in the waste treatment system.</p>	<p>The process takes less than an hour and will only be performed outside of operational hours.  This process is not a set task at an allocated time but only when required.  This task is only performed by the RSL Chief Chemist who has had training for this application.</p>	<p>See Above  1,2,3,4,5</p>	<p>Spills kits are accessible, with a core staff group trained in their use. These can be used to manage spills if required.</p>	<p>See Above</p>	<p>See Above</p>
<p><b>WCS 3</b></p>	<p>PROC 13 &amp; 21  Operation of plating- Loading and unloading in Cold vats  (Cold Vats refers to any and all vats that run at ambient temperature and do not produce any mist or vapor)</p>	<p>&lt;= 8h/day time around chemical &lt;= 1 h/day</p>	<p>&lt;1 Tonne</p>	<p>This operation uses the full set of infrastructure in the use of Gullies &amp; the installed under floor membrane.  These all assist the risk management for spillages and mist generated in operation.</p>	<p>The average daily shift for employee is 8 hours. Operators do not spend all this time in front of the chemical vats. But will only be around the vats when loading and unloading articles.  All staff must undergo training for their process line.  The shop floor has an allocated production manager who participates in production and monitors employees</p>	<p>See Above 1,2,3,4,</p>	<p>Spills kits are accessible, with a core staff group trained in their use. These can be used to manage spills if required.</p>	<p>See Above</p>	<p>See Above</p>

					to ensure correct and safe operations.				
<b>WCS 4</b>	<p>PROC 13</p> <p>Operation of plating- Loading and unloading in Hot vats up to 100 °C.</p> <p>(hot vats refer to any chemical process that is heated and can create a mist of vapor)</p>	<p>&lt;= 8h/day</p> <p>time around chemical &lt;= 1 h/day</p>	<1 Tonne	<p>This operation uses the full set of infrastructure in the use of Gullys &amp; the installed under floor membrane.</p> <p>LEVs, Lids</p> <p>These all assist the risk management for spillages and mist generated in operation.</p>	<p>The average daily shift for employee is 8 hours. Operators do not spend all this time in front of the chemical vats. But will only be around the vats when loading and unloading articles.</p> <p>All staff must undergo training for their process line.</p> <p>The shop floor has an allocated production manager who participates in production and monitors employees to ensure correct and safe operations.</p>	See Above 1,2,3,4,	Spills kits are accessible, with a core staff group trained in their use. These can be used to manage spills if required.	See Above	See Above
<b>WCS 5</b>	<p>PROC 28</p> <p>Providing Maintenance</p>	<p>&lt;= 1-3 h</p> <p>When Required</p>	<1 Tonne	<p>This operation will only be performed out of operational hours.</p> <p>All lids will be closed when maintenance is being performed.</p>	<p>Only trained staff will perform the required maintenance.</p> <p>Maintenance and repair do not have an allocated duration or frequency but in response to notes</p>	See Above 1,4,6		See Above	See Above

				If the vat has an attached LEV and lid, the LEV will be in operation and the lid will be closed.	made in fortnightly testing.				
<b>WCS 6</b>	PROC 0 Effluent Treatment	<= 1h/day	<1 Tonne	<p>The effluent Treatment area has its own separate bunding as its own control measure.</p> <p>There is a surrounding gully with the capacity to hold all spillages if there was a critical failure of the effluent treatment plant.</p>	<p>The Effluent Treatment plant is constantly monitored during a working week.</p> <p>The maintenance team regularly perform an audial and visually inspections on this equipment to make sure that there are no points of concern.</p> <p>Scheduled maintenance is performed when the equipment is not in operation and only by Trained staff.</p>	See Above 1,2,3,4,5,6		See Above	See Above

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