

UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
ALEXANDRIA DIVISION

FILED 10 17 2014

**FIRECLEAN LLC**  
21155 Whitfield Place  
Suite 103  
Potomac Falls, Virginia 20165

Plaintiff,

v.

**GEORGE FENNELL**  
Individually and in his corporate capacity  
3351 Industrial Boulevard  
Bethel Park, Pennsylvania 15102

and

**STEEL SHIELD TECHNOLOGIES, INC.**  
3351 Industrial Boulevard  
Bethel Park, Pennsylvania 15102

Defendants.

CLERK OF DISTRICT COURT  
ALEXANDRIA, VIRGINIA

CASE NO. 1:16cv293

JURY TRIAL DEMANDED TSE/JFA

**COMPLAINT**

Plaintiff FireClean LLC ("FireClean"), by counsel, files this Complaint against Defendants George Fennell individually and in his corporate capacity and Steel Shield Technologies, Inc. (collectively, "Defendants") and alleges as follows:

**PRELIMINARY STATEMENT**

In 2012, FireClean's founders developed a proprietary formulation that helps prevent and reduce the build-up of carbon residue on firearms. The patent-pending product is called FIREClean®. FIREClean® has been a success in testing and in sales, and FireClean's revenues have, until recently, increased by twenty to fifty percent annually since sales began in 2012.

Defendant George Fennell ("Fennell") is the President, Chief Technical Officer, and a shareholder of Co-Defendant Steel Shield Technologies, Inc. ("Steel Shield.") Steel Shield manufactures and sells, among other lubrication products, a product called Weapon Shield. On Steel Shield's website<sup>1</sup>, Weapon Shield is described as "the ultimate lubricant, cleaner and preservative [that] has been aggressively designed and formulated for the Shooting Sports Industry, Military and Law Enforcement."

Beginning in or about June 2015, the Defendants set out to damage their competitor FireClean and steal market share by spreading false rumors that FIREClean® is Crisco cooking oil. In the course of attempting to poison FireClean's customer base with false information, the Defendants made egregious false statements about FIREClean® and in doing so, misrepresented the nature, characteristics, and qualities of FIREClean®. Defendants have stated falsely that FIREClean® is Crisco oil (which has common soybean and canola oil varieties), Wesson Oil (common soybean oil), or Pam cooking spray (usually common canola oil with palm oil and coconut oil). They have stated, falsely, that FIREClean® will polymerize, i.e., "thicken, dry out, and form an organic polymer or 'plastic.'" They have stated that the use of FIREClean® "WILL COST SOMEONE THEIR LIFE SOMEDAY."

Defendants have also asserted, within these same statements, that Weapon Shield is a superior lubricant and protector of the life of a weapon. In fact, independent laboratory testing reveals that FIREClean® in fact has superior lubrication properties (i.e. a lower coefficient of friction), *and* superior wear protection (i.e. leaves a small wear scar.)

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<sup>1</sup> <http://www.steelshieldtech.com/products.htm>

Defendants, in the course of falsely representing FIREClean®'s nature, characteristics, and qualities in their commercial speech, have violated the Lanham Act's prohibition on false advertising, 15 U.S.C. § 1125(a)(1)(B), and have defamed FireClean.

Defendants have acted with malice, spite and ill will, with a fixation on irreparably harming FireClean. As a result of the Defendants' tortious conduct, FireClean has been substantially damaged, and will continue to suffer losses in the future, and likely permanently.

### **THE PARTIES**

1. Plaintiff FireClean is a Virginia Limited Liability Company. Each of FireClean's members is a natural person who resides in Virginia.
2. Defendant Fennell is, and was at all times relevant hereto, a citizen and resident of Pennsylvania. As previously stated, Fennell is the co-founder, President, Chief Technical Officer, and also shareholder, of Steel Shield Technologies, Inc., which manufactures Weapon Shield. Weapon Shield is a product that competes for customers with FIREClean®.
3. Defendant Steel Shield Technologies is incorporated in Pennsylvania and has its principal place of business at 3351 Industrial Boulevard, in Bethel Park, Pennsylvania.

### **JURISDICTION AND VENUE**

4. This Court has jurisdiction pursuant to 28 U.S.C. § 1332(a)(2) in that there is complete diversity of citizenship between Plaintiff and Defendants, and the amount in controversy exceeds \$75,000, exclusive of interest, attorneys' fees and costs.
5. This Court also has jurisdiction over this action pursuant to 28 U.S.C. § 1331 in that the case presents a question of federal statutory law, and it also has supplemental jurisdiction over the remaining claims in this action pursuant to 28 U.S.C. § 1367(a).

6. Personal jurisdiction over Defendant Fennell arises under Va. Code Ann. § 8.01-328.1 in that he caused tortious injury in Virginia, has engaged in a persistent course of conduct in Virginia, and has transacted business in Virginia. He has done so by actively managing Steel Shield, which has engaged in a persistent course of conduct in Virginia.

7. Fennell has personally promoted and marketed Steel Shield's products in Virginia.

8. Defendant Fennel also maintains a Facebook page that is viewable to the general public, and interactive in that it permits his "friends" to comment upon his postings, and to receive email updates in Virginia of new postings. Fennell replies and engages in discussion with some commenters.

9. Defendant Fennell intentionally and expressly directed his wrongful conduct, as described in this Complaint, at Plaintiff FireClean, knowing that FireClean is a Virginia company, and knowing that the effects of his tortious conduct would be felt by FireClean in Virginia.

10. Fennell's persistent false statements regarding FireClean and its product demonstrate his intent to aim his tortious statements into Virginia, and to a Virginia audience.

11. FireClean has received inquiries and comments from residents of Virginia regarding Fennell's tortious statements. Upon information and belief, there are regular readers of Fennell's Facebook page who reside in Virginia and who receive updates via email in Virginia.

12. Personal jurisdiction over Defendant Steel Shield arises under Va. Code Ann. § 8.01-328.1 in that it has caused tortious injury in Virginia, has engaged in a persistent course of conduct in Virginia, and has transacted business in Virginia.



13. Steel Shield markets its product in Virginia, and, on information and belief, has entered into contracts with Virginia customers, and has shipped its products to customers in Virginia.

14. On its own webpage, Steel Shield lists VA Arms in Manassas, Virginia, as a retailer of Weapon Shield: at: <http://www.weaponshield.com/dealerlist.htm>.

15. Another Virginia company, Leitner Wise, is an advertised retailer of Weapon Shield, as indicated at: <http://www.leitner-wise.com/collections/parts/products/weapon-shield>.

16. Steel Shield sells its products via online retailers, including Amazon.com and Brownells.com, which ship nationwide, including to Virginia.

17. Steel Shield maintains a Facebook page for its product, Weapon Shield that is interactive in that it permits any viewer or reader to leave comments, to which Steel Shield may reply. Readers may also receive email updates in Virginia of new postings.

18. Steel Shield also maintains a YouTube channel for its product, Weapon Shield that is interactive in that it permits any viewer or reader to leave comments, to which Steel Shield may reply.

19. Defendant Steel Shield intentionally and expressly directed its wrongful conduct, as described in this Complaint, at Plaintiff FireClean, knowing that FireClean is a Virginia company, and knowing that the effects of its tortious conduct would be felt by FireClean in Virginia.

20. Venue is proper in this Court pursuant to 28 U.S.C. § 1391(b)(3).

#### **FACTS RELATING TO ALL CAUSES OF ACTION**

21. In January 2012, Edward Sugg (“Ed Sugg”) and David Sugg (“Dave Sugg”) (collectively “Sugg Brothers”) developed a substance that improves reliability and performance

of firearms by reducing the adhesion of carbon residue that results from discharging a firearm. Such carbon residue or build-up is also known as "fouling." The product itself is specially formulated so that it will not "gum," or leave behind a solid residue from its use. The product also functions as a firearm lubricant.

22. A thin layer applied to the areas of a firearm that are subject to friction and fouling will form a thin protective layer against carbon and other fouling.

23. In May 2012, the Sugg Brothers began distributing and selling the product, which they gave the name FIREClean®. That same month, FireClean LLC was formed in Virginia.

24. As its patent application states, FIREClean® is a "[a] method of removing or preventing carbon fouling on a mechanical component of a device," consisting of a proprietary blend of at least three "natural, non-petroleum, non-synthetic oil[s] derived from a plant, vegetable or fruit or shrub or flower or tree nut, or any combination of natural, non-petroleum, non-synthetic oils derived from a plant, vegetable or fruit or shrub or flower or tree nut," where each oil has a smoke point above 200 degrees Fahrenheit, and the total volume of the at least three oils is at least 25% of the total volume of the oil composition. (Exhibit A at 1 & 5).

25. Also, FIREClean® contains at least one high-oleic oil, or highly monounsaturated fatty acid, which is preferred over significantly polyunsaturated fatty acids (found in most common vegetable oils), due to the performance, stability and non-drying, and non-gumming nature of high-oleic oils. The use of high-oleic oils also enhances the temperature range and storage stability of the substance. (Ex. A at 8.)

26. The patent application for the product that is FIREClean® has been publicly available since at least September of 2013.

27. FIREClean® is not made from a single type of oil.

28. FIREClean® is not Crisco Canola Oil nor is it otherwise common canola oil. In fact, during testing and development, FireClean determined that canola oil was one of the worst-performing oils for the prevention of fouling, as explained in its publicly available patent application.

29. FIREClean® is not Crisco Vegetable Oil (which is soybean oil), nor is it common soybean oil, nor equivalent to either product.

30. Wesson oil comes in four varieties: soybean oil, corn oil, canola oil, and a soybean and canola blend. PAM cooking spray comes in several varieties, including butter, canola oil, olive oil, or coconut oil.

31. FIREClean® is neither PAM cooking spray, nor Wesson oil, nor equivalent to any form of either product.

32. FIREClean® is not otherwise a re-labeled or re-packaged pre-existing consumer or retail product.

33. Polymerization is a chemical reaction in which two or more small, similar molecules are combined to make larger molecules. When a polyunsaturated or monounsaturated fatty acid polymerizes, it becomes more solid, and can become sticky, gummy, and eventually, solid.

34. FIREClean® is composed primarily of highly monounsaturated fatty acids. Its patent-pending ingredients are specifically designed to resist polymerization under the circumstances in which FIREClean® is intended to be used—i.e., when applied to a firearm.

35. FireClean is aware of no instances of its product polymerizing “in the bottle.” When stored as instructed, FIREClean® will not polymerize in the bottle for a minimum of four

years, which is the age of the oldest existing container of FIREClean®. FireClean believes that, when stored as instructed, its product will not polymerize for much longer than that.

36. When applied properly, FIREClean® will not impede normal function of a firearm. When applied properly, FIREClean® will not become “sticky,” “gummy,” or “gunky.”

37. FireClean has commissioned testing of its product by Petro-Lubricant Testing Laboratories (“Petro Lube”) in Lafayette, New Jersey, to analyze and compare FIREClean® to Crisco Vegetable Oil and Crisco Canola Oil. Petro Lube performed eight separate analyses, including FT-IR (Fourier Transform Infrared) spectroscopy, on each of the three oils, with the following results (Petro Lube documentation also attached as Exhibit B):

	<b>Iodine Value</b>	<b>Kinematic Viscosity at 40° C</b>	<b>Kinematic Viscosity at 100° C</b>	<b>Pour Point</b>	<b>Flash Point</b>	<b>Fire Point</b>	<b>Specific Gravity</b>
<b>Crisco Canola Oil</b>	113 cg/g	36.07 cSt	8.069 cSt	-21 ° C	324 ° C	356 ° C	.9200
<b>Crisco Vegetable Oil</b>	132 cg/g	30.92 cSt	7.521 cSt	-6 ° C	324 ° C	356 ° C	.9230
<b>FIREClean®</b>	93.8 cg/g	31.75 cSt	8.364 cSt	-15 ° C	325 ° C	357 ° C	.9163

38. An overlay of the FT-IR spectra of all three substances is also part of Exhibit B. The spectra demonstrate that these three substances do, in fact, have similar basic patterns, as is to be expected from oils with a triacylglyceride base, but the above-referenced tests also demonstrate that a spectrographic analysis *alone* is not sufficient to draw the conclusion, to a reasonable degree of scientific certainty, FIREClean® is Crisco.

39. The Petro Lube test results prove that FIREClean® is not Crisco Canola Oil or Crisco Vegetable Oil.

40. Fennell maintains a Facebook page that is publicly accessible on the internet at: <https://www.facebook.com/george.fennell>. The profile picture and cover picture display images of the Weapon Shield logo and an advertisement for Weapon Shield. (Image of cover of Fennell's Facebook page, attached as Exhibit C, is incorporated herein by reference in its entirety.)

41. Fennell uses his Facebook page to engage in commercial speech on behalf of Steel Shield. Indeed, he has stated on his Facebook page that "EVERYBODY knows I use Facebook to market and popularize my Weapon Shield and company." (August 10, 2015 Facebook post, attached as Exhibit D and incorporated herein by reference in its entirety.)

42. Weapon Shield also maintains a publicly-accessible Facebook page at: <https://www.facebook.com/weaponshield.clp>. The Weapon Shield page frequently re-posts or "shares" Fennell's posts. On information and belief, Fennell controls that Facebook page.

43. Weapon Shield also maintains a YouTube channel on which it posts videos promoting its product. On information and belief, Fennell controls that YouTube channel.

**COUNT I (False Advertising Pursuant to  
15 U.S.C. § 1125(a)(1)(B) of the Lanham Act)  
(Asserted against Fennell and Steel Shield)**

**A. The Demonstration Video.**

44. FireClean incorporates by references all facts alleged in the preceding paragraphs.

45. On June 10, 2015, Defendant Fennell posted a video to Weapon Shield's YouTube channel, which has approximately 611 subscribers. The Weapon Shield YouTube channel is controlled and operated by Co-Defendant Steel Shield. In the video, Fennell introduces himself as "George Fennell, Steel Shield Technology, Weapon Shield." The video is

publicly available at: <https://www.youtube.com/watch?v=abBKYE8IP7o> (the “Demonstration Video”), and is incorporated herein by reference in its entirety. At the beginning of the video, Fennell holds up a bottle of FIREClean® and says:

We’re interested in the lubricating value of this product on this machine, the Falex lubricant tester. . . But the one thing it does say on here too, it says, ‘use within one year of purchase.’ . . . **I’ve been doing this for years, and it looks like this is about the equivalent of Wesson Oil, maybe some Pam anti-stick stuff that you get too, you know uh, in the vegetable oil category for spraying on your frying pans. Not to put it down, but we are looking-we are trying to draw comparisons as to what the composition is related to its basic performance.** So it says ‘use within a year of purchase,’ that’s very interesting. Most vegetable methyl ethers [waving FireClean bottle] decay and become more or less polymerized due to free radical polymerization, like soybean oil, stuff like that. So, when you look at WeaponShield, WeaponShield has no shelf life, we have stuff here that since day one, is just like it was if we made it yesterday.

(Emphasis added.)

46. In fact, based on the printed text, the bottle of FIREClean® that appears in the video was at least two years old. The product, as is evident from the video, clearly had not decayed or polymerized.

47. Fennell then performs a test using a Falex lubricity tester, first using FIREClean® to lubricate a spinning metal wheel, and then pressing a metal bearing down on the wheel. Using a fish scale, Fennell states that the wheel tolerates 4 pounds of pressure before the wheel began to carve the bearing. He wipes the wheel off briefly with a rag, and then claims to apply Weapon Shield. He applies the same bearing (which has already been worn flat in one spot) to the wheel that is now greased with Weapon Shield, supposedly. Fennell states that the wheel tolerates 25 pounds of pressure with Weapon Shield. Fennell declares that the test demonstrates that WeaponShield is “better” than FIREClean®, stating:

Once again, Weapon Shield out-performs the product and I want to emphasize, this is a non-condemning test; this doesn’t say that Fireclean is BAD, but it sets a

standard. From that standard, anything you test is either going to be worse or better. So, as we can see, Fireclean, come in at between 3 and 4 pounds, on the same spot, wiping it off and just applying the Weapon Shield, it went down to 25 pounds. That IS the MO, the modus operandi, and the standard of Weapon Shield. Alright everybody, until next time, please visit us at [weaponshield.com](http://weaponshield.com), order from our distributors there. We have a list if you look in the right hand top of the page, it'll say "Order." You will see a multitude of distributors and dealers that we have.

48. Fennell's statement in the Demonstration Video that, "I've been doing this for years, and it looks like this is about the equivalent of Wesson Oil, maybe some Pam anti-stick stuff that you get too, you know uh, in the vegetable oil category for spraying on your frying pans," is literally false, or false by necessary implication. FIREClean® is not Wesson Oil, nor PAM anti-stick spray, nor equivalent thereto. In the alternative, Fennell's statement is misleading, and has actually deceived and/or tends to deceive a substantial segment of the audience.

49. The comments posted directly below the video on YouTube are evidence of actual deception (attached as Exhibit E). The comments include statements such as:

- Good job on exposing FIRECLEAN!
- 1:50 good call, good call [1:50 is the point in the video where Fennell calls FireClean Wesson Oil or PAM]
- [B]ut can you fry potatoes, chicken and fish with weaponshield? LOL
- You say you are tapering back on these videos, but I would hope you continue. This is my first encounter with your tests and it is a primary consideration in my potential purchase. If you can offer proof that your product is superior for wear, many will invest in your product.
- [E]njoy the video's, the comparisons and technical knowledge. You also need to do a cook off comparison.
- Very interesting stuff!
- \$14.95 for 2oz of vegetable oil lmfaol!
- Great evidence for the skeptics.....
- \$14.95 for 2 ounces of re-labeled Crisco is pretty damn expensive. No wonder the Fireclean guys have been so shady when asked what Fireclean is.
- WS disperses carbon better than FC, cleans easier than FC, and protects far better against corrosion than FC. 15 bucks for a vegetable

based oil? GTFOH. I've been on the same large bottle of WS for 3 years

- This product is amazing. Love it!
- George is the man and WS is the best. I've used everything on that bench including fire clean. WS smokes them all on rust prevention and lubrication. Their new solvent is great for more stubborn jobs.
- [F]ireclean it's a good product...but weapon s. it's way far better...gotta get me the tank version next

50. Steel Shield posted the Demonstration Video to Weapon Shield's Facebook page with the caption, "Self Explanatory!" (Exhibit F).

51. Fennell posted the Demonstration Video to his own Facebook page.

52. Fennell's conclusion that "Weapon Shield out-performs the product," that it "sets a standard" under which "anything you test is either going to be worse or better," and that FIREClean® scored a 3 or 4 while Weapon Shield scored a 25, is literally false because Fennell's test does not establish his claimed proposition.

53. Fennell's use of the Falex lubricity tester and a fish scale was not sufficiently reliable to permit one to conclude with reasonable certainty that Weapon Shield is "better" than, and "outperforms" FIREClean® in lubrication effectiveness. Alternatively, even if it were reliable, it would not establish that proposition, and/or his execution of the test was improper. Among other things:

- The Falex lubricity tester does not replicate the manner in which FIREClean® and Weapon Shield would act in a firearm.
- The Falex lubricity tester does not test for FIREClean®'s anti-fouling properties.
- The same metal bearing, already worn down by the FIREClean® test, was used for the Weapon Shield test.
- The duration of the testing of each of the substances was not appropriate.



- The Falex lubricity tester is known for providing false results, as revealed in an expose that can be found here:

<https://www.youtube.com/watch?v=q5WXbj5jbN8&sns=em>. In this demonstration, Head and Shoulders Shampoo produces better results on the Falex machine than Mobil 1 Motor Oil.

54. Fennell's conclusion that "Weapon Shield out-performs the product" (i.e. FIREClean®) in effectiveness as a lubricant is literally false.

55. In appropriate scientific laboratory testing, using Method ASTM D4172, FIREClean® had a lower coefficient of friction (than Weapon Shield). (See Petro-Lubricant Test Labs, Inc. ("Petro-Lube") Coefficient of Friction Testing, attached as Exhibit G.) The testing, performed by independent laboratory Petro-Lubricant Test Labs, Inc., revealed that Weapon Shield's coefficient of friction, with a grand average of .099 was 65% higher than FIREClean®'s, which had a grand average of .060. Both substances were tested for one hour, at 75 degrees Celsius, at 1200 RPM, with a 40 kilogram load. It is therefore false that WeaponShield performs better as a lubricant than FIREClean®.

56. Furthermore, on its website, Steel Shield represents that the product's flash point (the lowest point at which vapors of a fluid will ignite) to be 226 degrees Celsius. (Weapon Shield Information Sheet attached as Exhibit H). In fact, independent laboratory testing commissioned by FireClean shows Weapon Shield's flash point to be much lower than advertised, 159 degrees Celsius. (Weapon Shield Flash Point test attached as Exhibit I.) FIREClean®'s flash point is 325 degrees Celsius. (Ex. B.)

57. Moreover, independent laboratory testing also revealed that the "wear scar" generated by using Weapon Shield, of .74 mm, was larger than the wear scar of .67 mm

generated by using FIREClean®. (*Id.*) A summary of the independent laboratory testing on FIREClean® and Weapon Shield is as follows:

	<b>Advertised Flash Point</b>	<b>Actual Flash Point</b>	<b>Coefficient of Friction (D4172)</b>	<b>Wear Scar Diameter (D4172)</b>
<b>Weapon Shield</b>	226° C	159° C (318° F)	.099	.74 mm
<b>FIREClean®</b>	>225°C	325° C (617° F)	.060	.67 mm

58. Fennell's false statements are material and are likely to influence consumers' purchasing decisions. Fennell misrepresented characteristics of FIREClean® both in stating or implying that it was Wesson Oil or PAM Cooking Spray, and in using a test that was not sufficient to prove his proposition. Materiality is also demonstrated by the above-cited comments to the video. Moreover, discussions of Fennell's "lube test" can be found on numerous websites throughout the internet. Some of them are attached here as Exhibit J.

59. Steel Shield has caused its falsely advertised goods, Weapon Shield, to enter interstate commerce. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

60. In the Demonstration Video, Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield. On information and belief, the video was filmed in Steel Shield's offices, and the experiment was performed and recorded using Steel Shield's equipment. Steel Shield is vicariously liable for Fennell's false advertising.

