

BY TONY JONES

Zarc's VEXOR® Pepper Spray



Oleoresin Capsicum (OC) has been around since the 1970s and has proven to be a very effective tool in facilitating arrest, reducing injury to both officers and subjects, and lowering liability. New for 2003, Zarc International introduced an improved pepper spray called VEXOR®. The Vexor device incorporates a number of important unique features such as the actuator, spray pattern, active ingredient, solvent and propellant, flammability and holster adaptability.

Vexor's unique actuator, or firing mechanism, is a push-button type developed specifically for law enforcement application. It has a one-time breakable storage tab installed on the actuator that lets the user know that the product has never been fired and is new. To operate the

device the operator pushes in on the button located under the nozzle with the index finger and then pushes down on the top mounted button with the thumb. If more than one burst is required, the officer needs only to maintain pressure on the button located under the nozzle with the index finger, and again push down on the top mounted button with the thumb to propel the desired number of bursts.

The actuator's automatic self-locking mechanism is also a new design. As soon as the officer lets go of the button located under the nozzle, the system immediately locks. www.zarc.com

This provides two benefits: the system prevents accidental discharge when not in use; if the device accidentally falls out of the officer's hand and is collected by a subject, the locked device provides the officer with those few crucial extra moments to choose another appropriate level of force to take control of the situation.

For those who prefer manual option, the system also provides the user with an over-ride capability, which allows the officer to manually arm or disarm the locking mechanism. To engage the over-ride capability, the operator pushes inward on the button located under the nozzle and pushes a small plastic tab located on the back of the actuator into a small notch. To reactivate the self-locking mechanism the operator merely presses the front release again.

Zarc invented and patented a new spray pattern called Microspin™, which generates a "rifling" effect that launches the payload accurately in a tight, stream-like pattern. The Microspin pattern is approximately

one quarter inch thick. This pattern expands, forms an oval and covers the entire face of a subject with one shot.

Pepper sprays with low Capsaicinoids (0.18–0.22%) are not fast acting and often require time to take effect. Further, they do not produce consistent results because the small amount of Capsaicinoids is often not effective on many subjects. To counter this weakness, many officers are forced to flood or soak a subject with unreasonably high quantities of Capsaicinoids. This is a poor solution and may cause litigation focusing on failure to properly use an agent.

Vexor's new formula contains an appropriate measure of Capsaicinoids, intended to produce quick and consistent results. Zarc pharmaceutically removed the inactive oleoresin ingredients in its formula—necessary to the food industry but generating no benefits to the law enforcement community in controlling unruly subjects. Vexor is a Capsaicin product, and not Vanillyl Pelargonamide (VP) product.

Other pepper sprays use OC with a Scoville Heat Unit (SHU) rating ranging between one half to two million SHU. Vexor has a pure Capsaicinoids concentration of 1.45% and a rating of 15 million SHU. While this promises faster and more consistent results, the important aspects of recovery and decontamination time are similar to other pepper sprays.

Vexor's solvent/propellant mixture is a new and patented innovation. The solvent is made of cosmetic-grade esters and glycerol, and pressurized with CO₂— the same propellant used in the beverage industry. Vexor's solvent has

undergone extensive toxicological safety testing and has been found to be non-hazardous to skin, eyes and inhalation. Furthermore, the solvent has an operating temperature of -40°F (-40°C) to +150°F (65°C). This means the entire system can be used in the hottest desert as well as in the Arctic.

Additionally, the solvent used in Vexor experiences virtually no evaporation during its flight to the target, and therefore delivers the full Capsaicinoids dose to the subject's face. Vexor's formulation is non-flammable and, as previously indicated, completely safe to use with a flashpoint of 400F.

During the R&D period, Zarc purchased nearly every holster on the market. The goal was to find a solution that allowed Vexor to fit in as many holsters as possible. The result is a patented new adapter that allows Vexor to be used with most available holsters in the market today. In addition, the adapter controls the canister position during draw or insertion so an officer does not have to fumble to see which way the nozzle is facing. It also protects the canister from impact, since it is made of high impact copolymer plastic. Now all one has to do is place the adapter in the

current holster and insert the Vexor canister.

Vexor has a five-year shelf life and a Content Level Indicator, which tells the user how much product is left in the canister. Finally, each canister is serially numbered for identification, issuing and departmental tracking purposes.

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