
Report on the Compatibility of SABRE® Law Enforcement Defense Sprays with the M26 TASER® Electronic Immobilization Device

Completed May 4, 2003

By: Robert Nance, V.P. of Operations
Security Equipment Corporation
Proud Manufacturer's of SABRE® DEFENSE SPRAYS

1. Executive Summary

Security Equipment Corporation tested each model of its SABRE® Law Enforcement Defense Spray in order to determine its compatibility with the M26 TASER® Electronic Immobilization Device. The goal of the test was to determine flammability of the SABRE® Defense Spray when used in a worst-case scenario with the M26 TASER®. The tests were completed on May 2nd and 3rd at Security Equipment Corporation's testing facility. The results of the tests are published within this report.

Due to the increase of law enforcement agencies carrying the M26 TASER® and other electronic immobilization devices, Security Equipment Corporation found it necessary to fully evaluate the use of the SABRE® Law Enforcement Defense Sprays in conjunction with electronic shocking devices. SABRE® defense sprays have been tested for flammability according to 16 CFR 1500.45, the flame extension test. This test measures flammability by spraying an aerosol through a candle flame at a distance of 6 inches. An aerosol is considered flammable if the flame extends beyond the candle past 18 inches. If the flame has an extension of less than 18 inches, the aerosol is considered non-flammable.

SABRE® Law Enforcement Defense Sprays are manufactured in two series. The H2O series, a water based formulation and the DPS (Dual Propellant System) Series. According to the 16 CFR 1500.45 Flame Extension tests, all SABRE H2O Series products are non-flammable. The SABRE® DPS formulations are non-flammable in the stream delivery, but the cone delivery is flammable. The cone delivery system aerosolizes the formulation, making microscopic droplets that are more easily flammable when passed through a flame.

Other methods of flammability testing have been completed including spraying a burning rag with the SABRE® Defense Spray and using a high voltage stun gun on a t-shirt which has been saturated with the SABRE® Defense Spray. The results show that the SABRE® H2O Series extinguishes the burning rag and will not ignite the saturated t-shirt when shocked with a stun gun. The SABRE® DPS Series does not extinguish the burning rag, it will not ignite the saturated t-shirt when shocked with a stun gun.

The results from the M26 TASER® compatibility test show that the **SABRE® H2O Series Sprays are fully compatible with the M26 TASER®** Electronic Immobilization device. The SABRE® DPS Series are not compatible with the M26 TASER®. Use of the SABRE DPS Series with an electronic shocking device could result in injury. Therefore, **Security Equipment Corporation recommends that the SABRE® DPS Series not be used in conjunction with the M26 TASER® Electronic Shocking Device.** This policy is fully documented in the SABRE® Defense Spray Training Course and Manual and is mentioned in the SABRE® Defense Spray Law Enforcement Catalog.

2. M26 TASER® Compatibility Test Scenario

Security Equipment Corporation contacted Steve Tuttle, Director of Government & Law Enforcement Affairs for TASER® International. Mr. Tuttle identified the testing process required to most accurately determine the compatibility of M26 TASER® and the SABRE® Law Enforcement Defense Sprays. The purpose of the test was to identify the worst-case scenario when using a SABRE® Defense Spray and the M26 TASER® device. The worst-case scenario is defined in two separate cases.

Test Case 1

The first test case involves a subject being saturated with the SABRE® Defense Spray on the chest area. Saturation is defined as six to eight one second bursts in an MK3 or MK4 and one or two bursts in an MK9 riot control canister. The center of the t-shirt would be completely soaked in a 12 inch diameter. The M26 TASER® prongs would then be attached to the saturated area of the t-shirt one to two inches apart. This scenario represents the highest pulse in the shortest area, meaning the greatest amount of electricity or possibility for ignition in the smallest most saturated area.

Test Case 2

The second test case involves a subject saturated with the SABRE® Defense Spray on the chest area. The M26 TASER® prongs would then be attached to the saturated area of the t-shirt one to two inches apart. While the M26 TASER® is being deployed, the subject is also being sprayed continuously with the SABRE® Defense Spray on the M26 TASER® prongs until the unit is completely empty or the electronic pulses have subsided. This scenario represents the highest pulse in the shortest area, meaning the greatest amount of electricity or possibility for ignition in the smallest most saturated area while the aerosol is being applied directly to the M26 TASER® prongs. This scenario would be the worst-case scenario indicating the greatest possibility for ignition to occur.