61. Steel Shield is also independently liable for the false advertising described herein because it re-published the Demonstration Video on the Facebook page of Weapon Shield on June 10, 2015.

62. As a result of the Defendants' actions, FireClean has been materially damaged.

**B. The "It Will Cost Someone Their Life" Post**

63. Also on June 10, 2015, Fennell wrote on Facebook:

Here's the facts....all vegetable oils will "polymerize" through various chemical means naturally, usually involving a free radical or oxygen rich fatty acid polymerization. What this means is that these oils, over time (not long....look at **the FireClean label...says "Use within one year of purchase") will thicken, dry out and form an organic polymer or "plastic"** which is why the FBI experienced seizures after 6 months of storage with these oils. **They are NOT designed to be used as gun oils. . . .MY PROBLEM IS IT WILL COST SOMEONE THEIR LIFE SOMEDAY** when they go to use their stored weapon with this shit on it and it FAILS.

(Emphasis added.) (June 10, 2015 Facebook post attached as Exhibit K and incorporated herein by reference in its entirety) (the "It Will Cost Someone Their Life" Post.)

64. The "It Will Cost Someone Their Life" Post is literally false, or literally false by necessary implication that FIREClean®:

- (1) is composed of ingredients that are not safe or suitable for FIREClean®'s advertised purpose;
- (2) will cause weapon malfunction; and
- (3) is lethally dangerous and that someone will die while using it on a weapon.

65. These statements are false. When applied properly, FIREClean® will not impede normal function of a firearm. To the contrary, FIREClean® enhances firearm function by reducing carbon fouling and by its lubrication properties.

66. These statements have actually deceived, and/or have a tendency to deceive.

67. These statements are material and likely to influence consumers' purchasing decisions.

68. Fennell has caused his false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

69. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the "It Will Cost Someone Their Life" Post. Steel Shield is vicariously liable for Fennell's false advertising.

70. As a result of the "It Will Cost Someone Their Life" Post, Defendants have materially damaged FireClean.

**C. The "I Can See NO Difference" Post**

71. The next day, June 11, 2015, Fennell posted to his Facebook page a picture of a FIREClean® bottle next to a bottle of Crisco oil. Referring to FIREClean® and Crisco, he wrote:

I can see NO difference in basic composition and performance....if Weapon Shield products are not the VERY BEST products you have ever used and our claims are anything less than what we make, I will refund your purchase price as well as your shipping. NOTHING BEATS WEAPON SHIELD.....PERIOD!

In response to one comment to this post, Fennell replied:

Well Crisco/FC doesn't taste good at all. I accidentally got some on my finger touched my mouth and ewwww....

(June 11, 2015 Facebook posts attached as Exhibits L and incorporated herein by reference in their entirety.)

72. The "I Can See NO Difference" Post is literally false, or literally false by necessary implication that FIREClean® and Crisco are composed of the same ingredients and perform the same as gun lubricants. Is it literally false in its claim that Weapon Shield is

superior to FIREClean®. Fennell's subsequent comment of "Crisco/FC" is literally false or false by necessary implication that Crisco and FIREClean® are the same.

73. These statements have actually deceived, and/or have a tendency to deceive. One comment to the post was, "Unfortunately, your competitors are now going to make a test showdown vs. Weapon Shield."

74. These statements are material and likely to influence consumers' purchasing decisions.

75. Steel Shield has caused its falsely advertised goods, Weapon Shield, to enter interstate commerce. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

76. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the "I Can See NO Difference" Post. Steel Shield is vicariously liable for Fennell's false advertising.

77. As a result of the "I Can See No Difference" Post, Defendants have materially damaged FireClean.

#### **D. The "Polymerize IN THE BOTTLE" Post**

78. On July 6, 2015, Fennell posted a supposed user review of FIREClean® on his Facebook page, where the user claimed that FIREClean® made his gun feel "sticky." (Exhibit M.)

79. Fennell remarked that "This is called 'free radical polymerization' of vegetable oil. It will occur ON the gun, as well as IN THE BOTTLE after it sits for a year." (Ex. M at 2.)

80. These statements are literally false, or false by the necessary implication that even when stored and used properly, FIREClean will polymerize or become “sticky” in the bottle within a year, and will impede normal function of a firearm.

81. These statements are false.

82. When stored as instructed, FIREClean® will not polymerize in the bottle within a year.

83. When applied properly, FIREClean® will not impede normal function of a firearm. To the contrary, FIREClean® enhances firearm function by reducing carbon fouling and by its lubrication properties.

84. These statements are material and likely to influence consumers’ purchasing decisions.

85. Fennell has caused his false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

86. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the “Polymerize IN THE BOTTLE” Post. Steel Shield is vicariously liable for Fennell’s false advertising.

87. As a result of the “Polymerize IN THE BOTTLE” Post, Defendants have materially damaged FireClean.

#### **E. The “Crisco oil (FireClean)” Post**

88. On July 31, 2015, Fennell posted the following statement to Facebook:

I am constantly entertained (sarcasm) every time I see or hear someone tout the incredible virtues of “Froglube” or “FireClean.” . . . **Until you’ve had soybean oil (FrogLube) or Crisco oil (FireClean) on your gun long enough to experience the nightmares of free**

**radical polymerization, molding, increased coefficients on the metal-to-metal contacts, and a host of other nightmares which are encountered when using another oil or product with them** (which usually ends up in a complete gummy mess that will stop you're [sic] weapon from running) you'll "think" they are doing what the manufacturer says they're doing. Being in the industry and in specialty lubricants for nearly 30 years, I can HONESTLY say that vegetable oil lubricants are the absolute poorest examples of lubrication and wear prevention that exist, in their proposed state and usage. If it's to be used as a lubricant and its [sic] veggie oil, **you have little to no protection against high wear and shortened service life of your weapon.** . . . If Weapon shield, Weapon Shield solvent, or Weapon Shield Grease are not the very best products you have ever used, or do not live up to EVERY claim we make, I will immediately refund your purchase price. . . .

(Emphasis added.) (July 31, 2015 Facebook post attached as Exhibit N and incorporated herein by reference in its entirety.)

89. Fennell's statements are literally false, or literally false by necessary implication in that they:

- (1) Assert that FIREClean® is Crisco;
- (2) Assert that FIREClean® will cause polymerization, molding, increased coefficients of friction on metal-to-metal contacts and a "host of other nightmares";
- (3) Assert that FIREClean® is the "absolute poorest example[] of lubrication and wear prevention that exist.
- (4) Assert that FIREClean® provides "little to no protection against high wear" and shortens the service life of a weapon; and that
- (5) Assert that Weapon Shield will not cause polymerization, molding, increased coefficients of friction on metal-to-metal contacts and a "host of other nightmares;" is a better lubricant and wear prevention vehicle; offers better protection against wear and service life of a weapon.

90. As described above, FIREClean® actually has superior lubrication properties, because its tested coefficient of friction in appropriate scientific laboratory testing, using Method ASTM D4172, is lower than Weapon Shield's. (See Ex. G.) And, Weapon Shield's "wear scar" in the same laboratory testing was significantly larger than FIREClean®'s. (*Id.*)

91. FIREClean® is a better lubricant than Weapon Shield; FIREClean® has a superior coefficient of friction than Weapon Shield; FIREClean® offers better protection against wear and service life of a weapon than Weapon Shield.

92. Fennell's statements have actually deceived, and/or have a tendency to deceive.

93. These statements are material and likely to influence consumers' purchasing decisions.

94. Steel Shield has caused its falsely advertised goods, Weapon Shield, to enter interstate commerce. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

95. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the "FireClean (Crisco Oil)" Post. Steel Shield is vicariously liable for Fennell's false advertising.

96. As a result of the "FireClean (Crisco Oil)" Post, Defendants have materially damaged FireClean.

#### **F. The "Skillet 'n Egg" Post**

97. Fennell was not yet done. On August 1, he re-posted the picture of a bottle of FIREClean® and a bottle of Crisco sitting next to each other, and wrote:



Try the same with Weapon Shield....same deal, and we use REAL science, not skillet 'n egg veggie no-stick Crisco....

(August 1, 2015 Facebook post attached as Exhibit O and incorporated herein by reference in its entirety.)

98. Fennell's statement is literally false, or literally false by necessary implication that:

(1) FIREClean® is Crisco; and

(2) Weapon Shield is superior to FIREClean®.

99. These statements have actually deceived, and/or have a tendency to deceive.

100. These statements are material and likely to influence consumers' purchasing decisions.

101. Steel Shield has caused its falsely advertised goods, Weapon Shield, to enter interstate commerce. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

102. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the "Skillet 'n Egg" Post. Steel Shield is vicariously liable for Fennell's false advertising.

103. As a result of the "Skillet 'n Egg" Post, FireClean has been materially damaged.

#### **G. The "Worst Lubricants on the Market" Post**

104. Fennell continued, posting a picture of the side of a FIREClean® bottle:

Use within one year of purchase....that's because it is subject to free radical polymerization and WILL polymerize. (Key base word polymer). All veggie oils do this and are the worst lubricants on the market.

(August 1, 2015 Facebook post attached as Exhibit P and incorporated herein by reference in its entirety.)

105. Fennell's statement is literally false, or literally false by necessary implication that: 1. FIREClean® will, under any circumstance, polymerize in the bottle within a year, and will not function properly; and 2. FIREClean® is the worst product on the market.

106. As previously explained, FIREClean® will not polymerize after a year in the bottle when stored properly, and it is not the "worst lubricant on the market" for this reason.

107. These statements have actually deceived, and/or have a tendency to deceive.

108. These statements are material and likely to influence consumers' purchasing decisions.

109. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

110. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the "Worst Lubricants on the Market" Post. Steel Shield is vicariously liable for Fennell's false advertising.

111. As a result of the "Worst Lubricants on the Market" Post, Defendants have materially damaged FireClean.

#### **H. The "I Spectra-analyzed It" Post**

112. Later on August 1, 2015, Fennell wrote on Facebook:

I spectra-analyzed it to be certain of its identity (Vegetable oil), then I went and looked up the patent # (phony) they use...its [sic] for vegetable oil...why pay them \$13.99 for 2 ounces? Buy a big bottle of Crisco oil and save big time...or use something that will REALLY stop the wear and tear, protect it...Weapon Shield....It's your decision and the life and care of your guns...coming from a

lubrication engineer and small arms specialist my whole career. Oh yea....check out our YouTube "Weaponshield" channel...see the demo on FireClean.

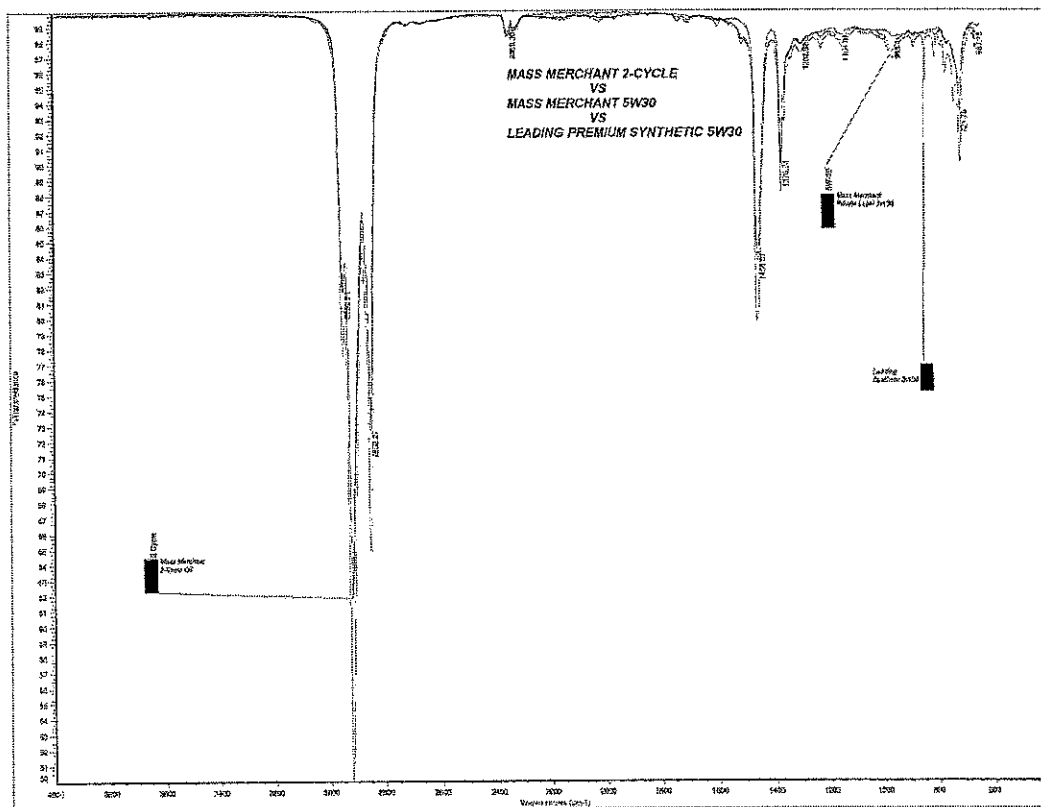
(August 1, 2015 Facebook post attached as Exhibit Q and incorporated herein by reference in its entirety.)

113. Fennell's statements are literally false, or literally false by necessary implication that FIREClean® is the same as Crisco.

114. Fennell's statement that he spectra-analyzed FireClean is, on information or belief false, as Fennell has refused to turn over his testing results on at least one occasion.

115. Even if Fennell did conduct a spectrographic analysis, this test is not sufficient to establish his claimed proposition with reasonable certainty.

116. For example, the below spectra illustrate why infrared spectroscopy is not scientifically suitable for comparing FIREClean® to Crisco. The spectra are of three different substances: the mass-merchant 2-cycle oil is oil used for mixing into fuel for power equipment such as chain saws and grass trimmers; the two different "5W30" oils are car engine oils, with one being conventional mass-merchant oil and the other, a fully-synthetic leading brand. The spectra are similar, as with the graphs comparing FIREClean® to Crisco. Yet, these three substances are distinct, with different uses.



117. Fennell’s statement that the patent number for FIREClean®’s patent application is “phony,” is literally false.

118. These statements are material and likely to influence consumers’ purchasing decisions.

119. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

120. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the “I Spectra-Analyzed It” Post.

121. Steel Shield is vicariously liable for Fennell’s false advertising.

122. As a result of the “I Spectra-Analyzed It” Post, Defendants have materially damaged FireClean.

**I. The “That’s the Truth” Post**

123. On October 7, 2015, Fennell took one more shot at FIREClean®, writing, in part:

And I will state for the record...I DONT [sic] BASH ANYONE. If I say FrogLube is soybean oil, that’s because it’s the truth, not bashing. Same with FireClean being Crisco vegetable oil. That’s the truth...not bashing.

(October 7, 2015 Facebook post attached as Exhibit R and incorporated herein by reference in its entirety.)

124. Fennell’s statement is literally false. FIREClean® is not Crisco.

125. This statement is material and likely to influence consumers’ purchasing decisions. Both Fennell and Steel Shield have caused their false statements to be disseminated in commerce, in the course of commercial advertising and/or promotion.

126. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he wrote the “That’s the Truth” Post. Steel Shield is vicariously liable for Fennell’s false advertising.

127. As a result of the “That’s the Truth” Post, Defendants have materially damaged FireClean.

**COUNT II (Defamation)  
(Asserted against Fennell and Steel Shield)**

128. FireClean incorporates the facts alleged in the preceding paragraphs by reference, and in particular, FireClean incorporates the facts alleged Count I above.

129. Fennell's statement in the Demonstration Video that, "I've been doing this for years, and it looks like this is about the equivalent of Wesson Oil, maybe some Pam anti-stick stuff that you get too, you know uh, in the vegetable oil category for spraying on your frying pans," falsely conveys that FIREClean® is Wesson Oil or Pam anti-stick spray. FIREClean® is not equivalent to either of these products. This suggestion is disparaging because it conveys that FIREClean® is no different from a supermarket food product, and implies that it is not fit for its intended and advertised use.

130. Steel Shield is directly liable for the Demonstration Video because it re-published the video on its Facebook Page, and because it operated the YouTube channel on which the video appeared.

131. The "It Will Cost Someone Their Life" Post falsely conveys that FIREClean® is composed of ingredients that are not safe or suitable for FIREClean®'s advertised purpose; that it will cause weapon malfunction; and that it is lethally dangerous and that someone will die while using it on a weapon.

132. The "I Can See No Difference" Post falsely conveys that FIREClean® is Crisco. FIREClean® is not Crisco.

133. The "Crisco oil (FireClean)" Post falsely conveys that FIREClean® is Crisco. FIREClean® is not Crisco.

134. The "Polymerize IN THE BOTTLE" Post falsely conveys that FIREClean® will invariably polymerize in the bottle within a year and impede normal functioning of a firearm.

135. When stored as directed, FIREClean® will not polymerize within a year.

136. When applied properly to a firearm, FIREClean® will not impede normal function of a firearm.

137. The “Skillet ‘n Egg” Post falsely conveys that FIREClean® is Crisco.  
FIREClean® is not Crisco.

138. The “I Spectra-analyzed It” Post falsely conveys that FIREClean® has been scientifically proven to be equivalent to vegetable oil and/or Crisco, and that FireClean has provided a false patent application number for FIREClean®. These statements are false and damaging to FireClean.

139. The “That’s the Truth” Post falsely conveys that FIREClean® is Crisco.  
FIREClean® is not Crisco.

140. Each of the statements that states, conveys or implies that FIREClean® is Crisco are disparaging because they imply that FIREClean® is no different from a supermarket food product, that it is not fit for its intended purpose, and that FIREClean® has misled its consumers about the nature of its product. Such suggestions are false and damaging to FireClean’s reputation.

141. Defendants knew that these statements were false when they made them, or they recklessly or negligently disregarded their falsity.

142. Each of the statements made by Fennell and Steel Shield impugn FireClean’s reputation, honesty, credit, efficiency, prestige or standing in its field of business, and therefore are also defamatory per se.

143. As a proximate result of Defendants’ tortious statements, FireClean has been damaged in its profits, revenues, reputation, and goodwill.

144. FireClean is entitled to compensatory damages, presumed damages, and punitive damages as a result of Defendants’ tortious acts.

145. Fennell was acting in the scope of his employment for Steel Shield, in his capacity as an officer and authorized agent of Steel Shield, and for the benefit of Steel Shield when he made these statements.

146. Accordingly, Steel Shield is vicariously liable for each of Fennell's defamatory statements.

WHEREFORE, Plaintiff respectfully requests that the Court enter judgment against Defendants George Fennell and Steel Shield Technologies, Inc., jointly and severally, as follows:

- (a) For equitable relief, including an order enjoining continued publication and dissemination by Defendant of the statements identified in the Complaint;
- (b) For compensatory damages, in an amount to be determined at trial or otherwise in this action;
- (c) For presumed damages, in an amount to be determined at trial or otherwise in this action;
- (d) With respect to Count I, for all damages recoverable under 15 U.S.C. § 1117, including but not limited to Defendants' profits, Plaintiff's damages, treble damages, costs, and reasonable attorneys' fees.
- (e) For punitive damages, as permitted under applicable law, in an amount to be determined at trial or otherwise in this action;
- (f) For attorneys' fees and costs, as otherwise provided by applicable law; and
- (g) For any further or other relief as this Court may deem just and proper.

#### **JURY DEMAND**

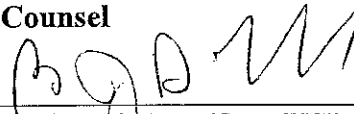
Plaintiff demands a trial by jury on all causes of action so triable.



**Dated: March 17, 2016**

**FIRECLEAN LLC**

**By Counsel**

A handwritten signature in black ink, appearing to read 'B J DiMuro', is written over a horizontal line.

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### Direct Impingement

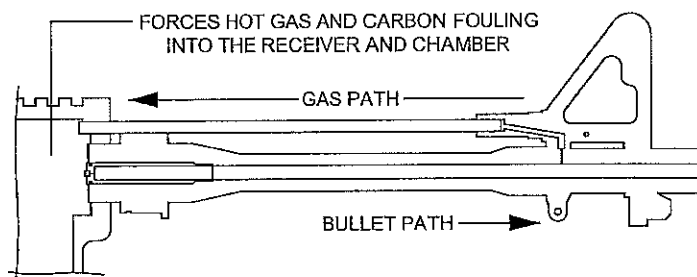
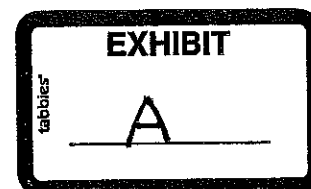


Fig.1



(57) Abstract: An oil composition including at least three vegetable oils, each vegetable oil being distinct from the other and each having a smoke point above 200F, wherein the combined volume of the at least three vegetable oils is at least about 25% of the total volume of the oil composition. A method of removing or preventing carbon fouling on a mechanical component of a device, comprising depositing a vegetable oil composition on the mechanical component of the device, wherein the vegetable oil composition comprises at least one vegetable oil having a smoke point above 200F, wherein the at least one vegetable oil is present in an amount of at least about 25% by volume of the total volume of the oil composition and wherein operation of the device deposits carbon on the mechanical component.

## VEGETABLE OILS, VEGETABLE OIL BLENDS, AND METHODS OF USE THEREOF

**[0001]** This application claims priority to U.S. Provisional Application No. 61/612,685, titled "VEGETABLE OILS, VEGETABLE OIL BLENDS, AND METHODS OF USE THEREOF," filed on March 19, 2012, the entirety of which is hereby incorporated by reference herein.

### BACKGROUND OF THE INVENTION

#### Field of the Invention

**[0002]** Aspects of the present invention relate to vegetable oils, vegetable oil blends, and various uses thereof. More particularly, aspects of the present invention relate to vegetable oils and their uses with mechanical components, for example, firearms.

#### Background

**[0003]** It is known in the related art to use cleaners or, less preferably, cleaner/lubricant/protectant (CLP) oils to remove carbon fouling from mechanical parts. In particular, in the area of firearm operation, such as AR-15 or M-16 firearms, when a round is fired, the combustion process deposits carbon within the firearm, as shown in Figure 1. The depositing of carbon leading to fouling is a well known problem in the art, an example of which is shown in the photostat Figure 2. Carbon fouling requires a time-consuming cleaning process that take up to three days for sufficient removal of carbon to allow proper operation of the firearm. When the carbon fouling becomes too great, the firearm will malfunction or cease operation

entirely, which is a critical problem in battle or defensive situations, for example, and a significant nuisance to civilian shooters.

