

REFLEX PROTECT[®] TACTICAL

White Paper on the Efficacy and Safety of Reflex Protect Presidia Gel[®] and Reflex Remove[®]

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This investigation into the safety and effectiveness of Reflex Protect's products for law enforcement, citizenry, and health care applications was completed through: review of company research, documents, and videos; interviews with Mr. Shawn Paul (Enterprise Director Physical Security, Safety & Emergency Management, Providence Health Care) and Reflex Protect leadership; extensive literature research on non-lethal deterrents, the origins and research of oleoresin capsicum (pepper spray), and the genesis of the company's products. The author has decades of personal experience with OC, is a board-certified physician in a large primary care clinic, and for this report experienced Presidia Gel and Reflex Remove himself.

Executive Summary

There has never been a target specific, fast acting, non-cross-contaminating, rapidly reversible, and otherwise simple, safe, and effective proximate controlling force product like Reflex Protect® Presidia Gel®. Its accompanying decontaminant Reflex Remove® is also novel, providing rapid reversal of symptoms elicited by Presidia Gel.



Although initially created to solve the problem of violence within medical environments, this solution meets the request from law enforcement for innovative, less-lethal options. Civil unrest in 2020 has created new demand from the White House, government officials, politicians, and the public at large for an effective, low use-of-force option. Reflex Protect offers a safe and effective option to these demands.

Presidia Gel has been deemed “hospital safe” through pilot programs starting in 2018. When deployed in accordance with established use-of-force parameters, there is considerable reason to believe that the Reflex Protect Tactical product suite in the hands of law enforcement will prove more effective at subject control yet safer and less likely to result in claims of excessive force than traditional less-lethal modalities.

Product Description

Reflex Protect Presidia Gel is a new, non-flammable CS formula that is fast-acting, sticky, and deployed in a tight stream. It does not cause side splatter or cross-contamination. This results in a high degree of accuracy with a non-atomizing stream that does not displace oxygen and can be used indoors or within vehicles. Its effects include immediate, severe discomfort and involuntary eye closure resulting in complete debilitation.



The 5.0 oz. “industry” size uses a double-safety Reflex™ spray head, patented by the company, to deploy a tight stream that can reach effectively up to 18 feet. The “pistol” grip is intuitive and thus improves accuracy and ease of use. The 1.9 oz. “duty belt” size uses a single-safety flip top spray head and thumb activator. It emits a tight stream of Presidia Gel effective up to 15 feet.

Reflex Remove (originally labeled as NCS Fast) decontamination solution neutralizes, cleans, and soothes the effects of Presidia Gel. It also proves effective on other spray formulations, including pepper spray. Relief to sprayed subjects can occur within seconds and return to near normal function can occur in minutes. The 8 oz. liquid solution comes in a squeeze bottle. It may be applied to clean cloth and dabbed on the face or surface to be cleaned. The 3.53 oz. aerosol option can be sprayed onto the face or surface to be cleaned.

Summary of Traditional Non-Lethal Modalities

OC

In 1960, two researchers from the University of Georgia created a spray using oleoresin capsicum (OC) from chili peppers as the main ingredient. It caused burning, excessive tearing, temporary blindness, gagging, copious mucous flow, and restricted breathing. Their formula was turned into a dog repellent in 1963 and purchased by the U.S. Postal Service. In 1977, a Florida businessman started Luckey Police Products selling an OC spray named Cap-Stun intended to be used on humans. It became mainstream in 1989 when the FBI approved its use for their agents. Police departments around the country followed suit. OC dominates the less-lethal spray field for use on humans.

CN and CS

CN (chloroacetophenone) tear gas was originally developed in 1918 at the end of WWI. Although not used during that war, it was subsequently utilized by the military and law enforcement. A decade later in 1928 a more potent and less toxic tear gas – CS (2-chlorobenzalmalononitrile) – was synthesized at Middlebury College and named after its creators, Ben Corson and Roger Stoughton. The British Army first used CS in the late 1950s, and the U.S. Army and Marines followed suit in the early 1960s, replacing CN. CS is solid at room temperature, but when dissolved in an organic solvent, becomes usable as an aerosol. It is most often dispersed as an aerosol with pyrotechnic mixtures (“tear gas” grenades and canisters). CS tear gas is used as a crowd control agent today.

