

# COMPLIANCE PRIORITIES OUTCOMES

## Hazardous chemicals – surface and underground coal mines

### Issue

Hazardous chemicals are used extensively throughout the NSW mining industry, in forms ranging from fuels and oils for plant operations, cyanides and caustics for processing plants, radioactive elements in testing and explosive precursors. Some of these chemicals are highly toxic, physically dangerous, cause fire and damage, and can pose security risks if not managed appropriately.

It is the NSW Resources Regulator's position that mine operators should consider hazardous chemicals as a significant hazard, especially where large quantities of hazardous chemicals are stored or used at a mine, and particularly where the quantities exceed the manifest quantities specified in schedule 11 of the Work Health and Safety Regulation 2017 (WHS Regulation).

This compliance priority project was targeted at surface and underground coal operations.

The intent of this priority project was to gather data in relation to the industry's practices, level of awareness around managing hazardous chemicals, and their legal responsibilities to maintain a safe workplace.

### What we did

Assessments were undertaken at 41 mines between April 2021 and August 2021 at surface mines, underground mines, and coal handling preparation plants (CHPP). The following criteria was assessed at each site:

- The identification of all chemicals used on site and specifically, assessment of quantities against the Schedule 11 placard and manifest quantities.
- Where a notification to the Regulator of above manifest quantities had only recently been made, an assessment was conducted to determine if the mine had identified the requirement and developed a principal hazard management plan. Manifest quantities are detailed in schedule 11 of the Work, Health and Safety Regulation 2017. Schedule 12 of the Work, Health and Safety Regulation 2017 details manifest requirements.

- The assessment of health and safety risks from the use, handling, generation and storage of hazardous chemicals on site.
- Sufficient information, training and instruction provided to all personnel who use or handle hazardous chemicals.
- The correct use and placement of outer warning placards and signage, emergency plans developed and lodged with Fire and Rescue NSW, where required.
- The provision and maintenance of adequate fire protection and fire-fighting equipment.
- The identification of any radiation sources.

## What we found

Inspectors issued 12 notices to nine sites, comprising five underground mines, two open cut mines, and two processing plants. The types of notices issued are shown in Table 1 below and are examined further within the Outcomes.

*Table 1: Notices issued for the planned inspection program – Hazardous chemicals - coal mines*

NOTICE TYPE	TOTAL ISSUED	NUMBER OF SITES
s.191 improvement notice	3	3
s.23 notice of concerns	9	7
<b>Total</b>	<b>12</b>	<b>9</b>

## Outcomes

The issues identified in all 12 notices are summarised below.

Improvement notices:

- the Emergency Plan was not available at the mine entrance, not in the format required for Fire and Rescue NSW, or not submitted to Fire and Rescue NSW
- signage was missing, incorrect, faded, or less than adequate at the mine entrance, storage facility, or on the chemical containers themselves.

### Notices of concerns:

- no principal hazard management plan for the use, handling and storage of hazardous chemicals within the safety management system, even though manifest quantities of hazardous chemicals were identified on site
- documentation referenced roles that were not allocated to a person at the mine
- documentation referenced outdated notification requirements
- incomplete hazard assessment and manifest that did not reference compressed gases in CABA self-escape escape system, or oxidising solids contained in SCSRs
- all personnel involved in the use, handling, storage and transport of hazardous chemicals were not provided with information, training and instruction about the risks posed by the hazardous chemicals and the controls required to manage those risks.
- signage was missing, damaged, obsolete, incorrect, faded, or less than adequate at the mine entrance, storage facility, or on the chemical containers themselves
- signage referenced different standards on the site
- no shut-off valve or earthing point at the diesel fill station
- insufficient information available to determine fire protection systems and firefighting equipment were suitable for the hazardous chemicals
- availability of fire pump operating procedure (including cooling water bypass operation).

## Next steps

We will continue to assess and monitor the management of hazardous chemicals across NSW coal mines through planned inspections and targeted interventions. This aims to ensure compliance to work health and safety laws, as well as verify that effective control measures are implemented to minimise the risk, as low as reasonably practicable.

Results of these inspections will be monitored to gauge industry performance and identify high-risk practices which require further assessment or intervention. Mine operators are also encouraged to review the outcomes of this report and determine potential areas of improvement that may be applicable to their own operations.

## Recommendations

With respect to hazardous chemicals, the mine operator should ensure:

- a comprehensive site-based risk assessment for hazardous chemicals is conducted by a team of participants that are suitably qualified and experienced
- a comprehensive management system is developed and maintained, identifying legislative requirements and the controls to be implemented to manage the risks on site
- a nominated person is responsible for the management of hazardous chemicals on site, including:
  - maintaining an accurate manifest of the types and quantities of hazardous chemicals
  - notifications to regulating authorities
  - maintaining signage and documentation
  - identifying and maintaining suitable firefighting equipment
  - maintaining emergency response procedures.
- all personnel that may interact with hazardous chemicals on site are suitably informed, instructed, and trained.

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