

July 2, 2010

TRAINING BULLETIN

RE: Defense Technology® OC Aerosol Canisters

Defense Technology® OC aerosol canisters sold to Law Enforcement utilize three (3) distinct propellants:

1. Nitrogen (naturally occurring gas) – used in the stream products;
2. Dymel 134a (hydrofluorocarbon) – Non-ozone depleting liquefied propellant used in our Fogger and Foam products; and,
3. Compressed Air (mixture of naturally occurring gases) - used only in our 360° products that utilize a bag system.

As part of the quality inspection, prior to shipping the products, each canister is subjected to the following:

- Canisters cans are submerged in a 130°F water-bath to check for leaks.
- Canister is sprayed to check function and pattern.

Note that all aerosols may experience seal and/or pressure deterioration over time or when exposed to extreme temperature changes. It is recommended that users follow these instructions:

- Extended exposure or storage of any aerosol canister at temperatures above 120°F may result in high internal pressures which could cause the cylinders to rupture or seals to leak.
- First Defense® OC aerosols (FOG, CONE and FOAM) will gradually lose pressure in colder temperatures due to the decrease in vapor pressure of Dymel 134A. These aerosols can be used in operational temperature range of the canister from 0–120°F.
- First Defense® OC aerosol (FOAM canisters) which utilize Dymel 134A should be shaken at the beginning of each shift.
- First Defense® OC aerosols (STREAM) which utilize Nitrogen will gradually lose pressure as the temperature gets colder. These aerosols can be used in operational temperature range of the canister from 0–120°F. Note, however, that the .7% and 1.3% MC STREAM formulations are more resilient to colder temperatures.
- Regularly inspect canisters for excessive damage, leaks, or odor.
- Shake Check – the pressure in Nitrogen-charged (i.e., STREAM) aerosol canisters can be checked by gently shaking the aerosol canister up and down. While shaking a pressurized aerosol, the moving liquid should feel like it is “more restrained” or “slower” as compared to an uncharged can (**i.e. a half-filled water bottle which has no substantial pressure**).
 - o Shaking will **not** definitively identify a low or partial charge, but can be an indication of reduced pressure.
 - o If you have any indication your can has reduced or no pressure you should spray a short burst to evaluate the steam for distance and pattern.
 - o Canisters with stream having a noticeable loss in pressure should be replaced.

The following is also recommended for OC canisters using the "360° system" which incorporate a barrier bag:

1. Always shake canister at the beginning of each shift in order to determine whether the mixture in the bag is intact. If the user feels movement inside the can, this may indicate that the bag has a leak or is broken. **Note, however, that canisters which have been partially used may leave enough room for the bag to move. So, this step may not necessarily mean that the bag has a leak or is broken.**
2. If you think you hear or feel movement, spray a short burst and observe the pattern. A "misty" pattern may indicate a broken bag. **(Replace unit immediately and contact Safariland).**