

Hazard Alert

More fires linked to power tool batteries

What happened

Number of fires increasing

Recently, there have been more reported fires linked to power tool batteries, especially lithium-ion batteries, in Ontario's mining sector.

These batteries are widely used for their strong power and stable voltage, but there's a higher risk of fire or explosion if they are mishandled or not used correctly according to the manufacturer's instructions.

Why did it happen

Understanding thermal runaway

Lithium-ion power tool batteries might experience something called "thermal runaway," which is a chain reaction inside the battery causing a quick increase in temperature, internal short-circuit, heat generation, gas release, and potential battery failure.

Thermal runaway fire can happen when batteries are exposed to over-charging, impact, crushing, piercing, vibration, or extreme external heat.

Depending on the battery's charge level, thermal runaway could lead to battery cell rupture and a risk of fires, explosions, and the release of harmful gases. These incidents not only endanger people but can also damage infrastructure and equipment.



How could the incident have been prevented?

Use tools safely: Make sure workers know and follow safety guidelines when using battery-powered tools. Always follow the manufacturer's instructions. Protect the battery from impact, crushing, or exposure to extreme temperatures. Only use batteries and chargers from the original equipment manufacturer.

Regular maintenance: Check batteries regularly for damage, wear, or malfunctions. Replace damaged batteries immediately and stick to recommended maintenance schedules.

Storage and transportation: Keep batteries in well-ventilated areas away from heat sources and possible impacts. Secure batteries during transportation to prevent damage.

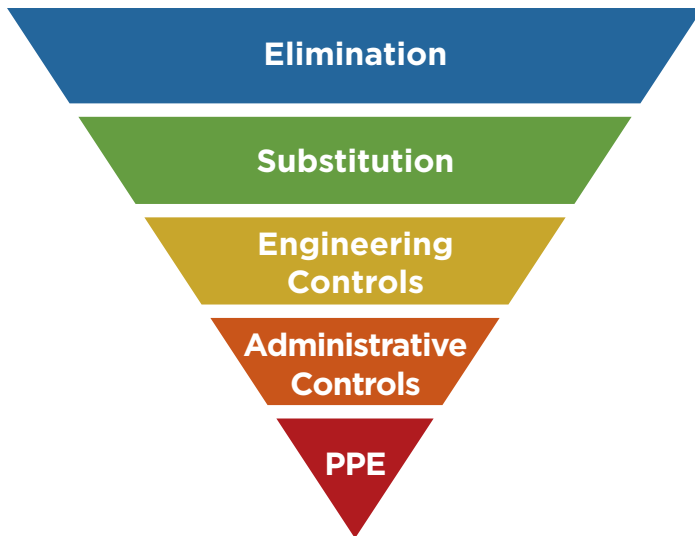
Disposal guidelines: Follow company procedures and local regulations to safely dispose of batteries. Use specialized recycling programs for lithium-ion batteries to prevent environmental hazards.

Contact your WSN Health and Safety Specialist for more information

How to prevent fires in the workplace

Industrial hygiene means making sure workplaces are safe by predicting, identifying, evaluating, and managing potential dangers that could harm workers' health.

Hierarchy of controls



Related services

- Ventilation assessment, manual, and training
- Industrial hygiene testing and training
- Free training material on diesel emission hazards
- Radon assessment
- Workplace hazardous materials information system training (WHMIS)

About Workplace Safety North

Your health and safety partner

An independent not-for-profit, Workplace Safety North (WSN) is one of four sector-based health and safety associations in Ontario. Headquartered in northern Ontario, WSN administers the provincial mine rescue program and provides province-wide Ministry-approved workplace health and safety training and services for the mining and forest products industries.

Mining Risk Assessment Guideline

Since 2012, the Ministry of Labour, Immigration, Training and Skills Development (the Ministry) has undertaken a number of initiatives to promote the use of risk assessment and management to help make Ontario workplaces safer.

Legal requirements

In January 2017, the Ministry released a risk assessment guideline for mines and mining plants in accordance with amendments to sections 5.1, 5.2, and 5.3 of Regulation 854 Mines and Mining Plants of the Occupational Health and Safety Act. It is the employer's responsibility to ensure they are complying with the risk assessment requirements

Visit the WSN Risk Management webpage to access resources and tools (<https://www.workplacesafetynorth.ca/en/risk-management>)

The internal responsibility system (IRS) is a system where everyone shares responsibility for occupational health and safety that is appropriate to their role and function within the workplace.

All workplace parties — including employers, managers, supervisors, and workers — need to do their part to raise awareness of risks, and follow and promote safety procedures to help make workplaces safer.

With health and safety specialists and mine rescue officers located across the province, WSN and its legacy organizations have been helping make Ontario workplaces safer for more than 100 years. A leading provider of health and safety training and consulting, businesses call upon WSN for expert advice and information. For more information, visit workplacesafetynorth.ca.