

Use of Cyanide at Barrick Granny Smith

Barrick is a signatory to the International Cyanide Management Code. Reflecting this, the company's Granny Smith gold mine employs cyanide management practices that are based on the most stringent safety and environmental standards, and employee protection systems. Due to rigorous safety procedures, there has not been a single fatality associated with cyanide at Barrick's operations around the world. In fact, cyanide intoxication incidents are extremely rare.

Use of Cyanide

Cyanide is used at Barrick Granny Smith to extract gold from gold bearing ore. At the present time, cyanide is the only chemical which can be used economically to extract gold from ore.

The initial process used to extract the gold is called leaching. Leaching is carried out in large tanks that contain slurry, which is ground up ore mixed with water. Cyanide is added to the primary leach tank at levels controlled by an automated cyanide analyser.

Following the leaching process the slurry is passed through a carbon in pulp (CIP) circuit where activated carbon is added to the slurry. In the CIP circuit the gold loads up onto the carbon, and the gold enriched carbon is then separated from the slurry and sent to an elution circuit, where the gold is stripped from the carbon. Once stripped, the 'barren' carbon is sent back to the CIP circuit for recirculation.

A proportion of the slurry is then passed through a Tailings Retreatment Plant, where additional cyanide is added. Once the slurry has passed through the Leach, CIP tanks and Tailings Retreatment Plant, it is thickened and pumped to the Tailings Storage Facility.

Cyanide is present in the Tailings Storage Facility but is readily broken down in sunlight. Water that is reclaimed during the thickening process is recycled back through the Plant.

Transport and Storage of Cyanide

The Barrick Granny Smith gold mine uses both liquid and solid cyanide. Liquid cyanide is transported to the mine on a weekly basis in specialised bulk tanker trucks that contain double walls. When the truck arrives on site, the liquid cyanide is piped from the tanker truck around the mill circuit and through ABS piping along selected routes. This is to ensure that in the unlikely event of a leak, the cyanide is captured inside the bounded concrete areas.

Solid cyanide is used as a back-up to liquid cyanide supply, and as such is only transported to site as required. Solid cyanide is trucked to site in the form of pellets. The pellets are contained inside a plastic lined tough walled fabric and stored inside a timber box that is tied to a pallet.

Australia Gold Reagents (AGR) is responsible for the safe transportation of the cyanide to the mine. AGR is a subsidiary of CSBP - which is one of Australia's leading suppliers of chemicals, fertilisers and other services to the mining, industrial and agricultural sectors and part of the Wesfarmers Group.

Safety Management

High standards in workplace health and safety are non-negotiable at Barrick Granny Smith and a requirement to ensure that each and every one of our employees goes home safe and healthy everyday.

Cyanide used on site is only handled by experienced and trained employees, who are required to follow strict procedures relating to the handling, use and management of cyanide products in order to minimise risk.

As at all Barrick mine sites, employees are required to wear appropriate Personal Protective Equipment (or PPE, as it is often called) such as safety helmet and glasses, steel capped boots, reflective shirts and ear protection. Employees handling cyanide products are required to wear additional and more specialised PPE to ensure they are well protected.

Cyanide levels are regularly monitored using specialised monitoring equipment; and daily inspections are conducted of all cyanide delivery, storage and processing areas to ensure safe operation. Regular preventative maintenance is also undertaken to ensure that all plant equipment is in good working order.

Emergency Response

In the unlikely event of a cyanide-related spill on or off site, the Barrick Granny Smith emergency response team is well trained and skilled to be able to effectively handle and manage the incident, following the key steps below:

1. Evacuate the area
2. Isolate the source of the leak
3. Barricade the area
4. Implement site protocols and procedures to contain the situation
5. Undertake remediation work

Although AGR is responsible for emergency response coordination and supervision in the event of an incident during transportation - the site emergency response team may be called to assist in containing the situation. In such a scenario, the team would work closely, alongside local emergency service personnel such as the police, ambulance and fire brigade.

Barrick Granny Smith's emergency response team continues to strengthen their skills through regular mock drill exercises that allow them to hone their skills and knowledge in identifying exposure scenarios, emergency response and first aid.

Further Information

If you have any questions, please email us at: publicaffairsap@barrick.com

If you would simply like to read more about Barrick's responsible use of cyanide or find out more about the International Cyanide Management Code, go to:

- [www.barrick.com/Corporate Responsibility/KeyTopics/CyanideManagement](http://www.barrick.com/Corporate%20Responsibility/KeyTopics/CyanideManagement)
- www.cyanidecode.org