In the early 1960s, Pittsburgh physicist Alan Lee Litman designed a hand-held aerosol can that deployed CN and called it “Chemical Mace”. Law enforcement found Mace effective for crowd control and it gave officers a non-lethal way to protect themselves. Sales to the public started in the 1980s. Eventually Mace® and other companies turned away from CN and toward organic pepper sprays as the best available option for the next generation of non-lethal sprays.

Other

Tasers and other electric control devices (ECD) such as stun guns represent a higher-level response option. In some jurisdictions the same conditions that support the use of a Taser support use of deadly force. Tasers require considerable training in their use and are for law enforcement only. They use electricity to cause loss of bodily control through shock. A completed electrical circuit is required to work effectively; both barbed wires must stay embedded in the subject’s skin. This contact can be lost or never achieved due to heavy clothing. An ongoing electrical current is needed to maintain effectiveness. Once the operator stops the electrical current the subject can once again continue violence. Repeated shocks may be required to ensure effectiveness.

With this modality there are direct risks to the subject through the embedded barbs. Repeated electrical shock from ECDs has also been associated with long-term injury or death of subjects. Indirect risks include harm from loss of balance, falling, and through involuntary movements.

Batons and other clubs are considered non-lethal measures but are highly likely to result in injury. Death has also been reported with their use. Like Tasers they constitute a higher level use of force response.

Risks from Traditional Sprays

OC Risks:

- Incapacitating effects in general are not immediate. This may result in the sprayed subject's ability to continue aggressive behavior.
- For uncertain reasons, OC has been shown to be completely ineffective against some people. The effect of drugs or alcohol may also greatly reduce perpetrator susceptibility.
By design, OC aerosolizes and therefore cross-contaminates. This risk occurs outdoors and is greatly enhanced indoors. All in the vicinity are affected including the subject, user, backup, other emergency responders, and bystanders. Many facilities, including medical offices, hospitals, and schools refuse to allow the use or carry of OC products (even for professional security guards) given the potential for cross-contamination and liability concerns there from.
- OC may cause profound respiratory symptoms. This may pose heightened risk for those with lung disease, including asthma.
- There is no antidote to oleo-capsaicin, therefore OC is not quickly neutralized. Decontamination of the subject, user, and any bystanders with copious amounts of cool water generally takes at least one hour. Facility and vehicle cleaning can take hours, resulting in reduction of law enforcement productivity, need for uniform change, and delay in returning to service.
- OC use in the field as well as in training usually means the end of an officer's day. It may result in a sick day the following day as OC is often reactivated in the shower and its effects can last from 24-36 hours if decontamination is less than totally effective.

CS Risks:

Presidia Gel is an entirely new CS formulation. It is not a gas, therefore inherently different from the "tear gas" products described in this report.

- Traditional tear gas tends to displace oxygen resulting in heightened risk and limited utility indoors.
- Traditional tear gas has similar decontamination concerns to OC as well as potential respiratory health hazards for people subjected to lengthy concentrations. (E.g., tear gas from canisters thrown into a bus from which the subjects could not escape was linked to potential long-term respiratory injury.)
- Tear gas canisters and grenades are high velocity projectiles that can cause direct bodily injury and death, and liability sequelae.

Notwithstanding the foregoing, long-term toxicology data of sprayed subjects outdoors or subjected to brief concentrations support the safety profile chemically of CS.

Presidia Gel®

The development story of Presidia Gel begins with inventor and former Army MP Steve Mangold, who patented the first pistol style spray head (aka Reflex™ trigger) in 2017. In June of that year at a meeting in Missoula, Mr. Mangold presented fellow Montanan and entrepreneur Joe Anderson with the possibility that his invention might also be an effective next-generation non-lethal alternative for home defense and animal deterrence.

