

Per your request concerning pepper spray flammability, I have attached some good resources on this matter.



OCTest.wmv

The above videotape was a test conducted by Glendale Police Dept's Sgt. Hadle and is an excellent short video regarding flammability. Also, the Royal Canadian Mounted Police have conducted extensive testing as well.

This can also be found on the 8.0 CD called: M26/movies/Flammables.wmv and this shows gasoline, liquor, pepper sprays, etc. It's an excellent video



Flammables.wmv

In the meantime, here is a test that you can conduct just like Sgt. Hadley:

I'm not aware of any extensive testing of the multitudes of chemical sprays and the best thing to do is this:

1. Read the label (if the contents are not flammable, you still must find out about the carrier). Some brands specifically label their sprays "non-flammable" but they refer to the actual pepper or the chemicals that cause the inflammation but may still use a flammable carrier which leads us to the next issues. Vapors are more combustible and the concern is that if a carrier of the chemical agent is flammable, then the spark from the TASER could ignite the vapors of the carrier.

2. Obtain the MSDS from the manufacturer of the product in question. The MSDS is the Material Specification Data Sheet and must list the contents. It is here that the flammability issue may arise as the carrier is listed in this section.

3. Soak your department's various sprays on a rolled up paper grocery sack in safe confines or get a mannequin with a t-shirt placed on it. (I say various types of pepper and chemicals as some old cans of sprays are in use and sometimes SWAT teams use different sprays than patrol. These older cans and hardcore SWAT versions may differ from patrol's standard issue). Fire the TASER in to the sack or at the shirt and watch for ignition. If it doesn't flame up, certainly and safely attempt this in the stun mode. You can also do this safely in a concrete non-flammable area and certainly not against a wall with flammable objects -- in other words, do this in your conference room. Attach a TASER target up and then pin a T-shirt over the target and soak the shirt with your sprays and test the flammability.

4. You can also fire the M26 at a good target and immediately turn the unit off. Reuse the same probes and wire and place the probes end to end about 3/4 of an inch apart to create a spark gap. Place this on the shirt and fire the M26. The fire the tested spray at the spark gap (again in a safe confines -- concrete area with fire personnel present).

4. Document this by video tape and write a memo for the record of the types of sprays used.

Also, this is from our Lesson Plan:

- **Slide 124 What ADVANCED TASER Might do**
 - Could ignite gas fumes, methamphetamine labs, or other flammable or combustible environments
- **Slide 125 What ADVANCED TASER Won't Do**
 - **Tests did not ignite blasting caps and Kinepak explosives.** (C-4 Insensitive to impact and friction. Requires an explosion or primer)
 - Does not damage nervous tissue
 - Does not cause serious burns

- No reports of a TASER causing death
- Electrical output not harmful to fetuses (but the fall could harm mother)
- Does not cause urination or defecation

INSTRUCTOR'S NOTE: *Water does not affect the output of the TASERs or cause electrocution. The amount of energy out of the weapon is determined inside the weapon, regardless of target conditions. The batteries of the M26 are already operating at full output capacity. If the target is wet, there is no increase in power output as the M26 is already at maximum power. The president of TASER Int'l was shot with the AIR TASER while standing in a pool of water to prove this effect. The weapon is safe to use in light rain or wet conditions as long as the ADVANCED TASER or the front of the Air Cartridge is not drenched in water and the dataport plug is in place.*

INSTRUCTOR'S NOTE: *As for the splash resistance, one of the weak points to the weapon is the dataport plug. If the rubber stopper is removed, liquid spills could get into the M26 while holstered. Also, note that there is a hole on the laser sight that water could get into. If the M26 is soaked, do not turn the M26 on -- let it air dry completely before turning it on. If dataport plug is lost, please contact TASER Int'l and get it replaced immediately (no charge).*

- **Slide 126 What to do following use**
 - Arrest team can touch and handcuff subject while M26 is active
 - Do not touch probes or wires
 - Do not step on wires
 - Shooter should anticipate a second or third application
 - Apprehend suspect as quickly as possible while the threat is disabled
 - Take photos of any injuries & place into evidence
 - Collect expended cartridge & place into evidence

8. Should the ADVANCED TASER be used on a person that has been exposed to flammable liquids?

We have encountered individuals in the past that have been in enclosures that have been saturated with gasoline and gasoline fumes. It is scientifically possible that the sparking action of the deployed ADVANCED TASER unit could ignite gasoline fumes and other flammable or combustible environments like meth labs. Therefore, the ADVANCED TASER will not be deployed in this circumstance.

