**LEARNING FROM INCIDENTS**

**REPORTING FORM**

Please use this form to send us details of incidents you wish to share on our Learning from Incidents page.

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| **Describe what happened** |
| When searching for another chemical, a researcher noticed an unopened bag, containing a bottle of Calcium Phosphide, was turning yellow (and was pressurised). This was immediately moved from the cupboard where stored to fume cupboard and the SDS checked. Calcium Phosphide in contact with water or acid releases flammable gases which may ignite spontaneously (e.g. phosphine – toxic, pyrophoric gas). Unsure if this is what was happening – but this or similar decomposition appears likely… The material was moved clear of any water sources in the fume hood and placed in box to best prevent against splash/humidity. This fume cupboard was then isolated, warning signs put in place, and the incident reported to all other lab users, while further advice was sought. After a short time, this got significantly worse, the bag disintegrated, and turned brown (maybe from ignition if phosphine). On consultation with the departmental technicians and a faculty safety manager, the substance was packed in ‘PIG Grip-Dri' adsorbent, sealed in a large plastic drum, and maintained in this isolated fume cupboard until collection by departmental technicians for disposal. Approximately 3 weeks later, the package and content inside were examined. From visual inspection the reaction had ceased and the reagent bottle looked exactly the same as when it waspacked. It was determined the reaction had ceased, and upon re-exposure of the container with the reagent to air (for approximately an hour) there were no signs of further decomposition. It was therefore concluded that the chemical was no longer reacting and the packaging provided (airtight secondary container filled with fireretardant absorbent) was safe for handling and transporting as waste. Sigma Aldrich were contacted but were unable to offer advice. The date this chemical was purchased is unknown (due to transfer of inventory system). |
| **What were the immediate cause(s)?** |
| Release of chemical material |
| **What were the root cause(s)?** |
| Defective packaging |
| **Describe the action taken** |
| Information about hazards was sources and the reagent was packaged safely. Waste contractor refused picking up reagent for disposal suspecting the reaction has not ceased. The package was retrieved from waste storage, inspected for signs of furtherreaction, repacked appropriately and booked on next waste collection. |
| **Name of incident investigator (optional)** |
| OK |

Please send this form to safetydept@imperial.ac.uk