Prior to launching his entrepreneurial career, Mr. Anderson had been an associate at San Francisco law firm Pettit & Martin that was the site of a mass shooting that resulted in the death of friends and colleagues. In total nine were killed and six injured. This experience provided a strong impetus for Mr. Anderson to help reduce the potential for workplace violence. Consequently, he realized the potential that Mr. Mangold's invention might yield for an improved non-lethal means of protection.

A meeting with Shawn Paul propelled Anderson to seek development of a new incapacitating chemical agent to combine with the novel Reflex™ trigger. Mr. Paul is now the Enterprise Director of Physical Security, Safety and Emergency Management Providence St Joseph's

Health Care, a retired police lieutenant, and US Army Lieutenant, but in September 2017 he was the Director of Security at Missoula's St. Patrick's Hospital tasked by corporate-level Providence with mitigating risk to employees and patients from the growing threat of violence in health care settings.

The healthcare industry has recently begun to address workplace violence through admonitions by OSHA and the Joint Commission. Paul had implemented a version of active shooter "Run/Hide/Fight" instruction in his hospitals, including the suggestion that caregivers keep wasp spray or similar improvised weapons at hand to use in self-defense if circumstances demand. Risk mitigation review of his plans were overwhelmingly positive except for the issuing of wasp spray. It was deemed to be a liability risk and minimally effective as a deterrent.

Mr. Paul recognized that the Reflex Protect spray head would be easy to train caregivers on with its intuitive and highly accurate use, but he explained that OC was useless in the sensitive healthcare environment due to the well-known risks outlined above. He informed Mr. Anderson that, although there was tremendous need for an active defense solution for healthcare workers and hospitals, an OC-based tool was not an option. The problem of cross-contamination had to be rectified.

The solution came from thinking outside the box with a trusted non-lethal self-defense chemical agent. CS is most frequently deployed as a tear gas effective for moving crowds but not incapacitating them. Reflex Protect wondered if CS produced in a non-aerosolizing gel form, especially if formulated to be particularly sticky, might solve the cross-contamination problems presented.

After a series of tests and improvements, the team hit upon a novel (and proprietary trade secret) CS formulation that not only resolved the cross-contamination issues that generally rendered OC useless indoors, but also drastically increased the speed of fully incapacitating effects on the targeted subject. **Presidia Gel is the result – a viscous liquid that is target specific, fast acting, and unlikely to affect innocents.** This met Mr. Paul's criteria for a "hospital safe" active defense solution and it has since been adopted by numerous Providence facilities.

Deployed through the patented Reflex spray head, Presidia Gel sprays a tight and accurately targetable stream up to 18 feet. The sticky liquid composition of the proprietary formulation results in little to no side splatter. Numerous repeated tests have shown that Presidia Gel targeting and striking a subject's face will not impact a person standing right next to the subject (see image below). The product does not aerosolize or displace oxygen.



Presidia Gel is not an airborne agent. Instructor spraying wall between unaffected officers in SWAT training course demonstrating lack of cross contamination.

Presidia Gel's active ingredient remains Chlorobenzalmalononitrile, the same CS molecule contained in tear gas and well-known through decades of study, yet it avoids the traditional CS risks described above. **It is a potent lachrymator, meaning it causes immediate, involuntary eye closure and copious tearing. Presidia Gel affects sensitive tissue and mucous membranes (e.g. eyes, nose, mouth) through direct contact. There is an immediate and intense sensation of pain. Time to debilitation is usually less than five seconds.** Its effects on skin apart from mucous tissue result in a merely moderate burning sensation.

Reflex Remove®

In addition to raising the problem of cross-contamination, Mr. Paul pointed out to Mr. Anderson that the ideal healthcare spray solution would also benefit from an effective decontaminant. Mr. Paul emphasized that healthcare workers are trained to do no harm and minimize suffering. Therefore, the failsafe ability to completely decontaminate any subject rapidly would ideally also be requisite.