3. M26 TASER® Compatibility Test Results

The tests were run on Friday, May 2 at Security Equipment Corporation's Testing Facility. The weather conditions were 68 degrees, overcast, with winds out of the northeast at 10 to 12 mph. There was a crosswind between the individuals firing both the SABRE® Defense Sprays and the M26 TASER®, and the target, in order to replicate less than ideal conditions.

As previously stated, SABRE® Defense Sprays are manufactured in two separate series. The H2O series is a water based formulation with a steam and foam delivery. The DPS Series is an alcohol based formulation with a stream, cone and fog delivery. The H2O Series was found completely compatible with the M26 TASER®. Each of the units tested failed to ignite the t-shirt in both test cases. The DPS Series was found to be compatible with the M26 TASER® in test case one. However, in the second test case, the SABRE® DPS Series formulation was ignited when continuously sprayed into the M26 TASER® pulse at a range of 3 to 5 feet. Therefore, Security Equipment Corporation recommends that SABRE DPS Defense Sprays not be used in conjunction with the M26 TASER. The specific SABRE® Units tested and their test results are as follows:

SABRE® H2O Series		
Model #	Description	TASER® Compatible
51H2O30	SABRE® DEFENSE H2O MK4 Stream	Compatible
52H2O30	SABRE® RED H2O MK4 Stream	Compatible
55H2O30	SABRE® 5.5 H2O MK4 Stream	Compatible
56H2O30	SABRE® 5.0 H2O MK4 Stream	Compatible
51H2O30-F	SABRE® DEFENSE H2O MK4 Foam	Compatible
52H2O30-F	SABRE® RED H2O MK4 Foam	Compatible
56H2O30-F	SABRE® 5.0 H2O MK4 Foam	Compatible
91H2O60	SABRE® DEFENSE H2O MK9 High Volume Streamer	Compatible
91H2O60-F	SABRE® DEFENSE H2O MK9 Foam	Compatible
92H2O60	SABRE® RED H2O MK9 High Volume Streamer	Compatible
92H2O60-F	SABRE® RED H2O MK9 Foam	Compatible
95H2O60	SABRE® 5.5 H2O MK9 High Volume Streamer	Compatible

SABRE® DPS Series		
510030	SABRE® DEFENSE DPS MK4 Stream	Non-Compatible
520030	SABRE® RED DPS MK4 Stream	Non-Compatible
530030	SABRE® DPS MK4 Stream	Non-Compatible
540030	SABRE® CS DPS MK4 Stream	Non-Compatible
550030	SABRE® 5.5 DPS MK4 Stream	Non-Compatible
560030	SABRE® 5.0 DPS MK4 Stream	Non-Compatible
510030-C	SABRE® DEFENSE DPS MK4 Cone	Non-Compatible
520030-C	SABRE® RED DPS MK4 Cone	Non-Compatible
530030-C	SABRE® DPS MK4 Cone	Non-Compatible
550030-C	SABRE® 5.5 DPS MK4 Cone	Non-Compatible
560030-C	SABRE® 5.0 DPS MK4 Cone	Non-Compatible
910060-C	SABRE® DEFENSE DPS MK9 Fogger	Non-Compatible
920060-C	SABRE® RED DPS MK9 Fogger	Non-Compatible
930060-C	SABRE® DPS MK9 Fogger	Non-Compatible
940060-C	SABRE® 5.5 DPS MK9 Fogger	Non-Compatible
950060-C	SABRE® 5.5 DPS MK9 Fogger	Non-Compatible

SABRE

SIMPLIFYING THE USE OF FORCE CONTINUUM.



SABRE = CAN TO CUFFS

- Level I, Level II & Level III available:
 - Level I - Quick Decontamination
 - Level II - Medium Incapacitation & Recovery
 - Level III - Maximum Incapacitation
- In-house HPLC Laboratory guarantees heat level of every canister:
 - Provides greater consistency & effectiveness
 - Reduces officer and subject injuries
- SABRE Mark III & Mark IV stream units fire from any angle including upside down.
- SABRE H2O formulations are compatible with electronic immobilization devices.
- SABRE DPS formulations provide increased firing time.

Security Equipment Corporation
330 Sun Valley Circle, Fenton, MO 63026
800-325-9568

www.sabre-sabred.com
info@sabre-sabred.com