POWDER BLAST DISPERSION ROUNDS

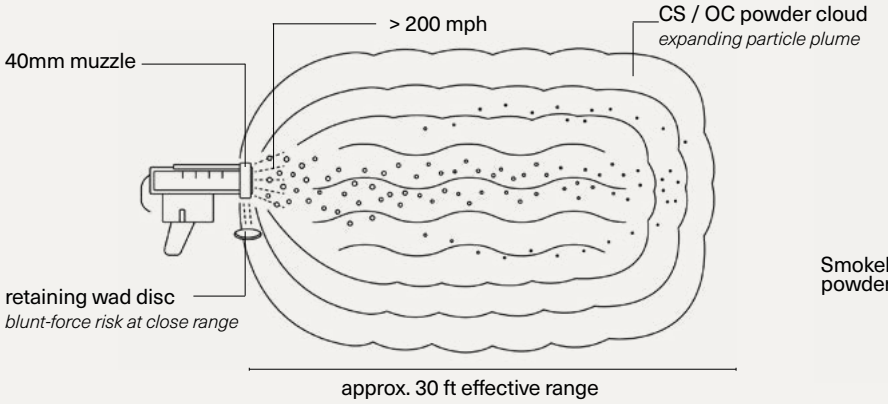
Powder blast dispersion rounds – commonly called "Muzzle Blast" rounds are munitions that discharge an explosion of pulverized chemical irritant just at the muzzle of a grenade launcher. They can expose individuals to serious injuries, especially when misused and fired point-blank at people's faces: the blast cartridge can cause direct trauma.

For more information on all chemical irritants, please see the Chemical Irritant factsheet.

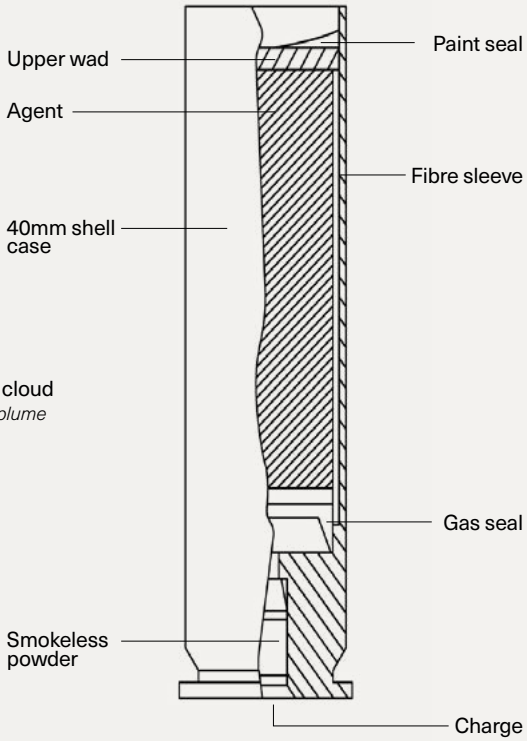
How they work

Muzzle blast rounds are cylindrical cases packed with pulverized CS or OC powder mixed with fillers such as magnesium oxide and silica as well as other chemicals (propellants and primer).

When fired from a 37/40mm launcher, the irritant exits the muzzle at over 200 mph, generating a chemical cloud extending up to 30 feet. They are frequently confused with projectiles or pepper balls but they are different.



MUZZLE BLAST DISPERSION



CROSS SECTION OF A MUZZLE BLAST CARTRIDGE



INCLO PHR Physicians for Human Rights

POWDER BLAST DISPERSION (MUZZLE BLAST) ROUNDS

Health risks

Muzzle blast rounds have unique hazards not reflected in most manufacturer guidance. Targeting individuals directly, particularly at close range and/or in the head, is particularly hazardous.

- Solid components of the cartridge, such as wadding or gas seals, eject at high speeds and can cause significant injuries including bruising, lacerations, and facial trauma.
- Incandescent particles emitted by these rounds pose a risk of thermal injury.
- A large amount of chemical irritant is expelled by the projectile. High concentrations of chemical irritant injected into the face, eyes and body can increase exposure can increase the risk of injuries.
- The rapid burst of chemical irritant can affect a large number of people simultaneously, including those posing no risk and vulnerable individuals.



These munitions can expose individuals to serious injuries *when misused and fired point blank at the face.*

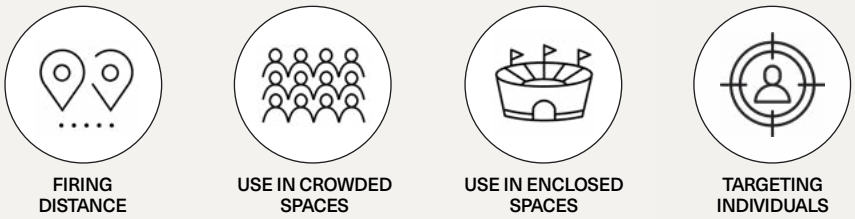
Variables that can exacerbate injuries

Using powder blast weapons at very close (< 1 m) range.

Shooting powder blast munitions directly at the face, neck and body.

Using powder blast weapons in enclosed spaces, or spaces with limited opportunities for safe egress.





Policy recommendations

Our recommendations on muzzle blasts echo those for chemical irritants in general. These include:

- Policies must prohibit close-range targeting and targeting the face with muzzle blast round
- Firing excessive or multiple canisters in the same area or firing repeatedly must be avoided, as it produces higher concentrations of chemical irritants, which can cause serious injury or even death.
- Firing grenades or canisters containing chemical irritants into enclosed spaces or where there is no safe egress should be prohibited.
- Weapon use protocols, manufacturer guidelines, and testing data, including the specific arsenals and purchasing data of law enforcement agencies, should be made available to the public as a public safety measure.