

## SHOTCRETE INDUSTRY CASE STUDY

### KOOKABURRA GEL SAFE CONCRETE REMOVAL

Blue Iron Cove developed a unique gel for concrete removal and stripping for concrete industrial and commercial applications. The bio-based gel formulation is combined with a patented acid replacement technology which is non-toxic, non-corrosive and non-fuming.

This product is called Kookaburra Gel and has found widespread adoption in the shotcrete industry for Mining and Infrastructure applications. It is widely in other concrete applications such as ready-mix, batching plant maintenance, pasting plants and tunnelling environments

In the mining industry and on infrastructure construction sites, stringent environmental requirements have effectively ruled out the use of Hydrochloric Acid based cleaners resulting to heavy concrete build up in machinery. Kookaburra Gel is a timely solution for the end users.

Most mine sites now forbid the use of hazardous chemicals underground, in particular, fuming products that can be replaced with Kookaburra Gel.

With these issues in mind, many companies are now looking for alternatives to hazardous mineral acids such as urea hydrochloride, hydrochloric acid, phosphoric acid and even aggressive organic acids such as glycolic acid which have been used in the past to remove concrete from agitator trucks, mixers and associated equipment.

Kookaburra Gel is a non-hazardous chemical which has no dangerous goods restrictions for transport, storage or handling and the following table highlights its safety compared to hydrochloric acid.

**Table 1: Comparison of hydrochloric acid and Kookaburra Gel**

<b>Chemical</b>	<b>Hydrochloric acid</b>	<b>KOOKABURRA GEL</b>
<b>Safety on skin</b>	Causes skin burns	Safe on skin
<b>Effect on metal</b>	Corrosive on most metals	Non-corrosive on most metals
<b>On contact with concrete</b>	Fuming	Non-fuming
<b>Chemical Class</b>	Class 8 – Corrosive & Toxic	Non-DG
<b>Application</b>	Unable to be applied by pressure spray. Use bucket, mop & broom then rinse.	May be sprayed using an acid resistant pressurised pack. High pressure water rinse.
<b>Storage</b>	Specialised Class 8 containment	Non regulated
<b>Effect on paint</b>	Damages paint	Safe on paint
<b>Waste Treatment</b>	Requires alkali neutralisation for waste	No neutralisation required, dilute with water only

Typically, Kookaburra Gel is applied by spraying, using an acid resistant sprayer. It is left on the surface from 15 minutes, up to hours depending upon the age and thickness of the concrete. The advanced gel technology prevents run off and allows it to stay on the surface working where it is needed. Kookaburra Gel may be left on the surface overnight to soften heavy build-up without damage to the paint or causing corrosion.

The following photos show before and after application of Kookaburra Gel on a mine agi-truck. A typical application for an agitator clean is only 6L of product per clean.



**Before application**



**After application**

The core acid replacement technology has been approved by major industry companies internationally for issues such as corrosion safety, safety to coatings and OHS&E compliance, including:

- McNeilus
- London
- Volvo – Mack
- Shumaker Industries
- Oshkosh
- Elkin
- Pierce
- Akzo Nobel
- PPG
- Dupont

Whether it is cleaning of Agi-trucks, concrete pumps or general equipment, Kookaburra Gel provides powerful and safe cleaning and the reassurance of using a product that is not rated as hazardous or dangerous goods.

Kookaburra Gel is available ex-stock in 20L pails, 200L drums or 1,000L IBCs from Blue Iron Cove warehouses in Brisbane and Perth.