SAFETY ALERT

MINERAL RESOURCES NEW SOUTH WALES

MINE SAFETY & ENVIRONMENT

IGNITION OF "ACETONE" VAPOUR BURNS CONTRACTOR

INCIDENT

A contractor at a coal preparation plant was using “Acetone” solvent to dissolve glue on the rubber lagging of a tail pulley of a conveyor belt.. Sparks from a welding operation nearby ignited highly flammable vapour from the Acetone, and the contractor was burnt.

CIRCUMSTANCES

The contractor was using Acetone from a 500ml spray applicator bottle.The spray applicator was not working correctly so the contractor removed the top and poured some of the solvent onto the tail pulley.

The tail pulley area was enclosed on three sides, which restricted ventilation through the area. As a result, vapour from the Acetone accumulated.

Welding close by was not recognised as a potential hazard.

INVESTIGATION

Risk assessment was not done to identify hazards.

Acetone is used by conveyor maintenance contractors at mine sites for removal of rubber lagging.

Acetone can be very easily ignited because it has a very low "flashpoint" (-17^{C}).

Acetone vapour is heavier than air and will accumulate at floor level if ventilation is poor.

There are other alternatives to the use of chemicals to remove rubber lagging.

RECOMMENDATION(S)

- Mines review the risks, procedures and controls for the use of Acetone at their surface operations.
- Acetone should only be used in well-ventilated surface areas away from any potential ignition source.
- Acetone is not to be used underground under any circumstances.
- All maintenance contractors at mine sites should review their systems and controls to prevent this sort of incident recurring.
- Mine management should explore alternate methods of lagging removal.

APPROVED

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