Mr. Anderson turned to chemists with expertise in detergents and surfactants, including involvement in the development of OxiClean™ stain remover. After extensive testing the novel, patent-pending Reflex Remove decontaminant was formulated.

Dozens of demonstrations show that Reflex Remove results in relief beginning on contact. Within several seconds sprayed individuals experience a dramatic reduction in pain. Near normal function is restored within minutes. Residual mild eye irritation may persist for several hours. Reflex Remove decontaminates surfaces and equipment within 30 seconds. Reflex Remove also decontaminates all other OC sprays, gels, foggers, and tear gas. Due to the oil base of OC, decontamination time is slower as compared to Presidia Gel, but **Reflex Remove is nonetheless the fastest decontamination product for any chemical defense agent.**

Mr. Paul was witness to the initial demonstrations of what the company came to call the “Reflex Protect® Active Defense Solution”. He reported that never in his military or law enforcement career had he seen such a profoundly incapacitating defense product nor its subsequent rapid decontamination. He declared the initial tests a complete success and began the process of working with his superiors to carry out a pilot program that eventually resulted in the widespread adoption of Presidia Gel in the western Providence health system.

Guidelines for the Use of Presidia Gel®

All users of Reflex Protect products should act in accordance to the National Decision Model for Policing and use-of-force protocols to ensure its use is justified and reasonable. Operators should aim at the subject's face and continue spraying until the threat ceases.

5.0 oz. Industry Size

Dimensions: An approximately 1.5” diameter canister and 6” tall (including spray head and trigger). The canister should be held in an upright position. It can be held with either a one or two-handed grip with the nozzle facing the target. The trigger block that acts as the first safety is removed by firmly pressing the index finger against it, which will allow it to pop free. The second thumb safety at the back of the spread head is then pushed up and forward, which allows the trigger to be squeezed. This propels a gel stream up to 18 feet. Having personally deployed this canister, its function is intuitive and simple.

1.90 oz. Duty Belt Size

Dimensions: A 1.375” diameter canister that is 4.375” tall (including flip top spray head). The canister can be gripped with one hand and held in an upright position. The thumb (rather than the forefinger) should be placed under the flip-top safety cover, and then pressure on the actuator will fire the spray. The gel stream is effective up to 15 feet.

Considerations

Presidia Gel is a product deployed from a pressurized can. The product is most effective up to 15 feet for the 1.9 oz. and 18 feet for the 5.0 oz. The stream can be arched to reach slightly further. Product that has been incorrectly stored or that has reached its expiration might not perform as expected as the propellant can be adversely impacted, and alternative methods of control will need to be used.



Safety, Warnings & Considerations

- A Presidia Gel canister is for one-time use, and should be replaced after deployment.
- Presidia Gel is unlawful to take aboard aircraft.
- Do not attempt to use after expiration date, which is 4 years after the month of its manufacture.
- Contents are under pressure. Do not puncture or incinerate the can.
- Do not store below 32° F (0° C) or above 120° F (50° C).
- The use of Reflex Protect for any purpose other than self-defense is a crime.
- Not for use on animals.
- Keep out of reach of children.
- Do not ingest.

Training

Proficiency in the use of Presidia Gel is improved by routine practice. Inert training units are available for all sizes of Reflex Protect products. Reflex Protect offers training directly for institutional users (healthcare, schools, etc.) via its ReflexProtect.com website.

Law Enforcement Training and Certification

Training and certification on Reflex Protect Presidia Gel is available for law enforcement, corrections, and military personnel through Tactical Defense Training Inc. (TDT), the official training partner of Reflex Protect. Training information can be found on ReflexProtectTactical.com. TDT offers both instructor and user courses. The Chemical Agent Aerosol User course covers use, deployment, decontamination, and medical considerations. Chemical Agent Aerosol Instructor course covers the use of chemical agent aerosol units. Topics include: use of force considerations, types of chemical agent use, deployment, training guidelines, medical considerations, and decontamination procedures.

