# 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’)

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| Activity assessed | Silicon and Silanes from Sand |
| *Date of assessment* | 30th June 2020 |
| *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* |
| Magnesium powder is highly flammable | Technician / Demonstrator | Keep away from sources of ignition. |  |  | |  | |
| Magnesium burns very brightly and at a very high temperature. | Demonstrator / audience by coming into contact with burning metal or looking directly at the flame | Care when carrying out reaction.  Do not look directly at burning magnesium. |  |  | |  | |
| Particles of metallic magnesium entering the skin may produce a local  lesion which is slow to heal. | Technician / Demonstrator | Care when handling. |  |  | |  | |
| Hydrochloric acid is corrosive and produces irritating fumes.  2 mol l-1 hydrochloric acid is of no significant hazard | Technician preparing dilute solution. | Work in a fume cupboard or in a well ventilated area. Wear goggles (EN166 3). |  |  | |  | |

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| **Description of activity:**  Silicon dioxide and magnesium powder are mixed and heated.  The resulting mixture is allowed to cool and then poured into dilute HCl. The silanes spontaneously combust in contact with water, the magnesium reacts with the acid and you are left with silicon. |
| **Additional comments:** |