



December 5, 2013

## Chief Inspector's Directive

### NxBurst Safety Cartridges, Storage and Use

#### **Objective:**

To provide direction on the storage and use of NxBurst Safety Cartridges.

#### **Background:**

NxBurst technology is based on a non-detonating propellant compound enclosed in a cartridge, which when ignited produces a high volume of gas, mainly nitrogen and carbon dioxide. When the cartridge is sealed in a drill hole, the gas pressurizes the sides and base of the drill hole, shearing the rock or concrete.

NxBurst Safety Cartridges are initiated with an electric blasting machine. The propellant in the NxBurst cartridge deflagrates rather than detonates in a drill hole. This relatively low energy release produces coarse fragmentation and minimal fly rock and vibration. The NxBurst Safety Cartridges have been used successfully to break oversize rock pieces, bedrock and concrete, where controlled fragmentation is required.

The NxBurst cartridge is classified as a 1.4S explosive product under the United Nations hazardous classification, in the same category as small arms ammunition or pyrotechnics.

Store NxBurst cartridges in their original packaging, in a cool, dry, secure store, away from flame, heat or ignition source. It is acceptable to store NxBurst cartridges, in their original packaging, in an approved detonator magazine. Refer to the manufacturer's recommendations for more detail on transportation, storage and handling of NxBurst cartridges.

Improper use or accidental initiation of NxBurst cartridges can cause violent rupture of the cartridge housing or intense burning. Combustion/Decomposition of the propellant can produce toxic fumes of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>) if burned unconfined.

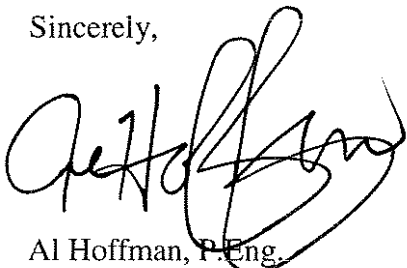
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**Directive:**

The managers of any mine where NxBurst Safety Cartridges are used must assure:

- 1) The persons who use the NxBurst Safety Cartridges are trained in their use and hold a valid blasting certificate issued by the Ministry of Energy and Mines. The blasting certificate may be restricted to the use of the NxBurst Safety Cartridges only.
- 2) The NxBurst Safety Cartridges are stored in a secure storage container or detonator magazine and a current inventory kept in a log book signed by the authorized person in charge.
- 3) There is a written procedure for the storage, transportation and use of the NxBurst Safety Cartridges. The procedure must include clearing and guarding the blast area prior to blasting; giving an effective audible warning; firing the shot; and giving an "all clear" once the blast area is determined safe after the blast. Employees using this product and their supervisors must be trained in the procedure and a record kept of this training.

Sincerely,

A handwritten signature in black ink, appearing to read 'Al Hoffman', written in a cursive style.

Al Hoffman, P.Eng.  
Chief Inspector of Mines