**[0004]** Currently, various lubricant compositions are known for use on firearms to remove carbon fouling from the firearm. However, known compositions do not satisfactorily remove carbon, especially at temperatures above 160°F. Ambient temperatures in current combat zones can often reach 120°F. The sun can heat black metal objects another 40°F or more before the weapon is even fired. Tests have shown that critical moving parts of the weapon can reach 70°F above ambient temperature in even modest firing cadences, which are further magnified in battle conditions. Furthermore, some known compositions are synthetic and harmful when exposed to the human body. For example, several known lubricant compositions include: Mobil 1® 10W-30 sold by Mobil, SLIP2000™ Carbon Killer sold by SPS Marketing, FrogLube® sold by AUDEMOUS INC, Gunzilla® sold by TopDuck Products, LLC, Hoppe's Elite® Gun Cleaner sold by Bushnell Outdoor Products, and Break Free® sold by SAFARILAND. Each of these commercial compositions has significant flaws. For example, Mobil 1® 10W-30 synthetic is hydrocarbon based, creates a sludge when contacted with carbon fouling, and is not polar. SLIP2000™ Carbon Killer does not lubricate, strips metal of oils, and damages anodized aluminum and blued steel. Stripping oils from metals in a firearm can cause the firearm to seize. FrogLube® is only functional in a very narrow temperature range. It solidifies at 48°F, and smokes at 150°F. After smoking, it leaves behind a sticky gummy residue. Gunzilla® is harmful or fatal if swallowed, and is a very poor performing cleaner. Hoppe's Elite® does not act as a lubricant and removes oils and contains hazardous diethylene glycol monobutyl ether. Break Free® contains petroleum distillates. Petroleum distillate products contain harmful,

carcinogenic components and are treated as hazardous materials both in shipment and disposal.

[0005] U.S. Patent No. 6,534,454 is directed to a biodegradable vegetable oil composition comprising a triglyceride oil, an antioxidant, and other oils. The other oils may be synthetic ester base oil, polyalphaolefin, or unrefined, refined, or rerefined oils. The triglyceride oils are vegetable oils.

[0006] U.S. Patent No. 6,383,992 is directed to biodegradable vegetable oil compositions having at least one triglyceride oil, a pour point depressant, an antioxidant, and other oils. The triglyceride oils are vegetable oils.

[0007] U.S. Patent No. 6,919,302 is directed to the use of an oil composition for temporary treatment of metal surfaces.

[0008] There remains a need in the art for natural, safe, oil compositions and methods of using the compositions for avoiding and removing carbon fouling in mechanical components, and providing highly heat-resistant lubrication and a fouling resistant environment.

### **SUMMARY OF THE INVENTION**

[0009] Aspects of the present invention provide, among other things, vegetable oil compositions and methods of use thereof to avoid and reduce carbon fouling on mechanical components, lubricate mechanical components, and provide long-term carbon fouling protection.

[0010] In one example variation, a pure vegetable oil or blend of vegetable oils may be applied to a mechanical component of a device that is used in an environment where carbon fouling should be avoided or removed to improve performance, such as on various parts of firearms, bicycles, chain saws, and

engines. The oil compositions may also be used as a lubricant, such as in fishing equipment.

**[0011]** In another variation, a blend of vegetable oils includes at least three two distinct vegetable oils, each having a smoke point above 200°F.

**[0012]** In another variation the method of removing or preventing carbon or other contaminant fouling on a mechanical component of a device, comprises depositing a vegetable oil composition on the mechanical component of the device, wherein the vegetable oil composition comprises at least one vegetable oil having a smoke point above 200°F, wherein the at least one vegetable oil is present in an amount of at least about 25% by volume of the total volume of the oil composition ; and wherein operation of the device deposits carbon on the mechanical component.

**[0013]** In another variation, the vegetable oils may be applied to a mechanical component using various methods, such as depositing, heat treating, pressure treating, and immersing, or applying onto operating surfaces of the device and its subsequent operation.

**[0014]** In another variation, the oil composition, comprises at least three vegetable oils, each vegetable oil being distinct from the other and each having a smoke point above 200°F, wherein the combined volume of the at least three vegetable oils is at least about 25% of the total volume of the oil composition.

**[0015]** Additional advantages and novel features of various aspects of the present invention will be set forth in part in the description that follows, and in part will become more apparent to those skilled in the art upon examination of the following or upon learning by practice thereof.

### **BRIEF DESCRIPTION OF THE FIGURES**

**[0016]** In the drawings:

**[0017]** FIG. 1 shows a prior art firearm schematic showing where carbon deposits occur;

**[0018]** FIG. 2 shows a prior art firearm fouled with carbon;

**[0019]** FIG. 3 shows pictures of a fouled bowl before testing; and

**[0020]** FIGS. 4-12 show pictures of experimental results from foul removal testing, including in conjunction with use of products and methods in accordance with aspects of the present invention.

### **DETAILED DESCRIPTION**

**[0021]** Aspects of the present invention include a method of removing or preventing carbon fouling on a mechanical component of a device by depositing a vegetable oil composition on the mechanical component. Aspects of the present invention also include components and makeup of various vegetable oil compositions. As used herein, the term "about" means  $\pm 10\%$ , more preferably  $\pm 5\%$ , still more preferably  $\pm 1\%$  of the given value.

**[0022]** Vegetable oils, as used herein, means any single natural, non-petroleum, non-synthetic oil derived from a plant, vegetable or fruit or shrub or flower or tree nut, or any combination of natural, non-petroleum, non-synthetic oils derived from a plant, vegetable or fruit or shrub or tree nut. In an aspect of the present invention it has been surprisingly found that pure vegetable oils and various vegetable oil blends are superior to commercially available products in removing or avoiding carbon fouling on mechanical components. In addition, the vegetable oils act as a lubricant. Example methods include the application to a mechanical

component that is part of device where operation of the device results in carbon being deposited on the mechanical component, including devices that are used in an environment where carbon fouling should be avoided or removed to improve performance. For example, the vegetable oils and blends may be applied to portions of firearms, bicycles (for example mountain bikes), and engines. The vegetable oils may also be used as a lubricant, for example in fishing equipment.

**[0023]** In an aspect of the present invention, the vegetable oils may be used to form a carbon resistant film by applying the oils to mechanical components, and allowing the oil to oxidize, such as by exposing the oil to heat, air, or UV light, which forms a hard dry film. This resulting dry film or wet oil layer is resistant to carbon and other fouling. In addition, in some variations, the film or wet oil layer may enhance lubrication and/or other properties. The mechanical component is preferably a component of a device that, when the device is operated, carbon is deposited on the mechanical component. This method is discussed in more detail below. Once applied to a mechanical component, the oil composition has proven to be highly resistant to water and resistant to soap sand other cleaning agents, as compared to known petroleum based or synthetic oils tend to wash off when exposed to water spray or rain.

**[0024]** The oil compositions may be applied to carbon steel parts, including bare steel, phosphate coated steel, chrome coated steel, ceramic coated steel, and the like, stainless steel parts, titanium parts, aluminum parts, including anodized or other coated aluminum, and nickel alloys. When used in a firearm, the parts of the firearm that may be coated include the parts that are subject to fouling as the result of gunpowder combustion, or having reciprocating or frictional contact surfaces. For example, such parts may include fire control group parts, including



triggers, hammers, disconnectors, and trigger pins, firing pins, chambers, bolts, bolt faces, bolt carriers, breach faces, camming pins, pistons, operating/piston rods, gas tubes, barrels, slides and retention rails on pistols, upper and lower receivers, charging handles, feed trays, and magazine followers. When used on a bicycle, the oil compositions may be applied to bicycle chains and gears, such as derailleur gears, for example, and on control mechanisms such as shift and brake cables. . When used in an engine, the oil compositions may be applied to any of the moving parts of the engine including valves, pistons, and ball bearings, for example. When used in fishing equipment, the oil compositions may be applied to reels and gears, for example.

**[0025]** A single vegetable oil or vegetable oil blend that is suitable for the above uses includes any single oil or blend that sufficiently reduces carbon or other contaminant fouling or avoids carbon or other contaminant build up. In an aspect of the present invention, the composition that may be used in the above manner may include at least about 25% vegetable oil, more preferably at least about 50% vegetable oil, still more preferably at least about 75%, and most preferably about 100% or 100% vegetable oil, by volume. Preferably, for some applications, the vegetable oil should have a smoke point higher than 200 °F, more preferably above 300°F, and yet more preferably more 400°F, in order to maintain the oil integrity even at very high operating temperatures, which often occurs in firearms. Additionally, oils that have a high smoke point are desirable due to their inherent heat resistance. Highly refined vegetable oils are also useful for some applications. It has been found that the mixture of constituent oils disclosed herein provides a synergistic effect in which the combination of oils (the oil composition) has and higher smoke point than any of the individual oils by themselves.

**[0026]** Higher refined vegetable oils are purer as compared to unrefined vegetable oils. In another aspect of the present invention, at least one of or all of the vegetable oils may be high oleic. High oleic oils have a high degree of oleic acid, for example approximately 80% by weight oleic acid or greater, preferably 86% or greater, more preferably 90% or greater, and even more preferably 95% or greater. By using high oleic acid oils that have a high monounsaturated to polyunsaturated fat ratio, oxidation can be reduced. It has been found that the oxidation of the vegetable oils in accordance with aspects of the instant invention yields a hard, lubricious or slick surface that is resistant to carbon fouling, which is discussed below. Generally, the desired ratio of monounsaturated to polyunsaturated fats in accordance with aspects of the present invention is at least about 3:1, and for some applications, preferably greater than 3:1. At least one or all of the oils in the oil composition may be high oleic. Reducing the polyunsaturated fats also enhances the temperature range (pour point to smoke point range) as well as the storage stability.

**[0027]** In accordance with aspects of the present invention, some variations of vegetable oil also reduce waxes and other contaminants, which ensures improved characteristics at low temperatures and also reduces gumming of oil in the firearm or other mechanical devices. Improved characteristics include improved oxidative stability and lower pour point. Accordingly, for some variations of the present invention, the oil composition may remain in liquid form at temperatures as low as about -35°F and as high as about 500°F. The oil compositions may have a pour point of about -40°F to about 25°F, a cloud point of about 5°F to about 70°F, and flash point of at least 450°F, more preferably at least 500°F, still more preferably

at least 550°F. In an aspect of the present invention, the vegetable oil compositions may include one or more of the above properties.

**[0028]** Also, vegetable oils have a polar nature, which is not a characteristic found in petroleum-based products. The polarity ensures that the oil attracts strongly and penetrates deeply into the host metal and adheres better than non-polar oils, a feature that is highly desirable in a mechanical device that is blasted by gases, carbon, high heat, and extreme gravitational forces. The reciprocating bolt carrier on an M-16, for example, accelerates from 0 to over 40 miles per hour in only 20 milliseconds, in a distance of approximately one inch. This feature of oils in accordance with aspects of the present invention keeps the gun running long after a conventional lubricant has burned off and allowed carbon overload to occur. Because known petroleum-based products do not have this quality, the products do not have the attraction and penetration of the oil compositions.

**[0029]** It has been surprisingly found that any single oil or a combination of oils selected from the following group are suitable for the above uses: almond (smoke point 430°F), avocado (smoke point 520°F), canola (smoke point 450°F or higher), corn (smoke point 450°F), cottonseed (smoke point 420°F), flax seed (smoke point 250°F), hazelnut (smoke point 430°F), hemp seed (smoke point 330°F), grapeseed (smoke point 485°F), jojoba (smoke point 570 F), macadamia nut (smoke point 389°F), olive (smoke point 460°F), peanut (smoke point 450°F), rapeseed (smoke point 438°F), rice bran (smoke point 490°F), safflower (smoke point 490-510°F), sesame (smoke point 350°F), soybean (smoke point 495°F or higher), sunflower (smoke point 450°F or higher), and walnut (smoke point 400°F). Any one of these oils or combination thereof has been found to improve carbon fouling and carbon and other contaminant resistance without the problematic side

effects discussed above, as compared to existing products on the market. As discussed above, high oleic versions of these oils are preferable, for some applications. To demonstrate the unexpected benefit of using the above oils to reduce or prevent carbon fouling, various oils and market products have been tested according to the following procedures. A 6" porcelain bowl is fouled with an oxy-acetylene torch, with a rich flame to maximize carbon deposits. The flame is applied for 35 seconds (+/- 5 seconds) at a distance of 4 inches (+/- 2 inches) from the bowl to apply sufficient heat without overheating the bowl. This process heats the bowl to approximately 150-250 °F without cracking the bowl. The bowl is allowed to sit at room temperature 70°F (+/- 5 °F). Then, 5 ml (+/- .5ml) of a sample is applied to the fouled bowl. The fouled bowl containing the sample sits for 5 minutes. Next, the fouled bowl containing the sample is scrubbed by hand, using both sides of a 100% cotton round patch (2.20" circular, .200" thick- +/- 10%) until the patch is fully soiled and unable to absorb any more carbon fouling. Remaining residue in the bowl is further scrubbed with a 100% cotton flannel patch (3.10" square, .020" thick- +/-10%) until fully soiled and unable to absorb any more carbon fouling. The bowl is rated on scale of 1 to 5, where 1 represents the most fouled, least effective and 5 represents the least fouled, most effective. Figure 3 is a photostat of an example bowl that has been fouled prior to application of an example composition to simulate the U.S. Army's firing residue removal test. The above tests measure the ability of the oil composition to remove carbon. Carbon overload is a central reason that firearms run sluggishly (improperly) or cease operating entirely (lock up). Figures 4-6 are photos of the resulting bowls after application of vegetable oils in accordance with the present invention, illustrating the degree of fouling. Figures 7-12 are photos of

the resulting bowls after application of various existing market compositions, illustrating the degree of fouling.

**[0030]** The results of the testing is organized in the following table:

TABLE 1 – Fouling Test

Oil Comp (by volume)	Rating 1-5 (1= least effective, 5= most effective)	Corresponding Figure
Example 1 – 100% Soybean	2.75 (average of two samples)	Figure 4
Example 2- 100% Canola	1.5	Figure 5
Example 3 – 80% Canola, 20% Soybean	3.5	Figure 6
Comparative Example 4 – Mobil 1 10W-30	3.0	Figures 7
Comparative Example 5 – FrogLube	1.5	Figure 8
Comparative Example 6 – SLIP2000 Carbon Killer	4.5	Figure 9
Comparative Example 7 – Hoppe's Elite	4.0	Figure 10
Comparative Example 8 – Gunzilla	1.0	Figure 11
Comparative Example 9 – Break Free	2.0	Figure 12
Example 10 –	2.5	No Figure

100% Rice Bran		
Example 11 – 100% Walnut	3.5	No Figure
Example 12 – 100% Sesame	3.0	No Figure
Example 13 – 50% Rice Bran, 50% Soybean	4.0	No Figure
Example 14 – 33.3% Rice Bran, 33.3% Walnut, 33.3%	Between 4.0 and 4.5	No Figure

**[0031]** Table 1 demonstrates that pure vegetable oil compositions and blended vegetable oil compositions satisfactorily remove carbon fouling, without exhibiting the problems of the market lubricants. Notably, the natural vegetable oils in accordance with aspects of the invention were found to remove fouling without stripping oils from metal and can be used at a wide range of temperatures. Furthermore, it was found that a blend of vegetable oil (soybean and canola) was superior to a single oil. It should be noted that while pure vegetable oils are primarily discussed herein, it is within the scope of the invention that other components may be present (such as synthetic oils or additives) in amounts that do not substantially interfere with the above described properties. Thus, in an aspect of the present invention, the oil composition consists essentially of vegetable oils. In another aspect of the invention, the oil composition consists of vegetable oils.

**[0032]** Aspects of the present invention further include vegetable-based oil compositions. The vegetable oil composition may include a first vegetable oil having a smoke point above 200°F, a second vegetable oil, distinct from the first vegetable oil, having a smoke point above 200°F, and a third vegetable oil, distinct from the first and second vegetable oils, having a smoke point above 200°F. For example, each of the first, second, and third vegetable oils may have a smoke point of about 300°F, or yet more preferably for some applications, each may have a smoke point of about 400°F. In an aspect of the invention, each oil in the blend may include one or more of the properties discussed above. Each of the first, second, and third vegetable oils may be selected from the group consisting of: sesame oil, canola oil, sunflower oil, soybean oil, peanut oil, olive oil, corn oil, grapeseed oil, jojoba oil, cotton seed oil, almond oil, safflower oil, walnut oil, avocado oil, rice bran oil, and flaxseed oil. The composition may include, by volume, about 1% to about 80% of each of the first, second, and third vegetable oils, more preferably for some applications about 5% to about 60% of each vegetable oil, and most preferably for some applications about 7% to about 30% of each vegetable oil. The composition may further include any number of additional vegetable oils distinct from the first, second, and third vegetable oils, each being selected from the above list and being present in the above ranges. For example, the composition may include fourth, fifth, sixth, etc., vegetable oils.

**[0033]** As used herein, the term "distinct" means not the same as another vegetable oil and/or derived from a different plant, vegetable, fruit, shrub, flower, or tree nut. For example, canola oil is distinct from soybean oil.

**[0034]** In aspect of the present invention, the combined volume of the vegetable oils is at least about 25% of the total volume of the oil composition, more

preferably at least about 50% of the total volume of the oil composition, still more preferably at least about 75% of the total volume of the oil composition, and most preferably about 100% or 100% the total volume of the oil composition.

**[0035]** In an aspect of the present invention, the composition may include, by volume, about 1% to about 80%, and more preferably for some applications about 5% to about 60% of each vegetable oil, and most preferably for some applications about 7% to about 30% of each of these vegetable oils. The composition may consist only of these oils. As noted above, the composition may include other components such as synthetic oils and other additives that don't substantially interfere with the above-described properties of the overall composition. As indicated by Table 1, it has been unexpectedly found that that certain combinations of vegetable oils are superior to both individual oils and commercial products in avoiding and removing carbon fouling from mechanical components without the problems associated with market compositions.

**[0036]** As shown in Table 1, it was surprisingly found that blends of vegetable oils are superior at removing carbon fouling than a single vegetable oil. See example 3, as compared to examples 1 and 2. Additionally, it was surprisingly found that a blend of vegetable oils sufficiently removes carbon fouling, without having the problems of the commercial products. See example 3, as compared to examples 4-9.

**[0037]** Any of the above-described oils may be applied to a mechanical component using the following methods. The composition may be deposited onto a surface. This deposition may be performed via brushing, dropping, spraying, or any other suitable delivery method such as applying with a paper towel or single pack moistened towelette, and spreading the applied oil evenly on the surface. The



deposited composition may be allowed to air dry. Alternatively, the deposited composition may be heated to about 100 to about 400°F to dry. The drying may be performed via convection oven, furnace, or any other suitable drying method such as for a period of time between 10 minutes and 12 hours, depending on the heat and material being treated. The treatment duration and temperature may depend on the size and material being treated. Certain metals may only withstand certain temperatures and exposure time, and, therefore, the precise time and temperature will vary. For example, a small aluminum piece, such as a charging handle that weighs 1.6 ounces, cannot withstand the same temperature intensity as a 16-ounce piece of ordnance-grade steel. The composition on the surface in the aluminum piece, for example, may be exposed to UV light (natural sunlight or lamp) to promote oxidation of the applied composition. In another aspect of the present invention, the mechanical component may be immersed in a tank containing the vegetable oil composition at a temperature of 100 to 400°F for a period of time between 10 minutes and 24, hours depending on the material and/or the composition. In yet another aspect of the present invention, a pressure of about 1-5 ATM may be applied to the to the vegetable oil composition on the mechanical component via a pressure cooker, for example. The time of pressure application may vary from 10 minutes to 24 hours, depending on the material and composition. Furthermore, the application method may include any combination of the above steps.

**[0038]** The above step of depositing the composition on the surface of a mechanical component may include placing the composition in a container having a coating delivery system. For example, the container may have a pump spray, a trigger spray, or a dropper dispenser, each of which would assist a user in depositing the composition onto a mechanical component. The container may also be

pressurized to allow for aerosol spraying of the composition inside. In another aspect of the present invention, the oil composition may be applied to a mechanical via a wipe, wherein the wipe contains the oil composition. For example, the wipe may be provided in a sealed package that may be opened when a user is ready to apply the oil composition to the mechanical component. Once removed from the sealed package, the user can then rub the wipe against the mechanical component, thereby applying the oil composition onto the mechanical component. Alternatively, a sealed container may include a plurality of wipes, wherein each wipe contains the oil composition. The composition may be contained in a sealed, one-time use liquid only packet.

**[0039]** Example aspects have been described in accordance with the above advantages. It will be appreciated that these examples are merely illustrative of aspects of the invention. Many variations and modifications will be apparent to those skilled in the art.

## Claims:

## 1. An oil composition, comprising:

at least three vegetable oils, each vegetable oil being distinct from the other and each having a smoke point above 200°F,

wherein the combined volume of the at least three vegetable oils is at least about 25% of the total volume of the oil composition.

2. The oil composition of claim 1, wherein the combined volume of the at least three vegetable oils is at least about 50% of the total volume of the oil composition.

3. The oil composition of claim 1, wherein the combined volume of the at least three vegetable oils is at least about 75% of the total volume of the oil composition.

4. The oil composition of claim 1, wherein the combined volume of the at least three vegetable oils is about 100% of the total volume of the oil composition.

5. The oil composition of claim 1, wherein at least one of the at least three vegetable oils has 80% by weight or greater oleic acid.

6. The oil composition of claim 1, wherein each of the at least three vegetable oils are selected from the group consisting of: almond oil, avocado oil, canola oil, corn oil, cottonseed oil, flax seed oil, hazelnut oil, hemp seed oil, grapeseed oil, jojoba oil, macadamia nut oil, olive oil, peanut oil, rapeseed oil, rice bran oil, safflower oil, sesame oil, soybean oil, sunflower oil, and walnut oil.