9. Should the ADVANCED TASER be used on a person that has been exposed to pepper spray?

You must know whether your department uses pepper spray or chemical sprays that are alcohol based versus non-alcohol based. If the spray is alcohol based, then the ADVANCED TASER should not be used. If the spray is non-alcohol based, it is not a flammable substance. It is not combustible by electrical charges generated by the ADVANCED TASER unit. The ADVANCED TASER can be safely used in this application and maybe the next logical step in the use of force after chemical agents have failed. However, you must make sure the chemical agent used is not alcohol based. A good safety check is to deploy the spray against a paper grocery sack in a fire safe environment with fire extinguishers handy. Saturate the bag with the spray. Fire an Air Cartridge from a safe distance away and determine if the bag catches fire. Also, request the MSDS (Material Safety Data Sheet) from the manufacturer of the spray and check for alcohol or isopropyl alcohol as a carrier or ingredient to ensure non-flammability.

NOTE THE INFO BELOW CONCERNS FLAMMABILITY CONDUCTED BY Utah Dept Of Corrections, Scott Haskell. Phone: shaskell@utah.gov and email: shaskell@utah.gov

-----Original Message-----

From: Lee Lindsay [SMTP:llindsay@utah.gov]
Sent: Wednesday, December 18, 2002 9:40 AM
To: Bryan Taylor; Mike Ipsen; Mike Knowles; Robert Bingham; Randall Southwick
Cc: hans@taser.com; Dennis Hutchinson; Kevin Gray; Scott Haskell
Subject: OC/TASER Flammability Testing

This morning Scott Haskell and I conducted flammability/compatibility tests with the Department's M-26 Taser and different OC products. All tests were recorded on video tape.

Standard: The M-26, Taser was placed against an inmate issued white, pull-over shirt. A five second deployment of the Taser was used. The clothing was not ignited.

Test #1: Five second deployment with the M-26 Taser and Def-Tec OC. No flames

Test #2: Five second deployment with the M-26 Taser and Security Equipment, Saber Red "Water-Based" OC. No flames

Test #3: Five second deployment with the M-26 Taser and Security Equipment, Saber Red, "Oil-Based", dual propellant OC. The clothing immediately started on fire, producing approximately a six inch flame. The flame was easily visible and put out before damage occurred to the cloth.

Test #4 and #5: After a five minute wait the M-26 Taser was again deployed for five seconds at the areas saturated with Def-Tec and Security Equipment, Saber Red, "Water-Based" OC. No flames.

Test #6: Five second deployment on the M-26, Taser and Security Equipment, Saber Red, "Oil-Based" OC. The clothing caught fire, however the flames were not as visible. Holes were burnt into the cloth by the flames.

Test #7: After waiting ten minutes, the M-26, Taser was deployed at the area where the Security Equipment, Saber Red, "Oil-Based" product had been deployed. No flames or burnt clothing.

After this limited test it is the Training Academy, Firearms Unit, recommendation, the M-26, Taser NOT BE DEPLOYED against any person after an "OIL-BASED" chemical agent has been used. Further we recommend each SWAT unit test their CN/CS products for compatibility/flammability prior to dual use of the chemical agent and M-26 Taser.

In the UK, a synthetic pepper spray is used called PAVA. Regarding the flammability issue of PAVA, I went to our sources in the UK and both have intimate knowledge of this material. Former Northants Police Inspector Peter Boatman requested that anyone interested can contact him for further information at: boaty@dial.pipex.com. I have placed their responses to my inquiry regarding PAVA below:

-----Original Message-----

From: Peter Boatman [mailto:boaty@dial.pipex.com]
Sent: Thursday, January 23, 2003 2:29 PM
To: Steve Tuttle
Subject: Re: Questions

Hello Steve, in answer to your queries:

PAVA is definitely not flammable so the taser technology is no problem. I need to emphasise this because PSDB produced a report indicating it is flammable. Their research was flawed as they did not use PAVA for the test, but made their own concoction up. I had the flammability test done with PAVA at Northants Police HQ. All tests proved negative. I have a video of those tests.

The CS used by most British Forces is flammable though - highly - it has a lower flashpoint than petroleum.

Please tell the Major to feel free to contact me if he needs to.

Best regards,
Peter Boatman

Sincerely,
Steve Tuttle
Director of Government & Law Enforcement Affairs

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TASER International, Inc. (NASDAQ: TASR and TASRW) provides advanced less-lethal weapons for use in the law enforcement, private security, and personal defense markets. For more information on the ADVANCED TASER[®] and TASER Int'l, Inc., please visit our web site at www.TASER.com.

The ADVANCED TASER is used by over 2,250 law enforcement agencies worldwide and has reduced injuries to deputies at the Orange Co. FL Sheriff's Office by over 80%. Injuries to suspects have dropped dramatically at the Phoenix AZ Police Dept by 40%.