Guidelines for Use: Reflex Remove (aka NCS Fast)

Directions for use on face and body:

1. Directly wet impacted skin thoroughly with Reflex Remove, then gently blot with a clean cloth. (Do NOT rub or wipe skin or eyes, as this spreads irritants.) It is important not to reuse contaminated cloths.
2. Continue by soaking another clean, absorbent cloth and hold (do not rub) against affected area.
3. Repeatedly apply clean, freshly wetted cloths until recovered.

Directions for use as surface cleaner:

1. Apply Reflex Remove liberally to impacted area.
2. Wait at least 30 seconds for chemical process to break down contaminates, then blot or wipe dry.
3. Repeat as needed.

About the Author and Personal Experience With OC, Presidia Gel® and Reflex Remove®

I had the privilege of growing up in the mountains of Montana USA. Self-reliance and self-protection were tenants of my upbringing. This emphasis led to extensive training of firearms. An odd but welcomed addition came in the late 1980's in the form of a can of "bear spray". This was my first introduction into the world of oleoresin capsicum as a viable non-lethal defense option against that which is large, toothed, and clawed. I carried this modality, and in fact manufactured my own holsters for it, for years without incident. I possessed only the knowledge that it was lighter, safer, and theoretically more accurate with its shotgun-type blast than a firearm. On September 17, 1992, I came to understand its effectiveness.

I sprayed a charging grizzly bear in the mountains of Montana and he stopped just feet from me. To my knowledge, this was the first use of OC against a bear. During my frantic escape through thick brush, I discharged OC into my own face. The sequela from this lasted for days and left an indelible impression on me and the pain centers of my brain. In my partially blinded and panicked state I did not reconnoiter the deficiencies of this experience. At the time, I did not consider that if it had been cold, a gloved hand might not have quickly found the finger hole of the can's design. I did not think how a now exposed trigger system had led to my own collateral damage, nor did I think how nice a rapid decontamination spray might have felt. But I have since.

Medical Training and Workplace Environments

I completed a doctorate in chiropractic from Western States Chiropractic College in Portland, Oregon, then completed medical school at the University of Washington, graduating with a medical doctorate in 1996. My medical residency took place in Alaska where bear spray was near constantly on my belt.

I became board certified in Family Practice and for the next four years I practiced in remote and road-less bush Alaska. There I came to understand not just the chaos and uncertainty of being the sole physician in an emergency department, but also the fear of having basically no means of protection. I was subject to numerous threats from patients, usually involving intoxication or issues of pain that all were thankfully defused through verbal means.

In 2007 my young family and I moved back to Montana and I took a job at a large primary care practice in Whitefish, Montana. I obtained a board certification in Obesity Medicine. I am a full-time clinician focusing on wellness and disease prevention, and weight management. I continued to feel secure with an OC product in the Montana mountains, but never was I without the feeling of susceptibility while in my workplace.

This changed when I discovered Reflex Protect in 2018. Our facility had become the largest independent primary care clinic in Montana and I was compelled enough by what I read, demonstrations that I saw, and trainings that I attended to arm our entire facility with Presidia Gel. The Reflex Protect team helped identify strategic locations and made recommendations regarding placement customized to our facility. Our entire staff of approximately 90 employees went through a didactic and interactive training session and had the opportunity to practice by deploying inert cans at targets in early 2019 prior to its full implementation, which continues to this day.

Personal Experience with Presidia Gel® and Reflex Remove®

I felt it prudent to experience being sprayed with Presidia Gel, which occurred on October 2, 2020.

The immediate pain is beyond my ability to fully explain. It is a desperate and completely incapacitating pain. Presidia Gel's ability to render incapacitation extends way beyond that of OC. I was unable to talk through my pain but the only activity I could perform was kneeling on the grass and making hand gestures for the decontamination process to commence.

