



Significant Incident Report No. 216

Subject: Fire in processing plant laboratory

Date: 18 May 2015

Summary of incident

A processing plant laboratory was destroyed by fire when a fume cupboard panel failed and ignited.

Fortunately, no one was injured in the incident.

Direct causes

- Continuous use of the fume cupboard did not allow for scheduled maintenance of the chemical resistant surface of the panel.
- Deterioration of the fire-retarding gel coating on the rear wall panel of the fume cupboard exposed the underlying glass reinforced plastic (GRP) panel. This led to resin degradation and subsequent ignition during an acid digestion process. (Figure 1 shows an example of chemical staining and degradation of fire-resistant panels in a fume cupboard).



Contributory causes

- Maintenance of the fume cupboard, as recommended by original equipment manufacturer (OEM), was not undertaken.
- Inspections by the certified service provider did not identify the fire hazard of the damaged gel coating on the rear wall panel.
- Risk assessments did not identify fire risks associated with acid digest processes.
- There was no fire collar installed between the exhaust vent and laboratory wall.
- The laboratory building was of a sandwich foam construction, with no fire retardant properties, and no fixed, fire-suppression system in place.

Actions required

Mine operators and supervisors are reminded of the importance of maintaining safe systems of work in laboratories, including the use of fume cupboards. Recommended actions include:

- Developing and implementing a laboratory safety management system based on AS/NZS 2243.8 *Safety in laboratories - Fume Cupboards*.
- Developing and implementing safe systems of work for operating and maintaining equipment, including fume cupboards in laboratories, which refer to, and comply with, OEM recommendations.
- Ensuring service providers engaged to inspect and service fume cupboards are competent.
- Ensuring workers are trained in the safe systems of work.
- Ensuring workers are trained to identify and report hazards, such as equipment degradation, and that reported hazards are adequately addressed and managed.
- Ensuring installation of equipment meets fire regulations.
- Ensuring buildings are fit-for-purpose and meet fire regulations.

Further information

Visit www.dmp.wa.gov.au/ResourcesSafety for information on occupational safety and health in the resources sector.

This Significant Incident Report was approved for release by the State Mining Engineer on 18 May 2015