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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’)

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

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

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| Activity assessed | Triboluminescent crystals |
| *Date of assessment* | 11th July 2022 |
| *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* |
| Copper thiocyanate emits toxic gases in contact with concentrated acids. |  | There is no risk from carrying out the experiment as described. |  |  |  |
| Pyridine is highly flammable and harmful if swallowed, inhaled or in contact with the skin. | Technician / teacher while preparing crystals. | Keep away from sources of ignition. Wear eye protection and consider gloves. Work in a fume cupboard – not least because of the appalling smell. |  |  |  |
| Triphenylphosphine is harmful if swallowed, a skin sensitiser, causes serious eye damage and is a specific target organ toxin | Technician / teacher while preparing crystals. | Wear goggles (BS EN166 3) and gloves.  |  |  |  |
| Methylbenzene is highly flammable, causes skin, eye and respiratory irritation, is a reproductive toxin and is a specific target organ toxin | Technician / teacher while preparing crystals. | Keep away from sources of ignition. Wear eye protection and consider gloves. Work in a fume cupboard |  |  |  |
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| **Description of activity:**Copper thiocyanate and triphenylphosphine are mixed and then dissolved in pyridnine.The crystals crystallise from the pyridine and are washed 9optionally) in methylbenzene.The demonstration merely involves crushing the crystals with a glass rod. |

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| **Additional comments:**The crystals can be regenerated by redissolving in pyridine and recrystallising. |