Within seconds of Reflex Remove application, I was feeling better. At the one-minute mark, I could function and see. Within several minutes, I returned to clinic and performed hours of administrative work. I had mild, intermittent eye burning and tearing for the remainder of the day, but the following day I was entirely normal.

The experience was very insightful. I now have the insight that I never, ever want to undergo that again. I understand firsthand how dramatically effective Presidia Gel is at promptly and completely rendering a relatively fit individual useless. Furthermore, the ability of Reflex Remove to provide quick comfort and recovery was equally impressive, and appreciated.

Advantages Presidia Gel® and Reflex Remove®

Through my research, demonstrations, and testing, numerous advantages of Reflex Protect Presidia Gel have become apparent:

- Non-atomizing and sticky. No side splatter occurs and risk of collateral damage is remote.
- Can be safely used indoors and close quarter environments (vehicle, cell).
- Unprecedented, fast-acting and consistently reliable debilitation.
- Much safer than Taser use.
- Naturally dissipates in 30 minutes. Will not aerosolize and enter HVAC systems.
- Odorless.
- Guaranteed 4-year shelf life.
- The Reflex technology spray head is ergonomic, intuitive and easy to use, enhancing accuracy.
- Deployed in a tight stream, which allows tracking of target.
- Prompt decontamination.
- Safe. Favorable long-term safety data on CS.

Recommendations

Reflex Protect addresses the longstanding limitations of traditional less-lethal options, such as pepper spray and tear gas, from a completely new perspective. The result is a superior defensive tool that is an innovative and novel solution.

Reflex Protect Presidia Gel offers a defense product with the unique combination of target specificity, high accuracy, rapid onset, complete incapacitation, non-aerosolizing and readily reversible. This collection of features has never before been available. Created for hospital and medical caregivers yet powerful enough for police use, Reflex Protect offers a best-in-class solution to less-lethal use of force for professionals and citizens.

It is my position that Presidia Gel and its decontaminant Reflex Remove provides a giant leap forward in offering the pinnacle of non-lethal defense and should be made readily available for use by law enforcement personnel, and within health care, academic, government facilities, workplaces, and homes.

Declaration of Interest Statement

No arrangement between the author and Reflex Protect exists and there is no conflict of interest of any kind present.

References:

1. C. Hilmas. Handbook of Toxicology of Chemical Warfare Agents 2nd Ed. 2015.
2. M. Balali-Mood et al. Encyclopedia of Toxicology 3rd Ed. 2014.
3. I. Greaves et al. Responding to Terrorism. 2010.
4. G.D. Dukes et al. Encyclopedia of Forensic and Legal Medicine 2nd Ed. 2016.
5. T. Wismer. Handbook of Toxicology of Chemical Warfare Agents 2nd. Ed. 2015.
6. D. Gattey. Clinical Ocular Toxicology. 2008.
7. R. Tidwell et al. Tear Gas and Pepper Spray Toxicity. National Institutes of Health. 2020.
8. W.A. Watson et al. Oleoresin capsicum (Cap-Stun) toxicity from aerosol exposure. The Annals of Pharmacotherapy. 1996.

Presidia Gel® Spray/Reflex Remove® Report of Medical Safety

The following report summarizes my findings, to the best of my knowledge and belief, on the medical safety of Presidia Gel and Reflex Remove. Contrasting information with oleoresin capsicum (OC) is also included.

- Bayne French MD, DC. Montana medical license MT11557

Description: Presidia Gel is a viscous liquid without noticeable odor. As reviewed, it is uniformly delivered in a tight stream. It is made of 2% Chlorobenzalmalononitrile (CS) and inert accelerants in nitrogen compressed gas.

Flammability: Presidia Gel is a non-flammable formula. It is safe to use with Electronic Restraint Devices (ERD), such as a Taser.

Oxygen Displacement: Presidia Gel does not displace oxygen. It can be used safely inside enclosed spaces.