7. The oil composition of claim 1, wherein each of the at least three vegetable oils are selected from the group consisting of: sesame oil, canola oil, sunflower oil, soybean oil, peanut oil, olive oil, corn oil, grapeseed oil, jojoba oil, cotton seed oil, almond oil, safflower oil, walnut oil, avocado oil, rice bran oil, and flaxseed oil.
8. The oil composition of claim 1, wherein each of the at least three vegetable oils are present in an amount from about 5% to about 60% by volume.
9. The oil composition of claim 1, wherein each of the at least three vegetable oils are present in an amount from about 10% to about 50% by volume.
10. The oil composition of claim 1, wherein the oil composition is a liquid at about -35°F to about 500°F, has a pour point of about 5°F to about 70°F, and a flash point of about 480°F to about 580°F.
11. A method of removing or preventing carbon fouling on a mechanical component of a device, comprising:
- depositing a vegetable oil composition on the mechanical component of the device,
  - wherein the vegetable oil composition comprises at least one vegetable oil having a smoke point above 200°F,
  - wherein the at least one vegetable oil is present in an amount of at least about

25% by volume of the total volume of the oil composition; and

wherein operation of the device deposits carbon on the mechanical component.

12. The method of claim 11, wherein the at least one vegetable oil is present in an amount of at least about 50% by volume of the total volume of the oil composition.

13. The method of claim 11, wherein the at least one vegetable oil is present in an amount of at least about 75% by volume of the total volume of the oil composition.

14. The method of claim 11, wherein the at least one vegetable oil is present in an amount of about 100% by volume of the total volume of the oil composition.

15. The method of claim 11, where the depositing step comprises one of spraying, immersing, or brushing the oil composition on the mechanical component of the device.

16. The method of claim 11, further comprising drying the deposited oil composition by heating at a temperature of about 100°F to about 400°F.

17. The method of claim 11, further comprising exposing the deposited composition to ultraviolet light.

18. The method of claim 15, wherein the mechanical component is immersed at a temperature of about 100°F to about 400°F for a period between about 10 minutes to

about 24 hours.

19. The method of claim 11, wherein the depositing step comprises applying a pressure of about 1 to about 5 ATM.

20. The method of claim 11, wherein the mechanical component is a component of a firearm.

21. The method of claim 18, wherein the mechanical component of the firearm is selected from the group consisting of: a trigger, a hammer, a disconnecter, a trigger pin, a firing pin, a chamber, a bolt, a bolt face, a bolt carrier, a breach face, a camming pin, a piston, an operating rod, a gas tube, a barrel, a slide, a retention rail, an upper receiver, a lower receiver, a magazine follower, a suppressor mount, a compensator, a flash hider, charging handle, feed tray, and a baffle.

22. A pressurized container comprising the composition of claim 1.

23. A sealed package comprising an absorbent wipe having the oil composition of claim 1 absorbed therein.

24. A container comprising the composition of claim 1, the container including a pump for releasing the oil composition from the container.

1/12

## Direct Impingement

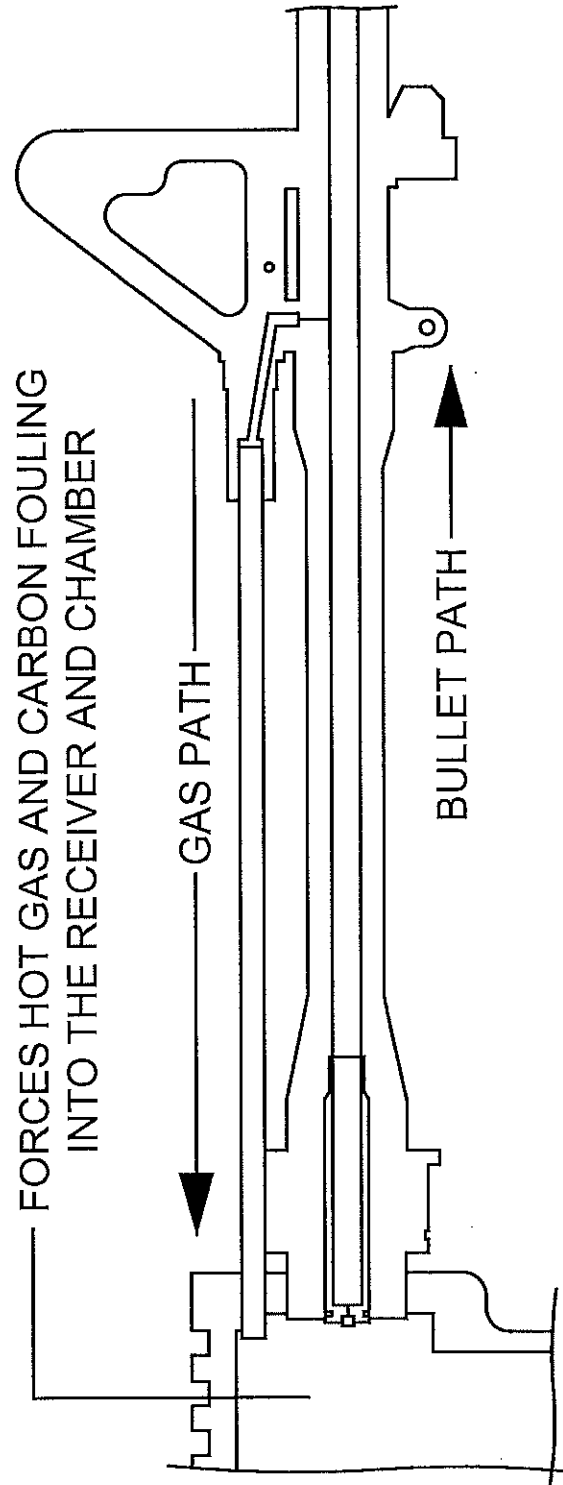


Fig.1

2/12

GAS BLOWN BACK THROUGH GAS TUBE INTO  
RECEIVER. SEE PROTRUDING GAS TUBE AND FOULING



HEAVY FOULING BUILDUP IN UPPER RECEIVER, WHICH  
LEADS TO MALFUNCTIONS AND STOPPAGES

Fig.2



3/12



Fig.3

4/12

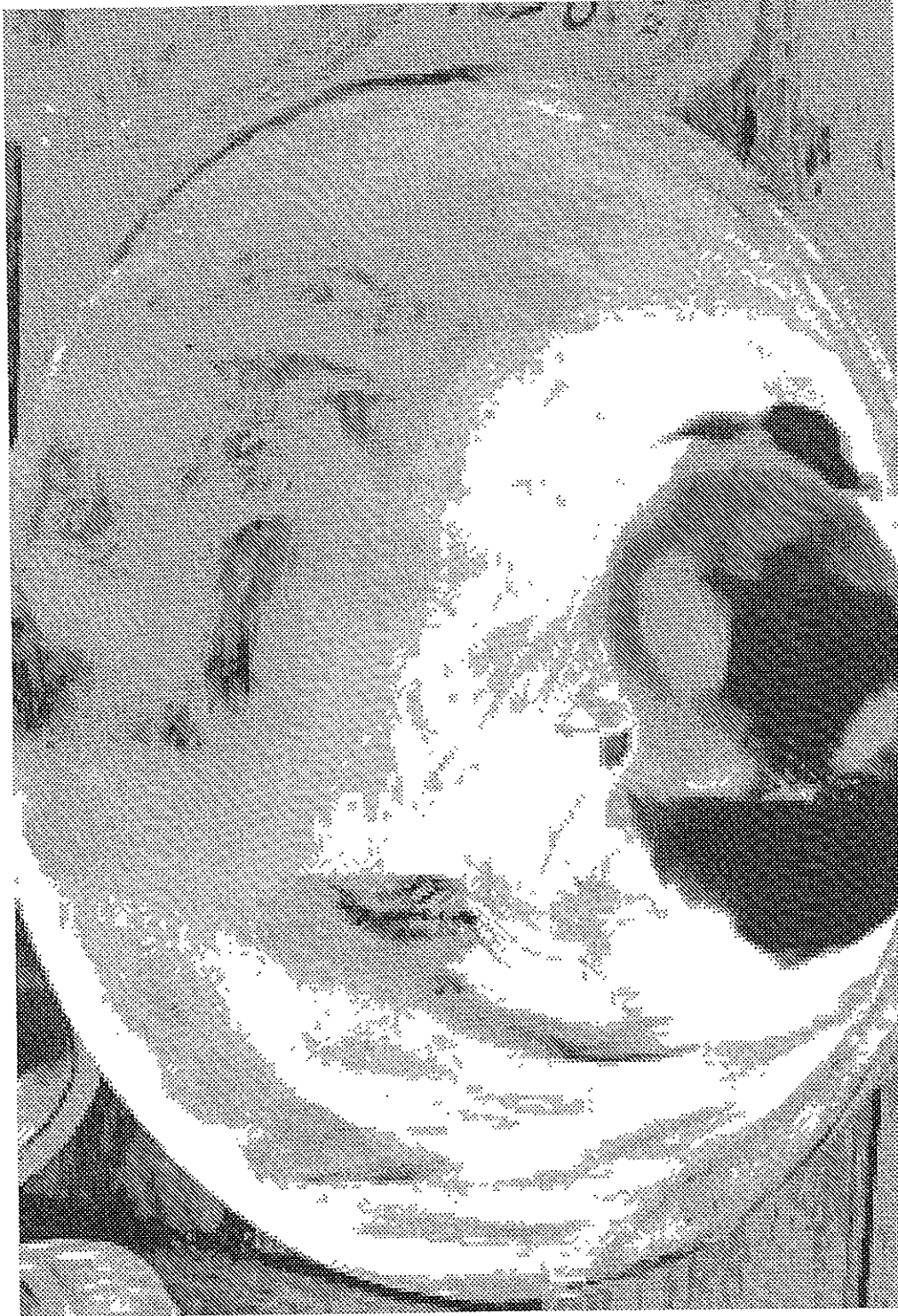


Fig.4

5/12



Fig.5

6/12



Fig.6



7/12

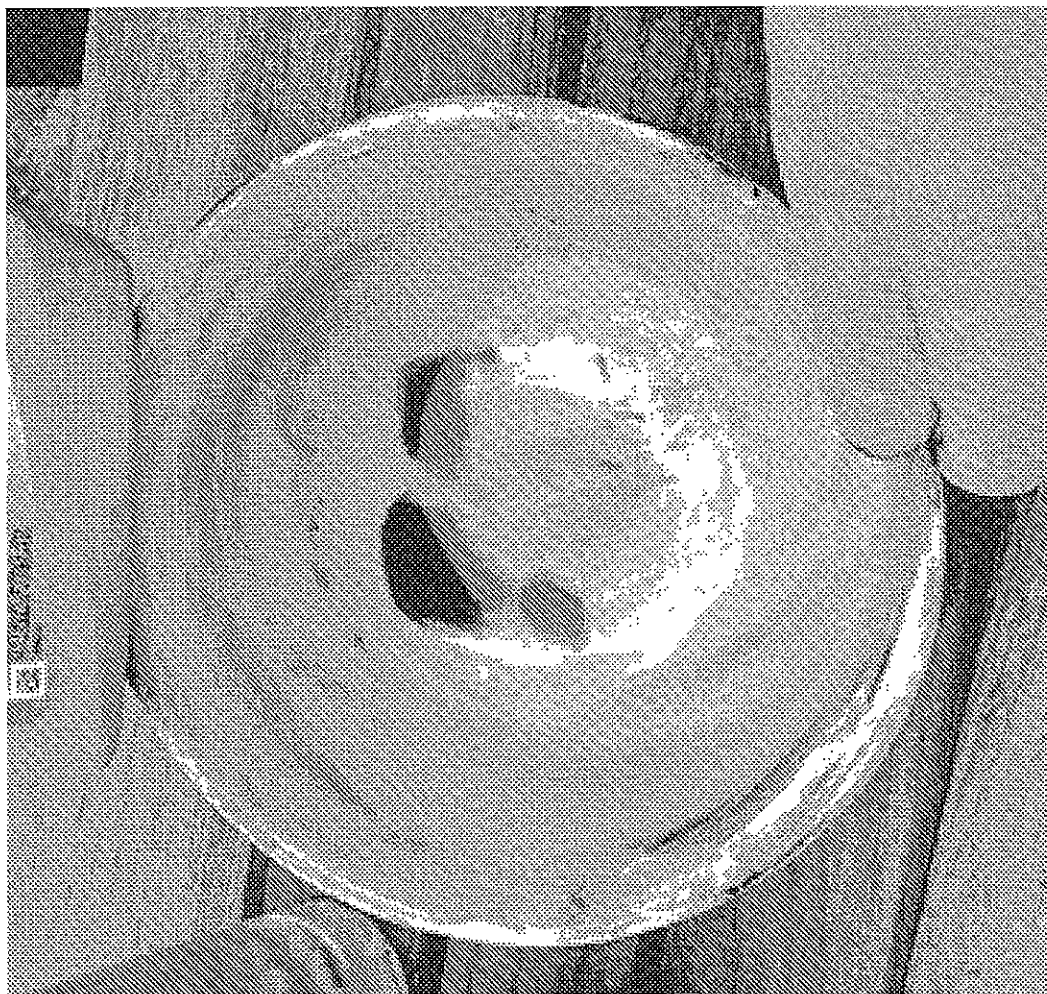


Fig.7

8/12



Fig.8

9/12

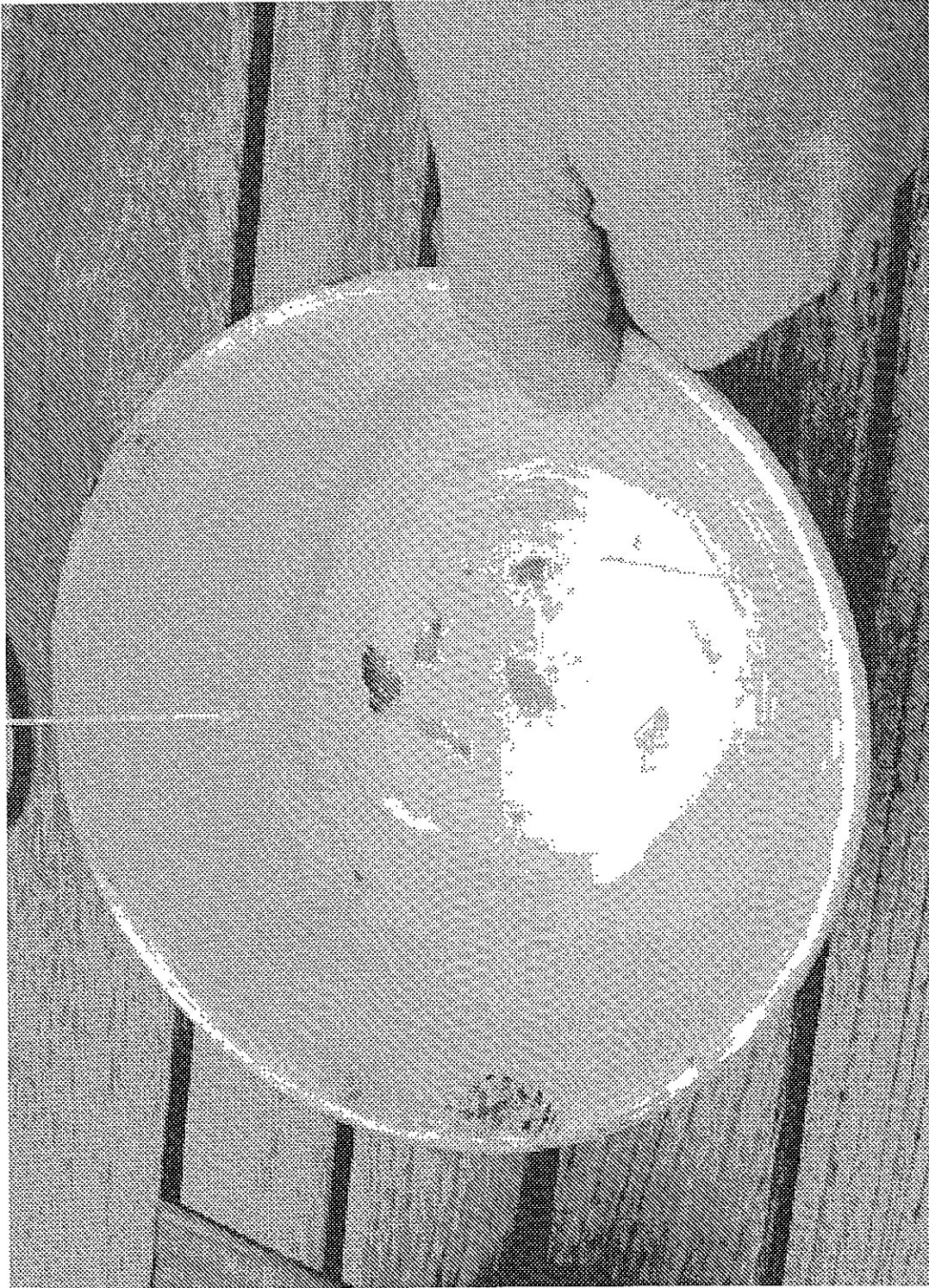


Fig.9

10/12

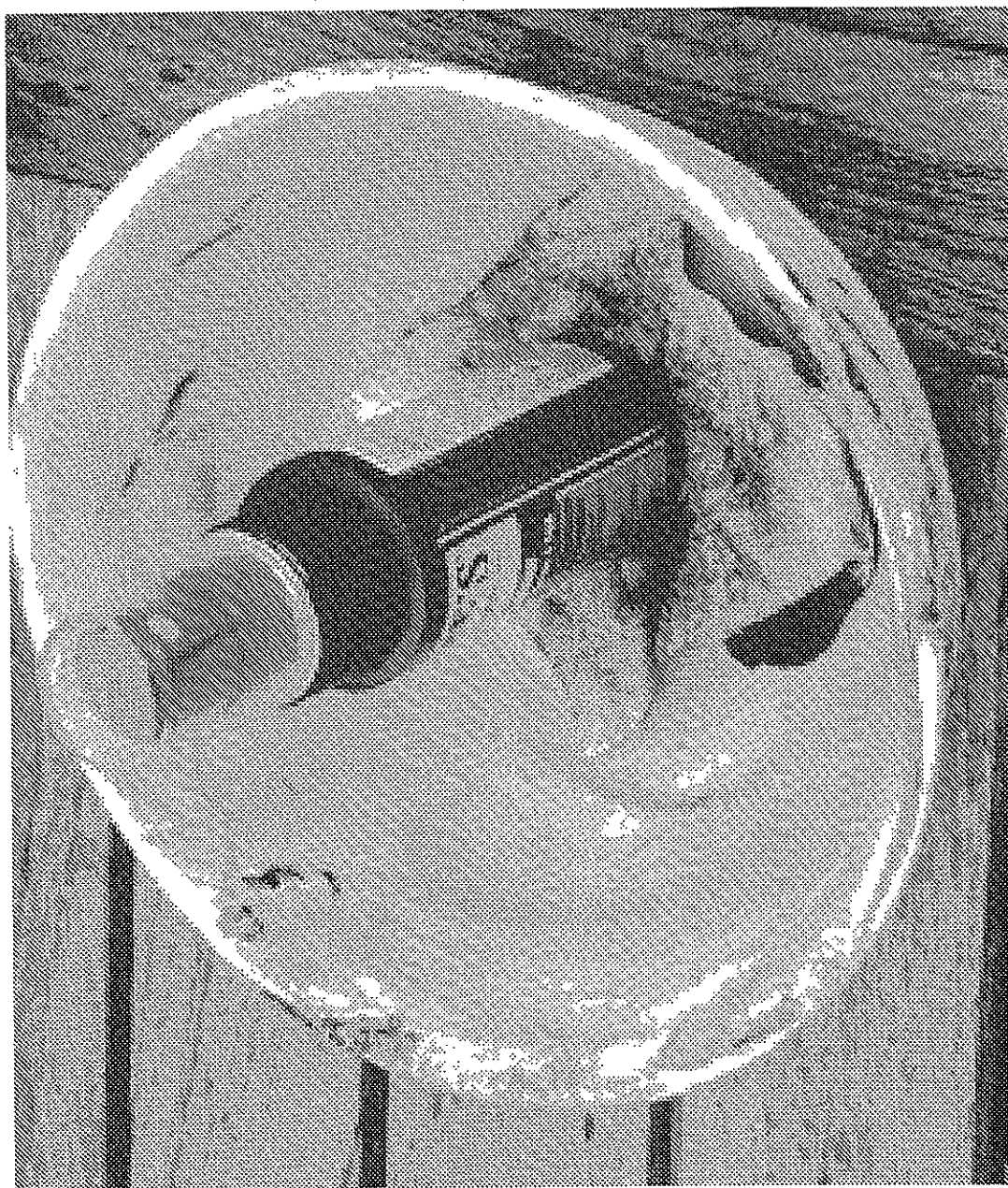


Fig.10



11/12

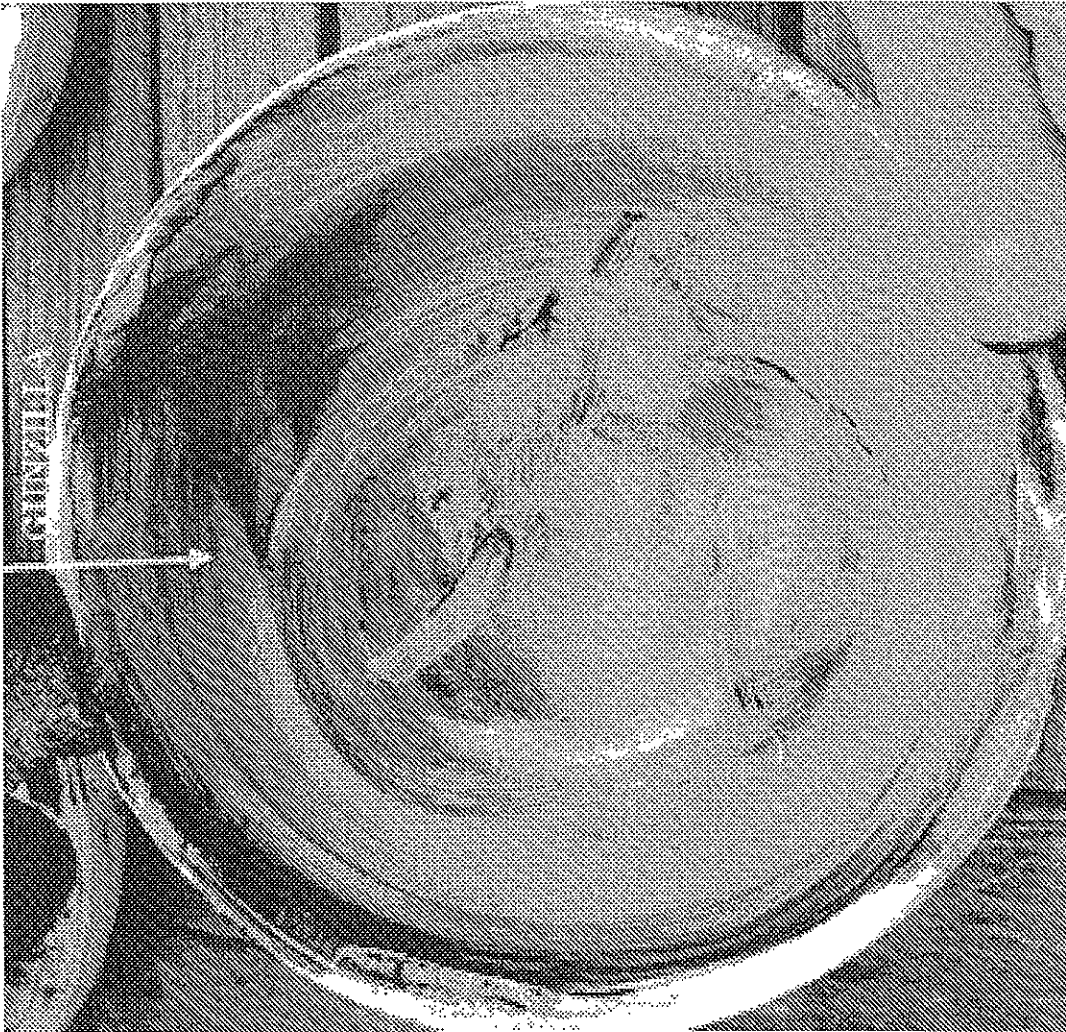


Fig.11

12/12



Fig.12

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2013/032351

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - C09K 8/52 (2013.01)

