

Investigation information release

Date: April 2023

Worker suffers serious burns using an angle grinder

Incident date: 4 April 2023

Event: Worker suffers serious burns using an angle grinder to cut an IBC

Location: Northparkes Mines – Processing plant

Overview

A worker was using an angle grinder to cut the top section off a 1,000 litre plastic intermediate bulk container (IBC) near the processing plant at Northparkes Mines on 4 April 2023. It is believed that chemical vapours contained within the IBC escaped during the cutting process causing serious burns to the worker's arms and face.

The mine

Northparkes is a copper and gold mine 27 kilometres north-west of Parkes in central west NSW. CMOC Mining Pty Ltd is the nominated operator of the mine.

The incident

Contract workers were undertaking maintenance work at the mine's processing plant as part of a planned shutdown. To facilitate the removal of waste product from the processing plant, workers obtained what they believed to be empty IBCs from a nearby storage area and cut the top portion off the container so that they could be used as waste bins.

A forklift operator retrieved a 1000 litre plastic IBC, which was supported by an external aluminium cage like frame, from a nearby storage area and placed it in an open area outside the processing plant. It had not been cut and appeared to be empty.

The IBC bore a label indicating the product that had been stored in it was Fisherchem C503, a caustic alkali liquid used as a flotation reagent. The product is classified as dangerous goods and is a hazardous chemical in accordance with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS). The product's label contained GHS pictograms indicating that the product was an environmental and corrosive hazard.

A crane operator involved in the maintenance work obtained an angle grinder and began cutting the top of the IBC. A short time later workers in the area reported hearing a rush of air and a loud bang. They observed the worker laying on the ground several metres from the IBC. The angle grinder that the worker had been using was also on the ground a short distance from him. The worker was pulling at his shirt, which was smouldering. Several nearby workers removed the worker's shirt and requested assistance.

Responders saw the worker had suffered burns to his arms and face and rendered first aid. The worker was transported to hospital for specialist burns treatment.

Investigation information release IIR23-03

Figure 1 - Location of incident



Figure 2 - Top of IBC



Investigation information release IIR23-03

Figure 3 - Label on IBC



The investigation

The Regulator has commenced an investigation to determine the cause and circumstances of the incident, which will explore, among other things, the:

- cause of the incident
- systems relating to hot work as well as the storage and use of IBCs
- instruction, training and supervision of the involved workers, and
- adequacy of risk assessments, work instructions and procedures relevant to the incident.

The mine operator and other parties are assisting with the investigation. A report will be published when the investigation is concluded.

Safety observations

Containers that appear to be empty may contain flammable or combustible residues and vapours that can ignite on contact with a spark. There have been numerous incidents in which workers have been seriously injured while cutting containers and drums that were used to store hazardous chemicals.

Mine operators and contractors are reminded of their duty to identify hazards and manage risks to health and safety in accordance with the provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulations.

Investigation information release IIR23-03

In particular, mine operators and contractors must:

- implement a hot work permit system which requires all potential hazards associated with cutting containers and drums to be identified and controlled
- identify and control all risks of physical or chemical reaction in relation to the use, handling and storage of hazardous chemicals, having regard to the products safety data sheets
- ensure that containers previously used for the handling and storage of hazardous chemicals are appropriately cleaned and are free of such chemicals (including residues and vapours) when they cease being used for that purpose.

Workers are reminded of their duty to take care for their own health and safety and that of their co-workers. They must also comply as far as they are reasonably able with the mine's work instructions, policy and procedures to ensure worker safety and compliance with the *Work Health and Safety Act 2011* and related legislation.

In particular, workers must:

- refer to and consider product safety data sheets when undertaking tasks involving the use, handling or storage of hazardous chemicals, including the repurposing of chemical storage containers
- be aware that liquids and vapours not classified as flammable, may ignite upon contact with a heat source
- ensure they comply with mine operators' hot work procedures, hazard identification and risk management processes, and inform supervisors whenever hazardous conditions are encountered or task procedures have changed from those originally planned.

Further information

Please refer to the following guidance materials:

- SafeWork NSW [Code of practice: Managing risks of hazardous chemicals in the workplace](#)
- AS 1674.1-1997 Safety in welding and allied process fire precautions
- SafeWork NSW [Code of practice: Welding processes](#) (in particular Section 3.4)
- Safe Work NSW [Hot work safety alert](#)
- Worksafe New Zealand [Cutting and welding drums and tanks](#)

About this information release

The Regulator has issued this information to draw attention to the occurrence of a serious incident in the mining industry. Further information may be published as it becomes available.

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- learn more about our work on causal investigations and emergency response
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Investigation information release IIR23-03

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