OC pepper sprays or other forms of “tear gas” are aerosolized and thus displace oxygen when deployed. Normal measurement of atmospheric oxygen is 21%. A decrease to 17-19% can result in dizziness, disorientation, and loss of consciousness. The displacement of oxygen in connection with deployment of aerosolized pepper sprays or tear gas in an enclosed space therefore increases danger from asphyxiation, further enhanced in those suffering prior respiratory compromise (intoxication, drug use, asthma, emphysema, and other lung diseases).

Respiratory System: Presidia Gel has minimal inflammatory effects and very limited involvement of respiratory tissues. Unlike OC, it does not cause swelling of the throat, laryngeal tissues, bronchial lining, or the lungs. Presidia Gel is delivered as a non-aerosolized, non-atomizing liquid. The lack of airborne particulate limits cross-contamination risk and eliminates asphyxiation risk due to oxygen displacement because normal ambient oxygen percentile is not affected. This combination of features results in a markedly improved safety profile over aerosol OC and tear gas.

Head and Face: Presidia Gel does not cause damage to eyes, cornea, skin, mouth, tongue, respiratory tissues, or ears.

Long-Term Effects: There is no known toxicity associated with Presidia Gel. There have been no deaths associated with its use. There are no known long-lasting effects on human tissues. It is deemed safe to use on all individuals, even those with asthma and severe lung disease like emphysema.

Short-Term Effects: Presidia Gel has weak inflammatory effects. In the eyes, symptoms include superficial keratitis and conjunctivitis. On the skin, superficial irritation occurs but no blistering or ulceration. Allergic reaction is possible but very unusual. If ingested, gastrointestinal irritation may result, causing nausea and rarely vomiting.

2.8-10% of individuals sprayed with OC report symptoms severe enough to require medical attention, including: persistent dermatitis, dermal burns and blister formation, and severe respiratory compromise. OC is a potent activator of Substance P. This chemical results in vasodilation (dilation of blood vessels), which can result in low blood pressure and collapse. Cardiac (heart) excitability is inhibited which can result in bradycardia (slow heart rate), further increasing the risk of collapse necessitating medical intervention. It also results in bronchoconstriction (constriction of airways) resulting in profound coughing, gasping, choking, and shortness of breath. This effect is amplified in enclosed spaces and in those with lung disease. Bronchial/laryngospasm from OC exposure resulting in respiratory failure has occurred. Intubation, mechanical ventilation, pulmonary edema, and death have been reported. **The foregoing OC symptoms and outcomes have not been reported nor, in the opinion of the author, are biochemically possible with Presidia Gel.**

California Proposition 65: Presidia Gel does not contain any substance known in the state of California to cause cancer, developmental, and/or reproductive harm.

Reflex Remove (NCS Fast) Decontaminant Solution and Spray

Description: Reflex Remove is a clear, colorless liquid with a slight orange scent.

Ingredients: Surfactants, cleaning mixture, and water. Note: Author is informed that a patent application is pending for the otherwise trade secret formula, but the Lead Chemist represents and warrants the formula as novel yet benign as baby shampoo.

Long-Term Effects: None known.

Short-Term Effects: None known. Reflex Remove is considered safe for all individuals regardless of medical comorbidities. No observed serious reactions as a result of decontamination maintained.

Decontamination Effectiveness Re: Presidia Gel: The efficacy of Reflex Remove appears profound. There is noticeable improvement within several seconds of application and a dramatic improvement within 2 minutes when used as instructed. Use of a single (5 oz) liquid bottle or aerosol spray version of the product sufficed for individual decontamination in testing.

OC decontamination is historically problematic. There is no effective antidote. Symptomatic treatment via copious irrigation with water or saline, employment of soap and water, and removal of the sprayed individual from an enclosed space to fresh air is indicated. Such treatment requires the availability of a substantial water source and can require significant time, personnel, and attention. As such, decontamination may not even be feasible, resulting in excessive pain and suffering of the subject.

California Proposition 65: Reflex Remove does not contain any substance known in the state of California to cause cancer, developmental, and/or reproductive harm.