USPC - 134/39

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - B08B 7/00, C01M 101/04, 105/04, 111/02, 129/10, 161/00, 169/00 (2013.01) - see extra sheet for additional classes searched  
USPC - 134/34, 39, 41, 94.1, 198; 508/308, 433, 436, 437, 473, 486, 491, 591; 510/190, 245, 254, 463.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

CPC - B08B 7/00, C01M 101/04, 105/04, 111/02, 129/10, 161/00, 169/00; C01N 30/02, 30/08; C09K 8/52, 8/528; C10M 163/00; C11D 3/382; C23F 11/08 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Patbase, Google Scholar

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/0059562 A1 (GARMIER) 17 March 2005 (17.03.2005) entire document	1-9, 11-24
Y	US 2,998,319 A (BABAYAN) 29 August 1961 (29.08.1961) entire document	1-9, 11-24
Y	US 4,627,192 A (FICK) 09 December 1986 (09.12.1986) entire document	5
Y	US 6,153,571 A (KOMOCKI et al) 28 November 2000 (28.11.2000) entire document	11-21
Y	EP 1 464 913 A2 (RODIGHERO) 06 October 2004 (06.10.2004) entire document	15, 18, 21
Y	US 2006/0289087 A1 (LACHANCE) 28 December 2006 (28.12.2006) entire document	16
Y	US 2004/0166340 A1 (CAIRNS et al) 26 August 2004 (26.08.2004) entire document	17
Y	US 4,408,960 A (ALLEN) 11 October 1983 (11.10.1983) entire document	19
Y	US 3,211,346 A (MESHBERG) 12 October 1965 (12.10.1965) entire document	22, 24
Y	US 2011/0190176 A1 (PERDUK et al) 04 August 2011 (04.08.2011) entire document	23

☐ Further documents are listed in the continuation of Box C.

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

16 May 2013

Date of mailing of the international search report

10 JUN 2013

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2013/032351

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - C01N 30/02, 30/08; C09K 8/52, 8/528; C10M 163/00; C11D 3/382; C23F 11/08 (2013.01)

# PETRO-LUBRICANT TESTING LABORATORIES, INC.

Member A.S.T.M.

116 Sunset Inn Road  
PO Box 300 Lafayette, N.J. 07848  
fax 973-579-9447  
phone 973-579-3448

September 28, 2015

Test Report 15091801

Fireclean LLC  
P.O. Box 192  
Ashburn, VA 20146

RE: Your samples of September 18, 2015

Final Report

Dear Sir,

Analysis of your samples has been completed. The results are as follows:

	Test Methods							
	ASTM D5554 Iodine Value	ASTM D445 kv @ 40°C	ASTM D445 kv @ 100°C	ASTM D97 Pour Point	ASTM D92 Flash point	ASTM D92 Fire Point	ASTM D1298 Specific Gravity @ 15.6°C/15.6°C	ASTM E1252 FTIR Spectrograph
Crisco Pure Candla Oil Lab# 15091801	113 cg/g	36.07 cSt	8.069 cSt	-21°C	324°C (615°F)	356°C (673°F)	0.9200	Graph attached
Crisco Pure Vegetable Oil Lab# 15091802	132 cg/g	30.92 cSt	7.521 cSt	-6°C	324°C (615°F)	356°C (673°F)	0.9230	Graph attached
Fireclean Lab# 15091803	93.8 cg/g	31.75 cSt	8.364 cSt	-15°C	325°C (617°F)	357°C (675°F)	0.9163	Graph attached

Please call if you have any questions regarding this report.

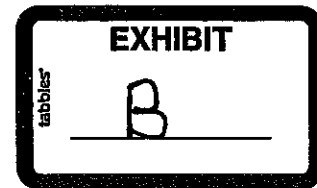
Respectfully submitted,

*Josiah Wintermute*

Josiah Wintermute  
Chief Chemist  
JW-sh

Attachment (1 ASTM E1252 FTIR Graph)

PETRO-LUBRICANT TESTING LABORATORIES, INC. is a member of the American Society of Testing and Materials (ASTM). The results of the analysis are based on the methods specified in the ASTM standards. The results are for the samples as received and do not represent a guarantee of performance. The results are for informational purposes only and should not be used for legal or regulatory purposes.



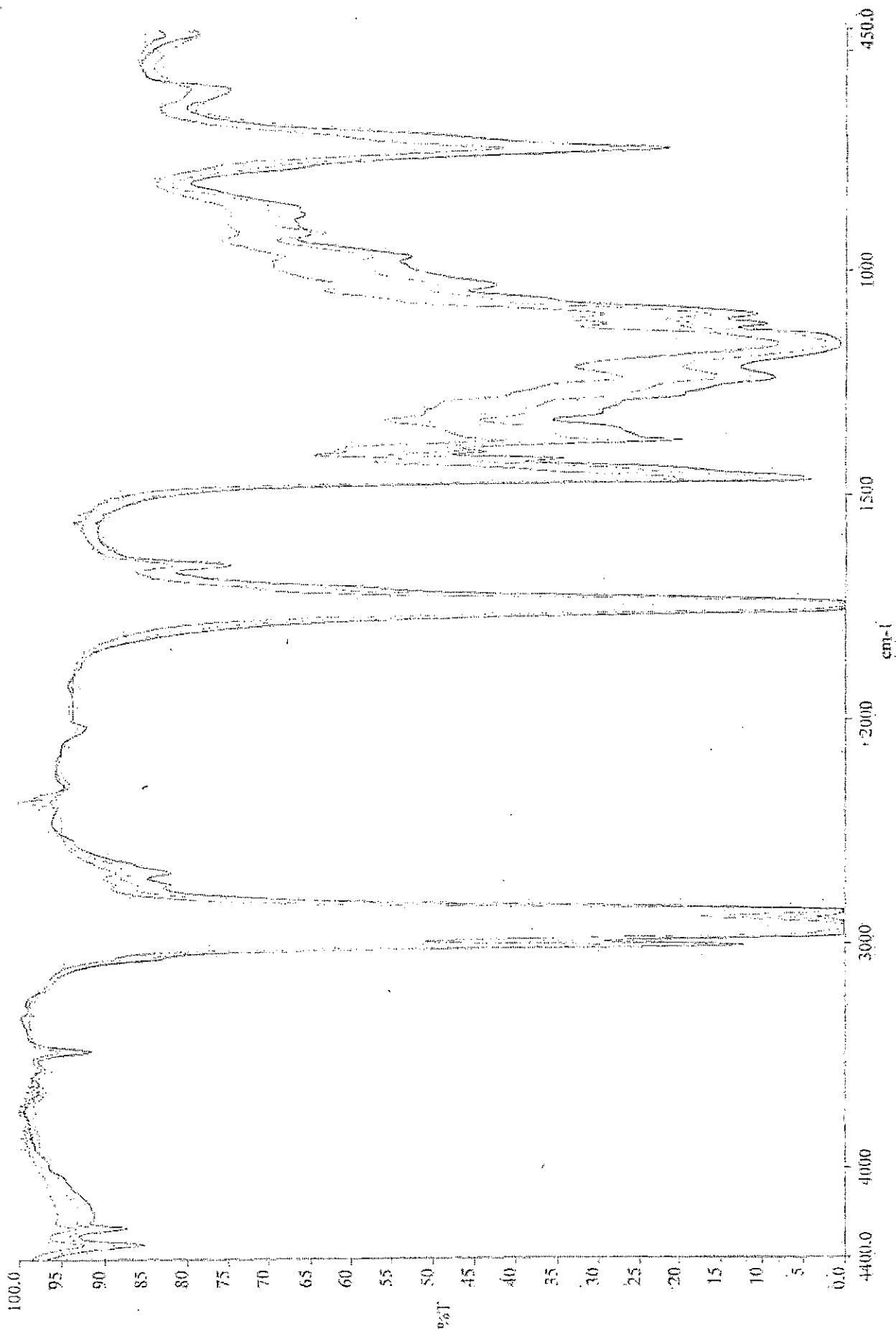
Petro-Lubricant Test Labs

Crude oil pure (Lab# 15091801) neat  
Crude oil pure (Lab# 15091802) neat  
Fireclean (Lab# 15091803) neat

Client: Fireclean, LLC      Sample ID:

ASTM E1252 FTIR Spectrograph

Date: 9/25/2015



• Virtually Eliminates Wear And Increases  
Weapon Service Life

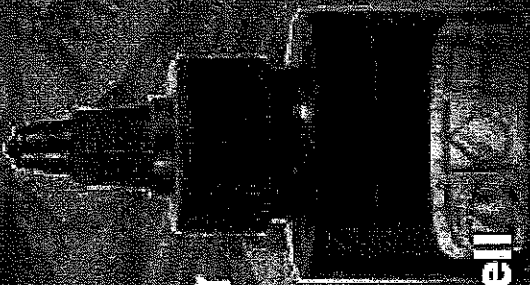
• Shields And Protects Against Rust  
And Corrosion

• Removes Fouling Debris And Lead.  
Prevents Build-up Of Brass And Copper

And Increases  
Inter Groups

Increases Lubrication

George Fennell



WEAPON  
SHIELD...

Period!

CLEANS, LUBRICATES  
AND PROTECTS

"Your product Weapon Shield was truly a life saver."

Major Craig Henson, USAF, Afghanistan

"Your products are all A+ Add Friend in

Message ...

... Add Friend ...

Timeline About Friends Photos More ▾

DO YOU KNOW GEORGE?

To see what he shares with friends, send him a friend request.

Add Friend

Intro

George Fennell added 2 new photos.

tabbles<sup>®</sup>  
EXHIBIT  
C



From Butler, Pennsylvania

Photos



Friends - 2,270



**George Fennell**  
August 13, 2015 · 0

OK so EVERYBODY knows I use FaceBook to market and popularize my Weapon Shield and company. But yesterday I gave evidence that I DO have a social life am proud to say I have very awesome friends, who support me through thick and thin, and we all have a blast when we get together.

But what many don't know, some do, is that I don't drink at all. Guaranteed, I can be just as crazy as folks I party with that do drink, but many years ago, I drank way too much. So I thought, I'd share this with everyone, as I am a bit proud of it...

August 21st of this year will be 30 years of sobriety. Nary a drop. One of my friends says "Dude! That almost calls for a drink!" ROFLMAO... I appreciated the humor but passed on the actual thought of it. Thirty years went by in the blink of an eye. Wow.

Also this Wednesday, August 12th is my youngest sons birthday, Mark Joseph Fennell. Head over to Shag Dog Melon Head's page and give him a happy birthday wish if you have a chance... 28 years young and love him and my other two boys more than anything.

<https://www.facebook.com/ShagDogMelonHead>

Back to business....Weapon Shield!



**Shag Dog Melon Head**  
Musician/Band  
Funk/Rock/Jam/Acoustic

Save

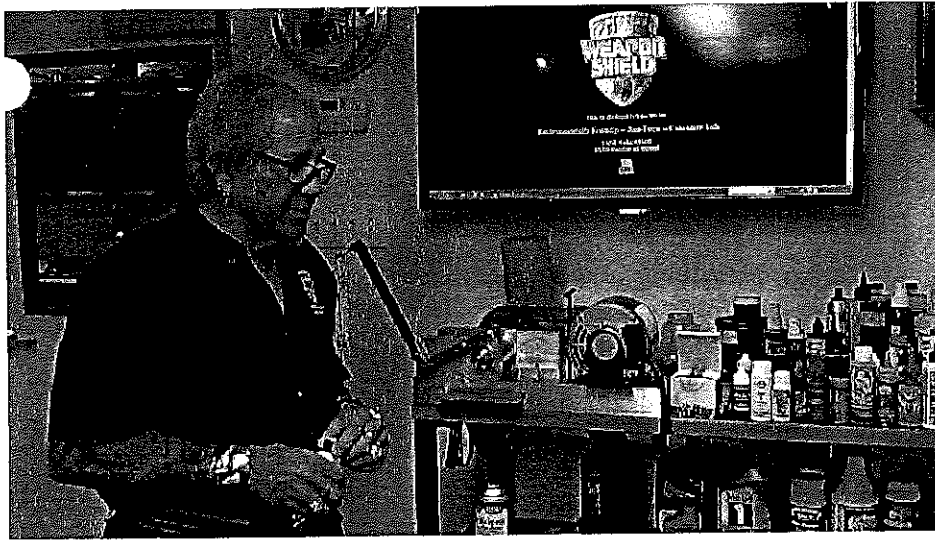
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98 people like this.

George Fennell That DC is my son Mark.   
August 10, 2015 at 4:00pm

George Fennell I can proudly say he is a master guitarist/musician and absolutely unique and awesome singer. His talent was inherent, but this is about him not me. My days as semi-pro musician are gone along with





## Weapon Shield vs FireClean



Weaponshield

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Published on Jun 10, 2015

George Fennell of Weapon Shield shows and discusses the lubrication value and Falex lubricant test of FireClean alongside Weapon Shield CLP/Oil.

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Newest first ▾



Noe Fernandez 5 days ago

Hey George, Have you done a comparison against Mil Comm TW25B? I looked and didn't find anything. Can you make it happen?

Reply



flappy188 3 weeks ago

PLEASE Compare to Strike Hold and Mil-Comm, please from a fellow yinzer and hopefully if you can convince me lifelong USER ( im very close,lol)

Reply



Steve Warshaw 1 month ago

haha, I jsut want to say... George you may have the most advanced lubricant.. but the windows XP in the background makes me laugh... I'm a computer scientist so you'll have to forgive me.

Reply



Rick Lavoie 1 month ago

This product is amazing . Love it!

Reply



Q o Q 2 months ago

Weapon Shield, I got Weapon Shield !

Reply 1

### Up next



Frog Lube vs Weapon Shield  
Weaponshield  
11,201 views



The FIREClean Myth  
Dave Moore  
7,013 views



26:05

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Richard Searley  
8,543 views



24:04

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14,178 views



18:08

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Weaponshield  
5,272 views



18:38

Weapon Shield 2 - Cleaning, Lubricating, and Protecting your  
Weaponshield  
3,683 views



8:53

A Sucker Born Every Minute..... FireClean SCAM  
Mule TeamSixtySix  
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4:40

GunButter vs Weapon Shield  
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2,154 views



15:36

Weapon Shield Wear Test - BreakFree and Hoppe's Elite  
Weaponshield  
2,508 views



17:43

LubeGate 2015, Best 22 can, Worst Product of 2015 - TGC  
TheGunCollective  
13,216 views



2:12

Lighten your trigger pull with Weapon Shield CLP/Oil  
Weaponshield  
3,326 views



12:07

FIREClean vs. Pure Canola Oil  
Dave Moore  
4,575 views



7:04

Weapon Shield 3 - WS Grease and an overview of other Steel  
Weaponshield  
3,150 views



6:21

Lucas Extreme Duty Gun Oil and Weapon Shield  
Weaponshield  
3,751 views

Weapon Shield CLP Review  
LoadoutRoom  
3,426 views



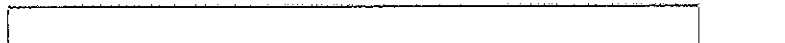


Trace McDonald 2 months ago  
Great evidence for the skeptics.....  
Reply ·

Skip navigation



Gtpwhite1 2 months ago  
I would like to see royal purple gun lube if you have a chance.  
Reply ·



Me Me 2 months ago  
great vids how does slipstream rate on this machine?  
Reply ·



Les Rinehart 3 months ago  
Get you some Hoppe's solvent for cleaning and then Canola oil wipe down with silicone rag...btw there has been no new chemicals introduced to the firearms industry in 50 yrs.  
Reply · 1



Burt Gummer 3 months ago  
Can you please compare Weapon Shield to G96 Synthetic CLP Gun Oil, it's that yellow bottle sitting on the top shelf 4th from the right in your video :-)  
Reply ·



Les Rinehart 4 months ago  
Today there is so many oils out there I think WS,Fireclean,Breakfree ,Hoppes,all the famous ones are good if used efficiently  
Reply · 1



steve garcia 4 months ago  
I'd like to see a live fire test because this does not seem like a very accurate test of either product. If these products are to be used on firearms than they should be tested using firearms. Live fire test please.  
Reply ·



HighDesertTactical 4 months ago  
Very cool video. I wish this would get more traffic.  
Reply ·



The Wound Channel 4 months ago  
Wow  
Reply ·



tanakattack 4 months ago  
if you could do a test with weapon shield vs slipstream styx, that would be awesome.

I have seen several people do corrosion tests with a bunch of different lubes and weapon shield didn't do so good in that category, however as a lubricant it seems to be one of the best, judging from your tests.  
Reply ·



razz339 4 months ago  
1:50 good call, good call  
Reply ·



louie000007 4 months ago  
Could you perform this same test but using Weapon Shield first?  
Reply ·

Mr. Jagger117 4 months ago

17:59:41 1:59:07



Gun Lube Cold Test: CLP vs. FrogLube vs. FireCLEAN and Active Self Protection  
6,295 views



Review/How-To: FIREClean & Glock Cleaning (PART I)  
Dave Moore  
2,012 views

Upload



273,493 views



fireclean or crisco  
sofakingtactical  
2,020 views



Frog Lube Fixed!  
pmarine81  
32,098 views

SHOW MORE



mjdjeper117 · 4 months ago

can you try the test on corrosion x for guns small white bottle not the aerosol one. I love that stuff but after finding these videos I come to question it. do you give out any promo bottles? I would like to try it for my beretta.

Reply ·



Steve Meade · 4 months ago

I see CorrosionX on the table. How did it compare?

Reply ·



YuanMizzle · 4 months ago

I use TW25B and Tetra gun grease. Any chance of a comparison against those?

Reply ·



SafeArmsReview · 4 months ago (edited)

For a more equal test to keep the haters at bay, you need to replace the bearing for each oil. Then apply the pressure in the same amount of time.

That should stop any objections.

Reply ·



mnminnmn · 4 months ago

+SafeArmsReview I'd think keeping the same bearing makes the test even tougher by having more surface area for friction, but i guess that means it can take more pressure for similar lbs per sq inch as well.

Reply ·



sanantoniospurs9 · 4 months ago

lol this guy called it months before the scandal

Reply · 1



mnminnmn · 4 months ago

but can you fry potatoes, chicken and fish with weaponshield? LOL

Reply · 5



Colby Cookson · 4 months ago

\$14.95 for 2oz of vegetable oil lmfao!

Reply · 3



MCUT · 4 months ago

Good job on exposing FIRECLEAN!

Reply ·



Michael M · 5 months ago

For those who are fooled by this video "test", check out the video by Amsoil called "Exposing the One Armed Bandit."

Reply · 1

Hide replies



Michael M · 5 months ago

Also note, the variable of time. In the FireClean test, the 5lbs of pressure was applied within 3 seconds. For the Weapon Shield, it reached 5lbs between 5-10 seconds. Obviously the gradual pressure allowed for favorable results. Don't be fooled.

Reply · 1



Brett12889 · 5 months ago

+Michael M watch his other videos and you'll see there is no tricks or anything to give favorable results. Also I've seen that amsoil video and they make way too many cuts and edits with "showing the pressure" for anyone to be able to trust that. George is showing you everything without edits at all. I have no experience with fireclean myself so I can't say how good it is, but George's tests are done as fairly as he can do them.

Reply ·



Michael M · 5 months ago

+Brett12889 See my additional comment. If you want a fair test, eliminate the other variables. If his is a better product, great! He needs to put in the effort for a test that will remove all other variables. Yes the amount of time it takes to put the product under

remove an other variables. Yes, the amount of time it takes to put the product under a load does affect the test results.

Reply ·



Brett12889 · 5 months ago

+Michael M I saw your "additional comment"...I know what you said, I said to watch his other videos also, in some of his other videos he does not give the WS a gradual pressure advantage that you claim he is giving it. If you watch and LISTEN in this video closely you will see the same thing. With the fireclean...from the time he drops the bearing onto the raceway to the time it seizes up I timed it at about 9.4seconds. When he puts the WS on...from the time he drops the bearing to the raceway to when the

Read more

Reply ·



Kevin C · 4 months ago

+Michael M Thank you. Its obvious he lets it heat up the second time around. The test is crap.

