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**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 | Hydrogels workshop |
| *Date of assessment* | 29th Jan 2019 |
| *Date of review (****Step 5****)* |  |
| *School* |  |
| *Department* |  |

| Step 1 | Step 2 | Step 3 | Step 4 | | |
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| *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* |
| 1. Making a hydrogel   Calcium chloride is an eye irritant.  All other reagents are of low hazard. | Technician (or teacher) making up solutions by splashing. | Wear eye protection |  |  |  |
| 1. Cross-linking   Iron II and III chlorides are corrosive. The 2% solutions are irritant | Technician (or teacher) making up solutions by splashing.  Students by splashing solutions | Wear goggles (BS EN166 3)  Small scale makes this very unlikely but if needed wear eye protection. |  |  |  |
| 1. ‘drug’-dispersal   Calcium chloride is an eye irritant.  Potassium manganate(VII) is harmful if ingested and a powerful oxidiser  Solutions are of no significant hazard. | Technician (or teacher) making up solutions by splashing.  Possible fire risk if KMnO4 is in contact with combustible materials | Wear eye protection.  Keep away from combustible material. |  |  |  |
| 1. Properties of hydrogels (hair gel) | No significant hazard |  |  |  |  |
| 1. hydrogels in action (nappies) | Technician/ teacher or pupil by inhalation of dust (or getting it in the eye) while dismantling the nappy. | Wear eye protection.  Avoid raising dust as far as is possible. (carrying out the ‘shredding’ inside a carrier bag is one way of reducing it. |  |  |  |
| 1. Fighting fire with pampers | No chemical hazards.  Only danger is from misuse of Bunsen burner | See risk assessment for using a naked flame. |  |  |  |
| 1. Gels | No chemical hazards.  Only hazard is that of being splashed with boiling water | Care using boiling water. |  |  |  |

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| **Description of activity:**  A suite of generally low-hazard experiments looking at hydrogels and various of their applications |

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| **Additional comments:**  Disposal: Be wary of putting hydrogels down the sink – they can cause blockage. Mix with plenty of sodium chloride to disrupt cross-linking and then wash to waste with large amounts of water. |