# SSERC logo

**SSERC Risk Assessment** (revised version March 2018)

(based on HSE’s INDG 163 ‘Risk assessment - A brief guide to controlling risks in the workplace’)

2 Pitreavie Court, South Pitreavie Business Park, Dunfermline KY11 8UU

tel : 01383 626070 e-mail : [enquiries@sserc.org.uk](mailto:enquiries@sserc.org.uk) web : [www.sserc.org.uk](http://www.sserc.org.uk)

# 

|  |  |
| --- | --- |
| Activity assessed | Oxidation of alcohols with dichromate |
| *Date of assessment* | June 2024 |
| *Date of review (****Step 5****)* |  |
| *School* |  |
| *Department* |  |

| Step 1 | Step 2 | Step 3 | Step 4 | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *List Significant hazards here:* | *Who might be harmed and how?* | *What are you already doing?*  *What further action is needed?* | *Actions* | | | | |
| *by whom?* | | *Due date* | | *Done* |
| sodium dichromate is a carcinogen, mutagen, reproductive toxin, skin and respiratory sensitiser. It is also corrosive to skin and eyes and toxic if ingested and fatal if inhaled. | Technicians or learners while preparing reaction mixture. | Wear goggles (EN166 3) and gloves and avoid raising dust. |  |  | |  | |
| Sulphuric acid is an oxidiser and highly corrosive to skin and eyes  2 mol l-1 sulphuric acid is corrosive to skin and eyes | Technicians by splashing when preparing 2 mol l-1 solution.  Learners/teacher by splashes when carrying out the experiment. | Wear a face shield or goggles (EN166 3) and gloves.  Wear goggles (BS EN166 3) |  |  | |  | |
| Ethanol (IMS) is highly flammable, harmful if swallowed and may cause damage to organs (IMS only due to methanol content) | Technician and teacher/ learners by fire or inhalation | Carry out experiment in a well-ventilated laboratory.  Keep well away from any sources of ignition |  |  | |  | |
| Ethanal is extremely flammable, a skin/eye irritant and a suspected carcinogen. | Technician and teacher/ learners by fire or inhalation | The risk is relatively low as only very small quantities are used.  Do not exceed the stated quantities.  Ensure the receiving container is kept cold to minimise evaporation. |  |  | |  | |

|  |
| --- |
| **Description of activity:**  Ethanol is slowly added to chilled acidified sodium dichromate.  When all has been added, the mixture is allowed to come up to room temperature and a few cm3 of ethanal are distilled off for testing. |
| **Additional comments:** |