Reply ·



Para Digm · 5 months ago

have you tested Eezox ? If not, Id love to see what results you get with it.

Reply ·



Para Digm · 5 months ago

+Para Digm nevermind, I see you are Weaponshield, looking for a 3rdparty review

Reply ·



NewGunGuy · 6 months ago

Weapon Shield vs Breakthrough Battle Born High Purity Oil!

Reply ·



Lars · 6 months ago

Not sure about this test. I appreciate the attempt, but the metal was not treated properly with Fireclean. It was simply added on top of a metal that was not de-greased. Fireclean sticks to metal very well, but it is very delicate and does not work well when other oils are present.

Also, gun parts don't put this much force on each other. They have a limit or there'd be catastrophic failures every time at the range. Measuring friction and wear over time with the same moderate force applied would be equally, if not more, telling. Also, repelling carbon is a

Read more

Reply ·



MrChuckwagon55 · 5 months ago

\$14.95 for 2 ounces of re-labeled Crisco is pretty damn expensive. No wonder the Fireclean guys have been so shady when asked what Fireclean is.

Reply · 5



Audiman77 · 1 month ago

WS disperses carbon better than FC, cleans easier than FC, and protects far better against corrosion than FC. 15 bucks for a vegetable based oil? GTF0H. I've been on the same large bottle of WS for 3 years

Reply ·



jwg223 · 6 months ago (edited)

I use FIREClean quite a bit. Several things I wanted to touch on in the video. The first is the expiration date/use within 1 year, etc. Nowhere on my bottle is that written. You have an older bottle, I suspect. Mine has a dispenser cap, even the one I had with the 1-year deal on it a while back had the dispenser cap. I contacted FC about this, and was told that it was a "safety margin", as they did not know the shelf-life. It has since been removed from the products. I did buy my father an M4 for Christmas, 2014. I lubed it with FIREClean. He, maybe in an effort to

Read more

Reply ·



MrChuckwagon55 · 5 months ago

My bottle went rancid just before a year. Now it stinks to high heaven and has become unusable. I contacted Fireclean with no response. When I posted on their Facebook page they delete all of my comments (which I have come to find out is commonplace with them with many other people as well).

Reply · 1



jwg223 · 5 months ago (edited)

+MrChuckwagon55 I spoke with FIREClean. I also checked MY bottle. I also spoke with

George Fennel. He (Mr. Fennel) states that he bought the bottle/got it new. I believe him. FIREClean says they have not used the "use within 1 year" line on their label in well over a year. I believe them, and not only do I believe them, I have bought FIREClean throughout the years, and can attest that this is true. Hence, Mr. Fennel's bottle of FIREClean tested in this video is AT LEAST a year old, and he has pronounced that it looks/is "new". It did Read more

Reply .



sidlarrie2 6 months ago

George, You need to do Weaponshield against Milcomm MC2500 Oil.. if yours outdoes MC2500 then I will be Amazed.

Reply .



Weaponshield 6 months ago

+sidlarrie2 You send it to me and I'll run it on the Falex as received. I would prefer an unopened (un-tampered) bottle but I'll take whatever you send. Send it to Steel Shield Technologies, Inc. - Weapon Shield, c/o George Fennel, L.E., 3351 Industrial Blvd., Bethel Park, PA 15102 Thanks - George

Reply . 1



ArmedDynamicsLLC 7 months ago

Very interesting stuff!

Reply . 2



fetzner808 4 months ago

Jeff!!!

Reply .



Mathew D'Aquino 7 months ago

Good guess on the vegetable oil content. Patent application number is 20150017346 and called "VEGETABLE OILS, VEGETABLE OIL BLENDS, AND METHODS OF USE THEREOF"

Reply .

Hide replies



BlueonGoldZ 7 months ago

+Mathew D'Aquino Good find. Hilarious because the corporation who is making Fire Clean looks like they are charging a premium and fooling people with canola oil, LMAO! How did you find the patent #? Did you just search those words and Fire Clean in Google?

Reply .



Mathew D'Aquino 7 months ago

+BlueonGoldZ I use the USPTO simple search function for patent application files. 2 words "firearm" and "lubricant" in any field. Came up with 150 or so results but this one was near the top and the applicants were Dave and Ed so I figured I had the right one. You can then enter this number into what the USPTO calls Public PAIRS and follow the progress of the application in the file wrapper tab. This one hasn't even started to be examined yet.

Reply . 1



BlueonGoldZ 7 months ago

+Mathew D'Aquino Thanks.

Reply .



lawdog89 7 months ago

I've had bad luck with Froglube. My M-4 bolt was a sticky mess after storing it in my gun safe. I just ordered my first bottle of WeaponShield to try.

Reply .



NewGunGuy 7 months ago

How about RAND CLP?

Reply .



Frankie Méndez 7 months ago

How about RAND CLP?

Reply .



Audiman77 7 months ago

George is the man and WS is the best. I've used everything on that bench including fire clean. WS smokes them all on rust prevention and lubrication. Their new solvent is great for more stubborn jobs.

Reply · 1



Greg Walker 8 months ago (edited)

George. I bought the 16 ounce combo.. stupid UPS left it in the heat 100 degrees ... will that break down the solution?... also, will the solvent handle copper in the barrel? and how long should I soak it before I scrub with a brush and mop it out? thanks.

Reply ·

Hide replies



Weaponshield 7 months ago

+Greg Walker You're fine Greg. 100 deg F is nothing. Also... yes on the solvent. Let it sit overnight wet is ideal. Then go down with the patched brush.... you'll be amazed.

Reply ·



Audiman77 7 months ago

No it'll be ok. I've left mine in my bag in 100+ degrees for days and that was months ago. Still using the same bottle. No breakdown whatsoever

Reply · 1



Audiman77 7 months ago

Also the solvent will remove cooper. I spray in my barrels and leave till I'm done cleaning the rest of my gun, about 10 minutes. Scrub the barrel and coat with WS CLP. Good to go

Reply · 1



Mike S 8 months ago (edited)

enjoy the video's, the comparisons and technical knowledge. You also need to do a cook off comparison.

Reply ·



Weaponshield 7 months ago

+Mike S We're going to do some live fire stuff later Mike... thanks

Reply ·



Michael Alme 8 months ago (edited)

You say you are tapering back on these videos, but I would hope you continue. This is my first encounter with your tests and it is a primary consideration in my potential purchase. If you can offer proof that your product is superior for wear, many will invest in your product.

I'd like to request:

Mil-Comm TW25b

(NRA endorsed, SIG endorsed, and broad Military/Law Enforcement usage)

Lubriplate FGL NLGI 0 grease

(Online gun owner favorite. Industrial product, boundary focused, non-toxic food grade, and aluminum base)

Showing superiority over these two products would reflect highly on your product.

Show less

Reply · 3



Weaponshield 7 months ago

+Michael Alme Michael, I'll definitely see what I can do, but give me a week. Thanks for the feedback my friend.

Reply · 1



Sean M 3 months ago

+Michael Alme I agree. More comparison tests, please. I for one would like to see it compared to 10w30 synthetic motor oil. This is used by a huge portion of the gun community as it's cheap, approximately a quarter per ounce, and it's made for about the hardest worked machines on the planet.

Reply ·

eltenda fabrizio 8 months ago



fireclean It's a good product...but weapon s. it's way far better...gotta get me the tank version

next

Reply ·



BMAH 8 months ago

Glad you're back.

Reply · 1

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November 7, 2015 · 0

Like Comment



Matthew Jewell  
5★ I recently made the change from Frogguts, and I'm very glad I did it. Weaponsshield is outstanding.

After I cleared the ... See More  
November 12, 2015 · 0

Like Comment



Tell people what you think

PEOPLE ALSO LIKE



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Handy Industries  
Manufacturing

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Precision Armament  
Manufacturing

Like

Manufacturing in Bethel Park, Pennsylvania

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Scott Witner

Like



Jen Blake

Like



Weapon Shield  
June 10, 2015 · 0

Self explanatory!



Weapon Shield vs FireClean  
George Fennell of Weapon Shield shows and discusses the lubrication value and Falex lubricant test of FireClean alongside Weapon Shield CLP Oil.

YOUTUBE

Like Comment Share

15 people like this.

1 share



Write a comment...



Rick Dembroski Watching that is a big eye opener. I will take the fire clean vs weapon shield challenge. I will order on Friday. I've tried snake oils now I want to try weapon shield.

Like · Reply · 2 · June 11, 2015 at 12:42pm

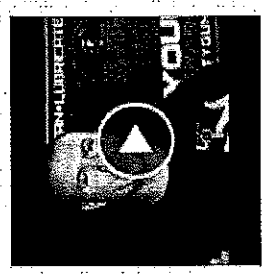
Weapon Shield Rick, you have my word...you will NOT be disappointed! Thank you.

Like · Reply · 1 · June 11, 2015 at 4:28pm · Edited

View more replies



Courtney Zeis Hutchinson Hello, great video and product. I recently purchased a bottle of weapon shield and I have been very happy with it, but I have a question for you. I also own and have used most all the other popular CLP's you have tested, and then I found Liberty gun oil... See More



Liberty Lube CLP

Condensed video of fiction test

YOUTUBE.COM



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Manufacturing

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Manufacturing in Bethel Park, Pennsylvania

LIKED BY THIS PAGE



Scott Witner

Like



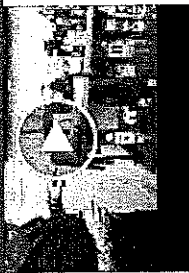
Jen Blake

Like



**Steel Shield Technologies**

Like



discusses the lubrication value and Falex lubricant test of FireClean alongside Weapon Shield CLP Oil.

YOUTUBE

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15 people like this.

1 share



Write a comment...



Rick Dembroski Watching that is a big eye opener. I will take the fire clean vs weapon shield challenge. I will order on Friday, I've tried snake oils now I want to try weapon shield

Like · Reply · 2 · June 11, 2015 at 12:42pm

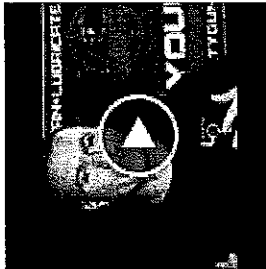
Weapon Shield Rick, you have my word...you will NOT be disappointed Thank you.

Like · Reply · 1 · June 11, 2015 at 4:23pm · Edited

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Courtney Zeis Hutchison Hello, great video and product, I recently purchased a bottle of weapon shield and I have been very happy with it, but I have a question for you. I also own and have used most all the other popular CLP's you have tested, and then I found Liberty gun lu... See More



Liberty Lube CLP

Condensed video of friction test

YOUTUBE.COM

Like · Reply · June 13, 2015 at 12:54am · Edited

View 2 more replies



Weapon Shield Weapon Shield functional operating temperatures -75 deg F to 800+ deg F. Been our standard for years and you're most welcome Courtney DVC.

Like · Reply · June 18, 2015 at 7:15am

Write a comment...



**PETRO-LUBRICANT TESTING LABORATORIES, INC.**

---

**Member A.S.T.M.**

**116 Sunset Inn Road  
PO Box 300 Lafayette, N.J. 07848  
fax 973-579-9447  
phone 973-579-3448**

January 7, 2016

**Test Report 15122801**

**Fireclean LLC  
P.O. Box 192  
Ashburn, VA 20146**

**RE: Your sample of December 28, 2015**

**Final Report**

Dear Sir,

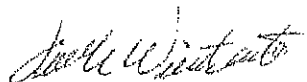
Analysis of your sample has been completed. The results are as follows:

**SAMPLE: FireClean Lot # S5-008-C  
Lab # 15122801**

<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D4172	Four Ball Wear with Coefficient of Friction Graph 40 kg, 1200 rpm, 1 hr. @ 75°C	Graph attached 0.67 mm

Please call if you have any questions regarding this report.

Respectfully submitted,



**Josiah Wintermute  
Chief Chemist**

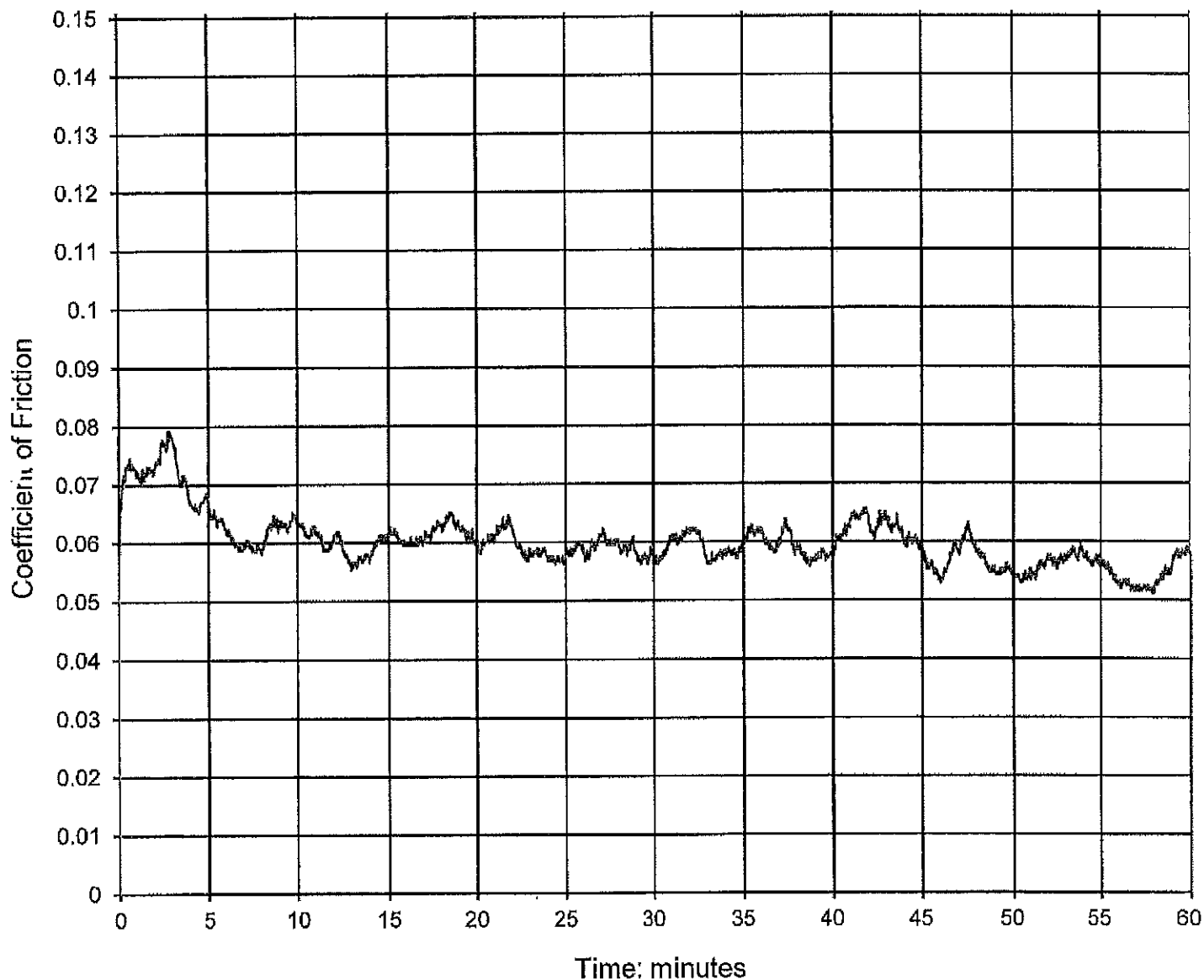
JW:sh

Attachment (1 ASTM D4172 graph)



## FireClean LLC

SAMPLE: FireClean Lot# S5-008-C (Lab# 15122801)  
Four Ball Wear With Coefficient of Friction



Method ASTM D4172 1200 RPM, 40 kg Load, 1 Hour @ 75°C  
Wear Scar = 0.67 mm Grand Average = 0.060 Y-O Intercept = 0.065

**PETRO-LUBRICANT TESTING LABORATORIES, INC.**

Member A.S.T.M.

116 Sunset Inn Road  
PO Box 300 Lafayette, N.J. 07848  
fax 973-579-9447  
phone 973-579-3448

November 30, 2015

Test Report 15110933a

Fireclean LLC  
P.O. Box 192  
Ashburn, VA 20146

RE: Your samples of November 9, 2015

Final Report

Dear Sir,

Analysis of your samples has been completed. The results are as follows:

**SAMPLE: Slip 2000 EWL**  
Lab # 15110933

<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D97	Pour Point	-60°C
ASTM D4172	Four Ball Wear with Coefficient of Friction Graph 40 kg, 1200 rpm, 1 hr. @ 75°C	Graph attached 0.52 mm

**SAMPLE: Lucas Extreme Duty Gun Oil**  
Lab # 15110934

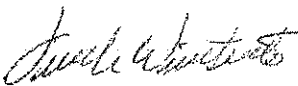
<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D97	Pour Point	-33°C
ASTM D4172	Four Ball Wear with Coefficient of Friction Graph 40 kg, 1200 rpm, 1 hr. @ 75°C	Graph attached 0.51 mm

**SAMPLE: Weapon Shield**  
Lab # 15110935

<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D97	Pour Point	-45°C
ASTM D4172	Four Ball Wear with Coefficient of Friction Graph 40 kg, 1200 rpm, 1 hr. @ 75°C	Graph attached 0.74 mm

Please call if you have any questions regarding this report.

Respectfully submitted,

  
Josiah Wintermute  
Chief Chemist

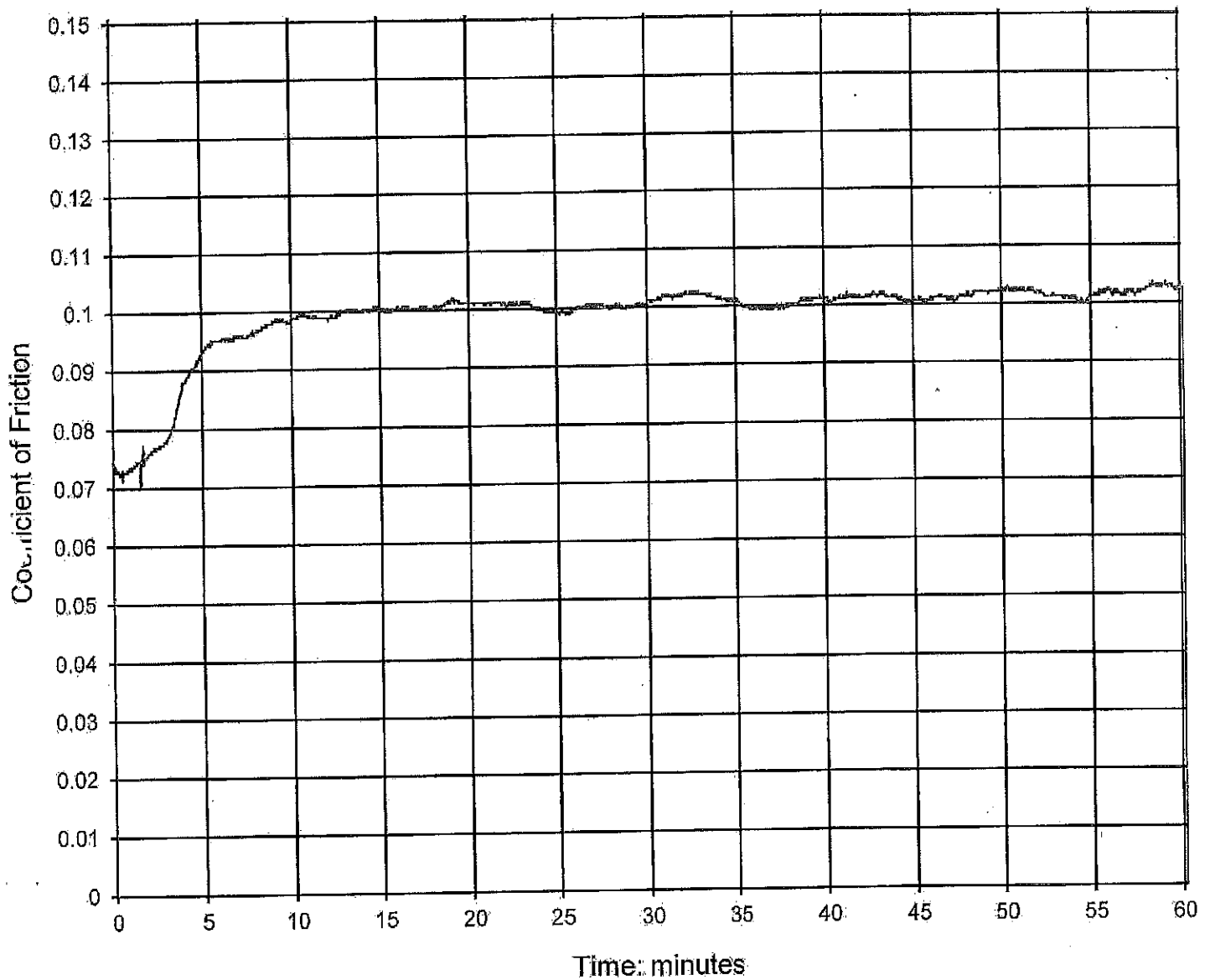
JW:sh

Attachments (3 ASTM D4172 graphs)

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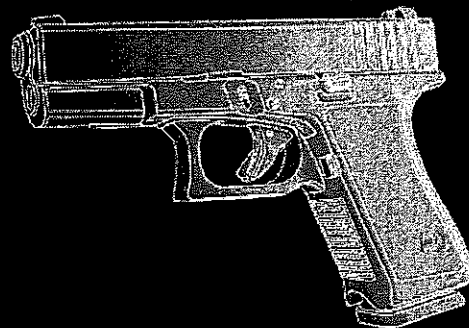
# Fireclean LLC

SAMPLE: Weapon Shield (Lab # 15110935)  
Four Ball Wear With Coefficient of Friction LLC



Method ASTM D4172 1200 RPM, 40 kg Load, 1 Hour @ 75°C  
Wear Scar = 0.74 mm Grand Average = 0.099 Y-O Intercept = 0.092

# The Ultimate Protection Against Metal-To-Metal Wear



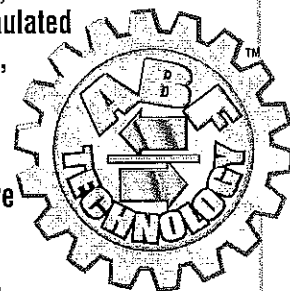
WEAPON SHIELD

**SUPERIOR FUNCTIONAL RELIABILITY**



## Setting The Standards In Anti-Wear & Extreme Pressure Through ABF Technology

WEAPON SHIELD™, the ultimate lubricant, cleaner and preservative, has been aggressively designed and formulated for the Shooting Sports Industry, Military and Law Enforcement. WEAPON SHIELD™ cleans, removes lead, lubricates, guards against extreme pressure and wear, and protects from corrosion better than any other product to date. This distinguishes WEAPON SHIELD™ as the ultimate tool in the total care and maintenance of all firearms and weapon systems.



Extensive testing and evaluation has proven WEAPON SHIELD™ improves bore accuracy due to its Advanced Boundary Film (ABF) Technology, which reduces coefficients of friction between the bullet and bore surfaces assisting in the ballistic movement of the bullet and improving bullet flight.

### ATTRIBUTES

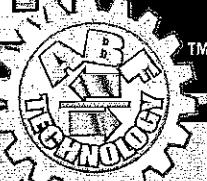
- Reduces Friction For Maximized And Efficient Operation
- Keeps Weapon Functional Under Any Conditions
- Reduces Wear On All Moving Metal Parts
- Improves Lubrication Significantly
- Shields Against Corrosion And Rust
- Optimizes Bullet Velocity
- Removes Fouling
- Removes Lead
- Repels Dirt

EXHIBIT

tabbies

H

# WEAPON SHIELD™



Steel Shield Technologies' mechanism of operation is based upon advanced methods of Tribology that improve lubricity and load carrying capacity. This, in turn, improves surface characteristics while simultaneously creating a stable chemical Advanced Boundary Film on the contacting metal surfaces of whatever equipment in which it is added. The process of Advanced Boundary Film formation is achieved through a unique combination of long-chain halogenated hydrocarbons and other proprietary additives that are highly stable and non-corrosive to the equipment's metal parts, and pose no threat to the environment or waste oil recovery systems. Steel Shield reacts chemically, under thermal conditions with the contacting metal surfaces, to form a complex surface-attaching film of protection. Steel Shield's characteristics are "electro-negative", which causes it to seek out and affix itself to the metallic surface areas. During this process, surface smoothing is accomplished, resulting in improved spread characteristics of the surfaces themselves. The final state of the opposing metal surfaces increases the fluid film strength even more, resulting in greatly reduced wear while imparting extreme pressure (EP) properties to the opposing metal surfaces. The result is a virtual elimination of frictional wear and significant cooling of the entire lubricated area yielding higher energy savings and reduced metallic debris and acids in the oil. This is extensively proven through elemental oil analysis and Ferrography of the used oil, before and after the use of Steel Shield's Advanced Boundary Film Technology.

## MSDS DATA

- Flash Point : 226°C
- Non-Hazardous
- Non-Flammable
- Synthetic Hydrocarbons

## PHYSICAL DATA

- Boiling Point : 238°C
- Evaporation Rate : < 0.01
- Specific Gravity : 1.07
- Insoluble In Water
- Vapor Pressure : <1@25°C
- Medium To Dark Amber

## PERFORMANCE

- Keeps Weapons Functional
- Reduces Friction
- Reduces Wear
- Increases Lubrication
- Shields And Protects
- Optimizes Velocity
- Removes Fouling
- Removes Lead
- Removes Dirt

## DIRECTIONS

Apply to metal surfaces and all moving metal parts. Coat metal surfaces lightly with soft cloth and wipe excess off. Use to clean bore, barrel and chamber as you would normally use in place of solvents. This product is a full CLEANER, LUBRICANT & PRESERVATIVE. Contains synthetic hydrocarbons. Non-Toxic. Contains no volatiles. If swallowed, do not induce vomiting due to aspiration in lungs.

ITEM NUMBER	ITEM UPC#	ITEM DESCRIPTION	CASE PACK	CASE DIMENSIONS	CASE CUBE	CASE WEIGHT	TI/HI
WS-OP	8-94630-00159-5	Weapon Shield Metal Treatment - Oiler Pen	24	5.5"w x 4.5"d x 9"h	.13	1.2	63/6
WS-1	8-94630-00131-1	Weapon Shield Metal Treatment - 1 oz.	24	6.875"w x 4.625"d x 3.875"h	.07	2.5	48/12
WS-1ws	8-94630-00158-8	Weapon Shield MT - 1 oz. with Sprayer	24	6.875"w x 4.625"d x 3.875"h	.07	2.5	48/12
WS-2	8-94630-00132-8	Weapon Shield Metal Treatment - 2 oz.	12	4.625"w x 6"d x 5.375"h	.09	2.0	60/9
WS-4	8-94630-00133-5	Weapon Shield Metal Treatment - 4 oz.	12	5.5"w x 7.125"d x 6.5"h	.15	3.8	40/8
WS-4ws	8-94630-00168-7	Weapon Shield MT - 4 oz. with Sprayer	12	7"w x 5.25"d x 7.25"h	.15	3.6	42/7
WS-16	8-94630-00134-2	Weapon Shield Metal Treatment - 16 oz.	12	10.125"w x 7.625"h x 10"d	.45	15.2	16/7
WS-16ws	8-94630-00169-4	Weapon Shield MT - 16 oz with Sprayer	12	10.75"w x 8"d x 10.75"h	.53	15.0	20/5
WS-128	8-94630-00135-9	Weapon Shield Metal Treatment - 1 Gallon	4	9.5"w x 12.5"h x 14.5"d	.99	33.6	12/4
WS-5G	8-94630-00170-0	Weapon Shield Metal Treatment - 5 Gal	1			43	



STEEL SHIELD  
TECHNOLOGIES, INC.  
3351 Industrial Blvd.  
Bethel Park, PA 15102-2543  
800.390.1535  
www.steelshieldtech.com

WEAPON SHIELD

**PETRO-LUBRICANT TESTING LABORATORIES, INC.**

Member A.S.T.M.

116 Sunset Inn Road  
PO Box 300 Lafayette, N.J. 07848  
fax 973-579-9447  
phone 973-579-3448

November 23, 2015

Test Report 15110933

Fireclean LLC  
P.O. Box 192  
Ashburn, VA 20146

RE: Your samples of November 9, 2015

Final Report

Dear Sir,

Analysis of your samples has been completed. The results are as follows:

**SAMPLE: Slip 2000 EWL**  
Lab # 15110933

<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D92	Flash Point, Cleveland Open Cup	191°C (376°F)
ASTM D92	Fire Point, Cleveland Open Cup	215°C (419°F)

**SAMPLE: Lucas Extreme Duty Gun Oil**  
Lab # 15110934

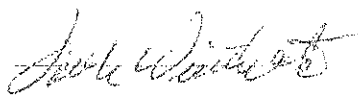
<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D92	Flash Point, Cleveland Open Cup	213°C (415°F)
ASTM D92	Fire Point, Cleveland Open Cup	229°C (444°F)

**SAMPLE: Weapon Shield**  
Lab # 15110935

<u>TEST METHOD</u>	<u>DESCRIPTION</u>	<u>RESULTS</u>
ASTM D92	Flash Point, Cleveland Open Cup	159°C (318°F)
ASTM D92	Fire Point, Cleveland Open Cup	179°C (347°F)

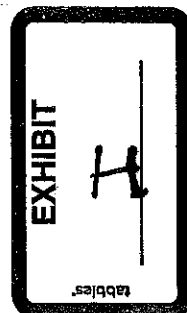
Please call if you have any questions regarding this report.

Respectfully submitted,

  
Josiah Wintermute  
Chief Chemist

JW:sh

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User Name

Password

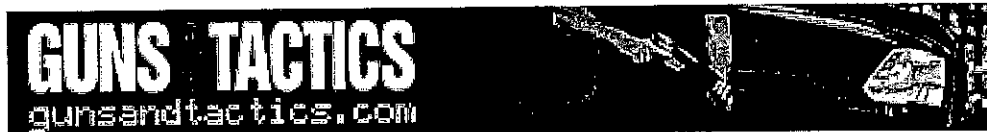
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# WEAPON EVOLUTION

A resource and discussion resource for the FP-10 and emerging small arms technologies

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## Thread: Fireclean...is it just re-branded Crisco Vegetable oil? Video...

### Sponsors



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6 September 2015, 10:00

#1

**JGifford**   
 Contributing Member

Join Date: Jul 2013  
 Location: Shreveport, LA  
 Posts: 371  
 Downloads: 0  
 Uploads: 0

### Fireclean...is it just re-branded Crisco Vegetable oil? Video...

Background: George Fennel (the inventor of FP-10 and later Weapon Shield) has stated that FIREClean is identical to Crisco Vegetable Oil. Going so far as to state that on a spectrometer, they have an identical signature.

EXHIBIT

J

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ARMS



SFP

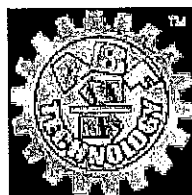
\$99 ORDERS  
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SKD


VSEVEN


 I own some fireclean.... I've recommended it for certain uses. As far as the fog lube .... I've never recommend it  
Like · Reply · August 1 at 1:14pm


 George Fennell Look at it this way  I spectra-analyzed it to be certain of its identity (Vegetable oil ), then went and looked up the patent # (phony) they use...its for vegetable oil...why pay them \$13.99 for 2 ounces? Buy a big bottle of Crisco oil and save big time...or use something that will REALLY stop the wear and tear, protect it, and keep it clean/wipe dry after hundreds of rounds...Weapon Shield. You read my guarantee and I've been in this industry since 1988 and sponsored it all during my FP-10 days as well as my current Weapon Shield days. I sponsor more and give to the industry than anyone else in my category. Check it [www.weaponshield.com/sponsor.htm](http://www.weaponshield.com/sponsor.htm)  
Time to maybe reconsider? It's your decision and the life and care of your guns...coming from a lubrication engineer and small arms specialist, my whole professional career. Oh yea....check out our YouTube "Weaponshield" channel...see the demo on FireClean. Later...I'm out riding and enjoying the day.



Weapon Shield Sponsorships

[WEAPONSHIELD.COM](http://WEAPONSHIELD.COM)Like · Reply ·  1 · August 1 at 2:47pm

 Oh ... I never said I purchased and fireclean. I own some. It was prize table stuff. I work a lot of matches each year and there is always lube left over and I'll pick it up and bring it home. I do have a Weaponshield package in the shop as well. I do enjoy the needle oiler and use it often.

Like · Reply ·  2 · August 1 at 2:52pm

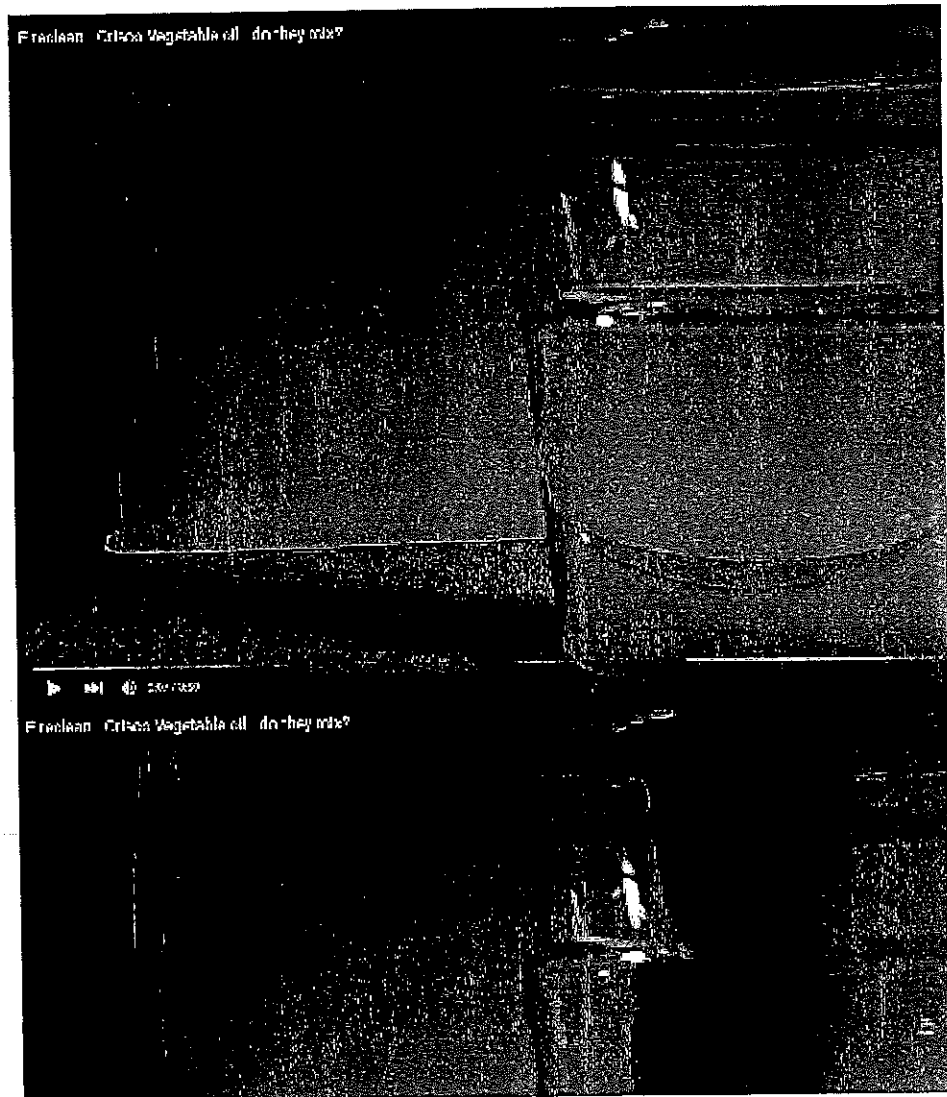
I set to prove this either correct, or incorrect.

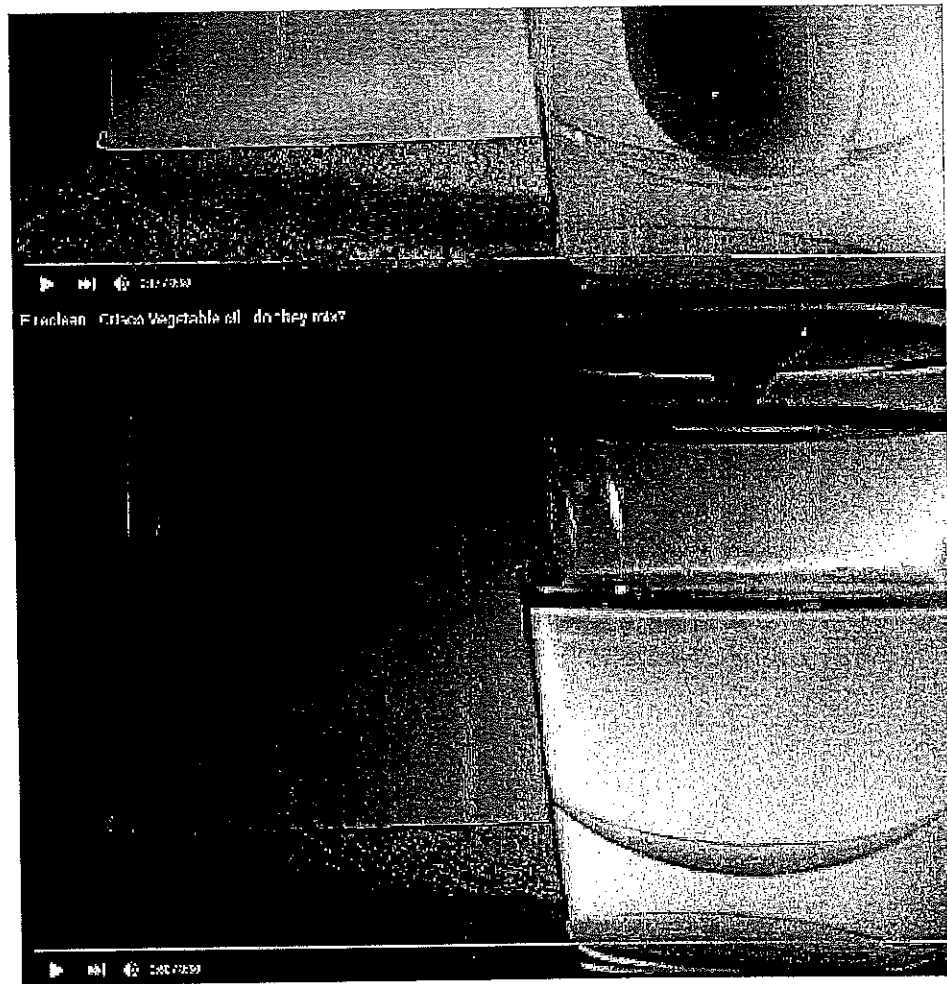
Same-chemicals have same-specific gravities. In other words, they will mix when introduced to one another. This makes sense, right? You pour honey into more honey, and it all looks the same. You pour new motor-oil into a container of the same new motor oil, and they don't "layer", they are indistinguishable. Water into water...water. So on and so forth, provided both chemicals are identical and of the same temperature.

So...I bought some Crisco vegetable oil, and some Fireclean, stored them both at room temperature, and poured them into the same container. Not necessarily conclusive if they mix, but pretty damning of Mr. Fennell's hypothesis of them being identical if they DON'T mix.

Well, here's the video. You decide...does this look like more of the same chemical being introduced to itself?

## Fireclean...Crisco Vegetable oil...do they mix?





All said and done, I simply have not found another product which keeps my weapons running longer. Here is another test I did between FIRECLEAN, and LUCAS EXTREME DUTY GUN OIL. My method was to fire 5 rounds on a clean weapon, using 55gr TULA. I then fired 100 rounds of .223 suppressed. Then I removed the suppressor, and fired another 5 rounds of TULA, and noted any ejection pattern changes, as I know that with my weapon, the faster the carrier cycles, the more "forward" the ejection pattern. (I will note that the Troy magazine I used suffered multiple bolt-over-base failures with both products at the same rate, and this rifle has NEVER! had ANY malfunction prior to that.)

Lucas when clean:

## Lucas Extreme Duty



Lucas after 100 rounds suppressed:

## Lucas Extreme Gun Oil



Fireclean when clean:

## FIREClean



Fireclean after 100 rounds suppressed:

## FIREClean







You will note that the carrier velocity as depicted by ejection pattern is demonstrated to have almost not changed on the FIREClean lubed weapon, while the Lucas weapon, starting out cycling a bit faster than the FIREClean, by the end, is now cycling slower.



Simply put, my experience with FIREClean is that it works better

than any other product, "designer" or not, and now we have another take on whether or not it's "vegetable oil from Crisco"...it sure doesn't act like it!

*Last edited by JGifford; 6 September 2015 at 10:09.*

**Reply With Quote**

6 September 2015, 11:11		#2
	<b>Hmac</b>  Contributing Member	Join Date: Jun 2010 Posts: 496 Downloads: 0 Uploads: 0
<div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p> Originally Posted by <b>JGifford</b> </p> <p>Background: George Fennel (the inventor of FP-10 and later Weapon Shield) has stated that FIREClean is identical to Crisco Vegetable Oil. Going so far as to state that on a spectrometer, they have an identical signature.</p> </div> <p>This would not surprise me a bit if true, and would serve to reinforce my opinion that Americans have to be the most gullible marks ever when comes to lubricants of any kind. Any day now I expect to see "FireClean" on the side of somebody's NASCAR car, in which case FireClean sales would skyrocket.</p>		
<b>Reply With Quote</b>		

6 September 2015, 11:33		#3
	<b>Uffdaphil</b>  Contributing Member	Join Date: Apr 2014 Location: Twin Cities Posts: 473 Downloads: 2 Uploads: 0
<p>Fry up some chicken in both and do a blind taste test.</p> <p>Seriously though, to show Fennell's claim is baseless, Fireclean will need to file a lawsuit or be perceived as a fraud.</p> <hr style="width: 50%; margin: 10px auto;"/> <p>Government deaf to the First Amendment will surely hear the Second.</p> <p>- Uffdaphil</p>		

Reply With Quote

6 September 2015, 11:45

#4

**JGifford** ◉  
Contributing Member

Join Date: Jul 2013  
Location: Shreveport, LA  
Posts: 371  
Downloads: 0  
Uploads: 0

Originally Posted by **Uffdaphil** ◉

Fry up some chicken in both and do a blind taste test.

Seriously though, to show Fennell's claim is baseless,  
Fireclean will need to file a lawsuit or be perceived as a fraud.

I disagree. I think anyone who cares to objectively compare the two can see that FIREClean is not the same. Fennell refuses to supply the print-out/data from the spectrometer, so really, he hasn't done anything but make a statement. I could tell him that Bleu Cheese dressing is identical to Weaponshield on MY spectrometer, but without that spectrometer data...

How on earth can you think that two chemicals are the same chemical...when they won't even mix in the same container at the same temperature!?

Reply With Quote

6 September 2015, 12:02

#5



**GOST** ◉  
Moderator

Join Date: Dec 2012  
Location: TN  
Posts: 6,553  
Downloads: 10  
Uploads: 4

In my opinion Fennell would have been better off providing data on his products. FIREclean has good reviews from many resources, the only downfall I see is their price. I personally still use Slip2000 EWL, it has performed well in my firearms. By the way good review JGifford.

**DEUTERONOMY 6:5**  
flickr



**facebook**

The gift of mental power comes from **God**, Divine Being, and if we concentrate our minds on that truth, we become in tune with this great power - **Nikola Telsa**

Reply With Quote

6 September 2015, 12:19

#6



**UWone77** ◊  
Administrator

Join Date: Sep 2010  
Location: PNW  
Posts: 7,542  
Downloads: 0  
Uploads: 0

Instead of worrying about what your competition is doing, it seems more prudent to worry about yourself, your own sales, and product.

Reply With Quote

6 September 2015, 12:26

#7



**VIPER 237** ◊  
Contributing Member

Join Date: Feb 2012  
Posts: 357  
Downloads: 0  
Uploads: 0

Originally Posted by **UWone77** ◊

Instead of worrying about what your competition is doing, it seems more prudent to worry about yourself, your own sales, and product.

Exactly. This puts a bad taste in my mouth for Weaponshield products now.


FFL 07/ NFA-02  
TWN Certified Hydro Dipper

Reply With Quote



6 September 2015, 12:50

#8



**Uffdaphil**   
Contributing Member

Join Date: Apr 2014  
Location: Twin Cities  
Posts: 473  
Downloads: 2  
Uploads: 0

 Originally Posted by **JGifford** 

I disagree. I think anyone who cares to objectively compare the two can see that FIREClean is not the same. Fennell refuses to supply the print-out/data from the spectrometer, so really, he hasn't done anything but make a statement. I could tell him that Bleu Cheese dressing is identical to Weaponshield on MY spectrometer, but without that spectrometer data...

How on earth can you think that two chemicals are the same chemical...when they won't even mix in the same container at the same temperature!?

I never said I thought they were the same chemical. Your test looks persuasive to me.

My point: By posting publically Fennel has done injury to Fireclean in the marketplace. If he is wrong, he is liable for damages. A company that does not defend against false accusations looks guilty and will lose sales. For what possible reason would Fireclean not sue?


Government deaf to the First Amendment will surely hear the Second.  
- Uffdaphil

**Reply With Quote**

6 September 2015, 14:07

#9



**Tyrannosaur**   
Contributing Member

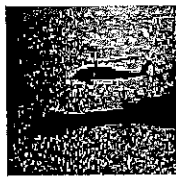
Join Date: Sep 2014  
Location: Newyorkistan  
Posts: 285  
Downloads: 0  
Uploads: 0

Doesn't look like they're the same to me. I'm not a scientist but.... I like Gost like Slip 2000 but also use Fireclean

Reply With Quote

6 September 2015, 15:22

#10



**gatordev** ◊  
LEO / MIL

Join Date: Nov 2010  
Location: FL  
Posts: 982  
Downloads: 0  
Uploads: 0

There's lots of drama in this industry, but to me, it seems like certain portions of this industry seek out drama. Same with chicks...er, females. I'm not a huge fan of drama, female or otherwise. Nice job with the "strata video" JGifford.

Reply With Quote

7 September 2015, 14:58

#11



**UWone77** ◊  
Administrator

Join Date: Sep 2010  
Location: PNW  
Posts: 7,542  
Downloads: 0  
Uploads: 0

Originally Posted by **VIPER 237**

Exactly. This puts a bad taste in my mouth for Weaponshield products now.

I just don't know what you have to gain by proving to use your competition's product is crap. Prove to me your product is great. Like you said, it leaves a bad taste in my mouth and I don't use either product.

Reply With Quote

8 September 2015, 06:08

#12



**Hmac** ◊  
Contributing Member

Join Date: Jun 2010  
Posts: 496  
Downloads: 0  
Uploads: 0

Originally Posted by **gatordev**

There's lots of drama in this industry, but to me, it seems like certain portions of this industry seek out drama.

Good lord...the entire oil industry. Once the product gets to the consumer level the rules of PT Barnum take over. Nobody ever looks at the objective data, they want to use the brand of oil that their pappy told 'em about and by god will defend its superiority to the death. And then, there's the Cult of Amsoil.....

I've always loved the guys who say "I've been using XXX for years and have never had a single problem". As if oil-brand related failures were common.

Reply With Quote

8 September 2015, 07:46

#13

**toolboxluis00200**  
WEVO Spell Checker

Join Date: Sep 2014  
Location: Florida  
Posts: 3,198  
Downloads: 1  
Uploads: 0

Image if u posted this in ar15.com. their server will crash

\$300 and 10 Pastrami Sandwiches and a case of Diet Coke. (UWone77)

Reply With Quote

8 September 2015, 10:48

#14

**JGifford**  
Contributing Member

Join Date: Jul 2013  
Location: Shreveport, LA  
Posts: 371  
Downloads: 0  
Uploads: 0

Originally Posted by **toolboxluis00200**

Image if u posted this in ar15.com. their server will crash

It was surprisingly chill except for the self-acclaimed nuclear physicist?

[http://www.ar15.com/forums/t\\_3\\_7/680...\\_.html&page=1](http://www.ar15.com/forums/t_3_7/680..._.html&page=1)

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9 September 2015, 05:19

#15

**SINNER** ◉  
Distinguished Member

Join Date: Mar 2013  
Location: The Unfree State (MD)  
Posts: 1,220  
Downloads: 3  
Uploads: 0

He must have worked at Chernobyl.

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2/4/2016

Fireclean...is it just re-branded Crisco Vegetable oil? Video...  
All site content © 2007 - 2016 Weapon Evolution



## Fireclean is Crisco?

[Printable View](#)

---

Roadie

09-13-2015

Fireclean is Crisco?

1 Attachment(s)

Apparently, it is. An Infrared spectroscopy test of FireClean and two types of Crisco showed them almost identical.

[Click to Enlarge Attachment 41370](#)

Infrared Spectroscopy of FireClean and Crisco Oils | Vuurwapen Blog

Thoughts?

---

lamink

09-13-2015

Soilent green is people.

---

17 squirrel

09-13-2015

Be sure to " season " parts well before putting in service.

---

Leo

09-13-2015

Black powder fans have used crisco to prevent powder fouling for decades, but we never pay \$15 for a little two ounce bottle and we also wash it out before the arms get put in storage. In that use, it does better than petroleum based products. I never used it any other way.

---

sig-man

09-13-2015

I watched a youtube video where George Fennel compared Weapon Shield and Fireclean. He stated the same thing after reading the MSDS. Weapon Shield seemed to perform much better. As a lube anyway, and it is considerably cheaper then most other lubes. He also stated the same concern for Fireclean degrading over time.

---

PRasko

09-13-2015

I used the original FP-10 made by fennel until he left and the formula changed. I went back to breakfree. But when I got wind he did a new product, Weapon shield, I was all over it, and I would never use anything else.

Fennel knows his stuff, that's for sure.

---

cbhausen

09-13-2015

On a related note when I was a kid we discovered "VHT Traction Tonic" tire spray was actually White Rain hairspray relabeled and sold at a premium. So we switched to hairspray when racing midgets (cars, not people, you weirdos) on indoor tracks.


---

PRasko

09-13-2015

Quote:

---

Originally Posted by **cbhausen** 

*On a related note when I was a kid we discovered "VHT Traction Tonic" tire spray was actually White Rain hairspray relabeled and sold at a premium. So we switched to hairspray when racing midgets (cars, not people, you weirdos) on indoor tracks.*

---

Sure...cars... ;)


---

Roadie

09-13-2015

Quote:

---

Originally Posted by **PRasko** 

*I used the original FP-10 made by fennel until he left and the formula changed. I went back to breakfree. But when I got wind he did a new product, Weapon shield, I was all over it, and I would never use anything else.*

*Fennel knows his stuff, that's for sure.*

---

:+1:

I am a huge Weaponshield fan as well

---

Hop

09-13-2015

I saw another viscosity test and FC floats on top of Crisco and did not mix. The specific gravity is different. How could they be the same if they don't mix?

Frog Lube is veggy based too. Neither lube goes rancid. I don't believe they are the exact same formulae.

---

Leadeye

09-13-2015




Crisco is hydrogenated soybean oil. You cook soybean oil under pressure with hydrogen and a catalyst, makes it solid.

---

1butch

09-13-2015

Quote:

*Originally Posted by **Roadie** *

*:+1:*

*I am a huge Weaponshield fan as well*

Same here, love Weaponshield! Any leads on where to buy, other than Midway \$1-billion shipping USA?

I normally stock up with their birthday discount, but didn't get one this year.

---

PRasko

09-13-2015

Quote:

*Originally Posted by **bmbutch** *

*Same here, love Weaponshield! Any leads on where to buy, other than Midway \$1-billion shipping USA?*

*I normally stock up with their birthday discount, but didn't get one this year.*

Weapon Shield

Has the best prices I've seen so far. Got the link from the weaponshield website.

---

bmbutch

09-13-2015

Quote:

*Originally Posted by **PRasko** *

*Weapon Shield*

*Has the best prices I've seen so far. Got the link from the weaponshield website.*

Thank You!

---

lester

09-14-2015

I must not be able to keep up with the latest cooking oil/weapon lube. CLP was good

enough for me in the Army, and its good enough for me now.

Someone would have to work really hard to make me change (or make me care about the 'secret' recipe of other lubes, for that matter). CLP works, has worked, and will work. #doesntmatter :)

---

Roadie

09-14-2015

OK, this is getting stranger..

Severe Problems With Vickers Tactical FireClean Video | Vuurwapen Blog


---

worddoer

09-14-2015

Quote:

---

Originally Posted by **PRasko** 

Weapon Shield

*Has the best prices I've seen so far. Got the link from the weaponshield website.*

---

I am also a firm fan of Weapon Shield as well. I got hooked when George was sending out the oiler pen samples back somewhere around 2008 or so I think.

And the link above is where I buy all mine. However, now that many of the local gun stores have started carrying weapon shield in the past 2-3 years, I will probably buy it local.

Heck...even our own in house expert AllenM likes the product since he tried it this year. I don't know how much he uses it though. Maybe he can chime in on his experience with Weapon Shield so far this year.

<http://ingunowners.com/forums/gunsmi...ml#post5886818>


---

Roadie

09-14-2015

Quote:

---

Originally Posted by **worddoer** 

*I am also a firm fan of Weapon Shield as well. I got hooked when George was sending out the oiler pen samples back somewhere around 2008 or so I think.*

*And the link above is where I buy all mine. However, now that many of the local gun stores have started carrying weapon shield in the past 2-3 years, I will probably buy it local.*

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<http://ingunowners.com/forums/gunsmi...ml#post5886818>

---

What's the shipping cost like on Watts TruckCenter? I hate it when you have to put in ALL your information before they will show you the shipping costs

---

PRasko

09-14-2015

Quote:

---

*Originally Posted by **Roadie** *

*What's the shipping cost like on Watts TruckCenter? I hate it when you have to put in ALL your information before they will show you the shipping costs*

---

I wanna say it was 5 or 8\$ for usps. I'll check my emails later and update post.

---

sig-man

09-15-2015

I also purchased my Weapon Shield from watts truck center. From what I recall the shipping was not unreasonable. I loaded up on product to avoid shipping costs in the future. I have more oil and grease than I will likely use in a lifetime and still spent less than I would have for a modest amount of the other overpriced lubes. Last time I bought slip 2000 it was almost \$10 for a tiny one ounce bottle. I purchased a 16oz bottle of Weapon Shield for \$20. That's a crazy difference in price!

---

Jadie

09-15-2015

Thanks, I appreciate the input!

---

Hop

09-15-2015

Not that anyone cares but I've switched away from Froglube and to Lucas Oil gun lube. Lucas has been doing great too but hasn't been used in the cold yet. I'm sure it'll be fine.

If you are a one or two gun type person and can follow directions perfectly you should be fine with Froglube (also veggy based but not getting the internet hate right now). Just get rid of any other petroleum based lubes and cleaners.

---

Roadie

09-16-2015

Asked a question on the FireClean Facebook page, BOOM, I got blocked. lol

---

PRasko

09-16-2015

When fireclean first came out, the bottles had use by dates on them.

That was enough for me to never use the stuff.

Also on the bottle it says cleaner lubricant. Nowhere does it say protects

---

JollyMon

---

09-16-2015

cant we just solve this once and for all by trying to cook with Fireclean and see if we get sick

---

Gabriel

---

09-16-2015

Quote:

---

Originally Posted by **JollyMon** 

*cant we just solve this once and for all by trying to cook with Fireclean and see if we get sick*

---

I solve it by sticking with my Mobil 1 / ATF mix. Never had an issue.

---

PRasko

---

09-16-2015

Quote:

---

Originally Posted by **JollyMon** 

*cant we just solve this once and for all by trying to cook with Fireclean and see if we get sick*

---

How about you do it, and tell us if it turns you into an upside down volcano :):

---

Roadie

---

09-16-2015

Quote:

---

Originally Posted by **JollyMon** 

*cant we just solve this once and for all by trying to cook with Fireclean and see if we get sick*

---

One of the people involved with "outing" FireClean said they are going to make brownies with it

---

sloughfoot

---

09-16-2015

Hydrogenated vegetable oil was first developed by the Germans for use as a non-smoking lube for their submarines before WWI. After the war, it was discovered and purchased by a US food company and marketed as a food item. This is when the advertising campaign was started to convince American consumers that lard was bad and Crisco was good. We are constantly getting lied to.

I wonder if butter flavored Crisco will make my rifle smell like popcorn? I keep forgetting to try it.....Regular Crisco is a great gun lube.

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ljk

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09-19-2015

I use whatever synthetic motor oil I have from my cars.

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worddoer

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09-21-2015

Quote:

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*Originally Posted by **JollyMon** *

*cant we just solve this once and for all by trying to cook with Fireclean and see if we get sick*

---

Done! Linky below...

<https://www.full30.com/video/799453c...b73231b0a540a0>

In the comments below the video, someone asked for an after action report. According to Karl, "No after effects at all."

All times are GMT -5. The time now is 09:29.

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Digital Point modules: Sphinx-based search



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Fireclean...is it just re-branded Crisco Vegetable oil? Video...

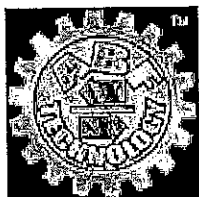
12\_gauge [Member]

9/6/2015 12:05:21 AM EST

Background: George Fennel (the inventor of FP-10 and later Weapon Shield) has stated that FIREClean is identical to Crisco Vegetable Oil. Going so far as to state that on a spectrometer, they have an identical signature.


 I own some fireclean.... I've recommended it for certain uses. As far as the fog lube .... I've never recommend it  
Like · Reply · August 1 at 1:14pm


 George Fennell Look at it this way , I spectra-analyzed it to be certain of its identity (Vegetable oil ), then went and looked up the patent # (phony) they use...its for vegetable oil...why pay them \$13.99 for 2 ounces? Buy a big bottle of Crisco oil and save big time...or use something that will REALLY stop the wear and tear, protect it, and keep it clean/wipe dry after hundreds of rounds...Weapon Shield. You read my guarantee and I've been in this industry since 1988 and sponsored it all during my FP-10 days as well as my current Weapon Shield days. I sponsor more and give to the industry than anyone else in my category. Check it [www.weaponshield.com/sponsor.htm](http://www.weaponshield.com/sponsor.htm)  
Time to maybe reconsider? It's your decision and the life and care of your guns...coming from a lubrication engineer and small arms specialist my whole professional career. Oh yea....check out our YouTube "Weaponshield" channel...see the demo on FireClean. Later...I'm out riding and enjoying the day.




### Weapon Shield Sponsorships

WEAPONSHIELD.COM

Like · Reply ·  1 · August 1 at 2:47pm

 Oh ... I never said I purchased and fireclean. I own some. It was prize table stuff. I work a lot of matches each year and there is always lube left over and I'll pick it up and bring it home. I do have a Weaponshield package in the shop as well. I do enjoy the needle oiler and use it often.

Like · Reply ·  2 · August 1 at 2:52pm

I set to prove this either correct, or incorrect.

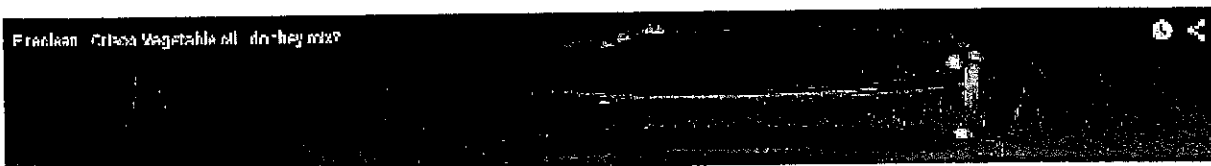
Same-chemicals have same-specific gravities. In other words, they will mix when introduced to one another. This makes sense, right? You pour honey into more honey, and it all looks the same. You pour new motor-oil into a container of the same new motor oil, and they don't "layer", they are indistinguishable. Water into water...water. So on and so forth, provided both chemicals are identical and of the same temperature.

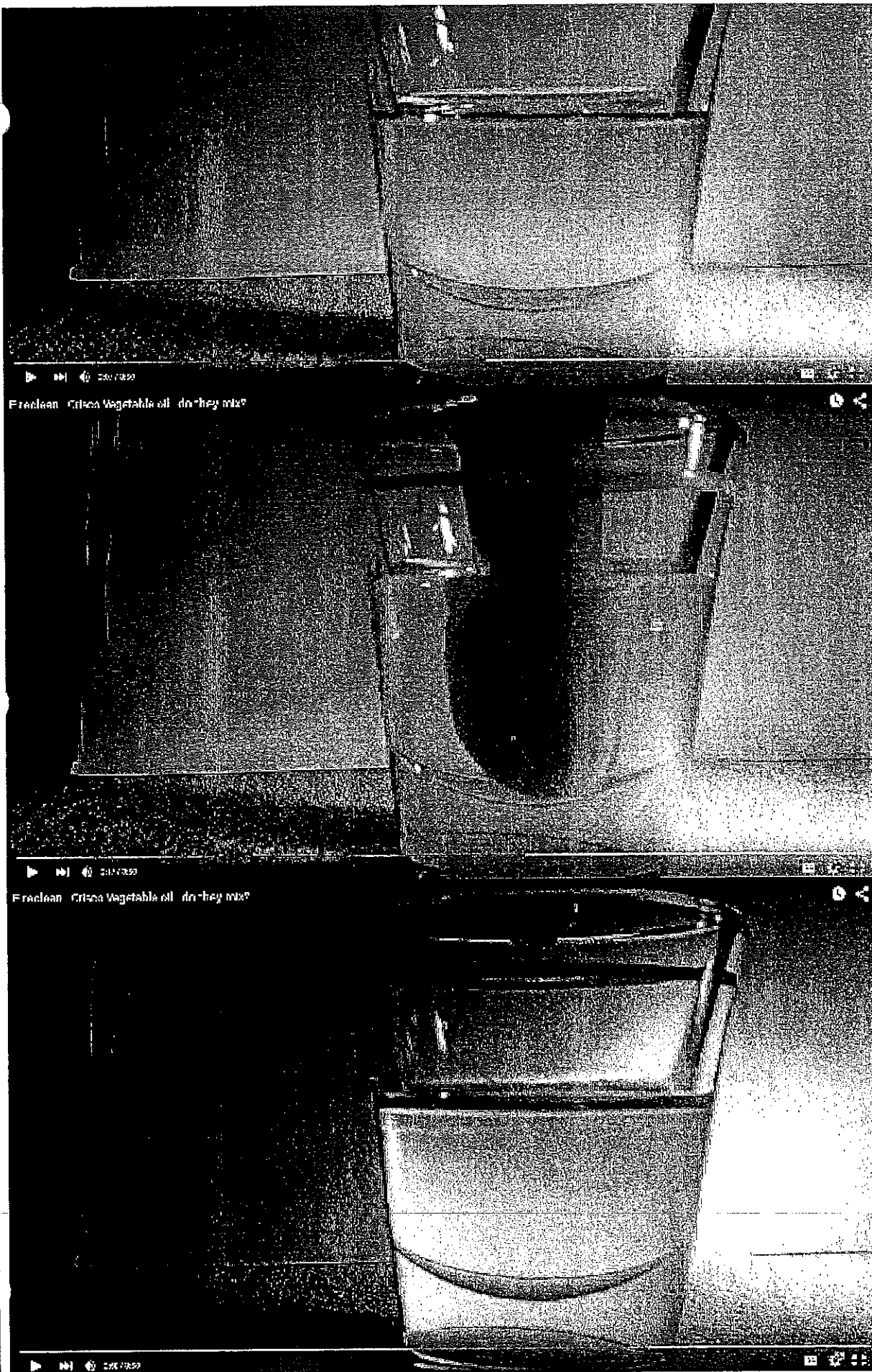
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Well, here's the video. You decide...does this look like more of the same chemical being introduced to itself?

<http://www.youtube.com/watch?v=RD0Mu0jYETU>

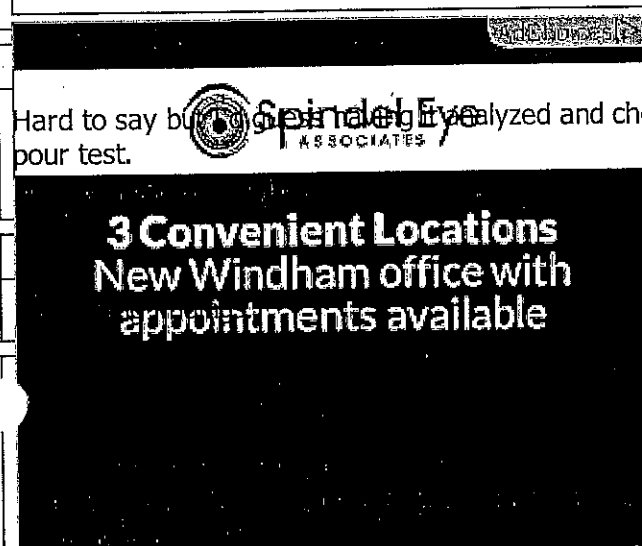
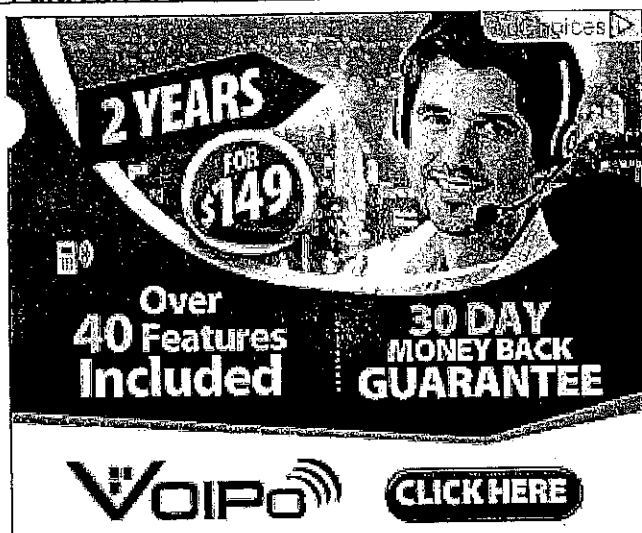
Fireclean Crisco Vegetable oil do they mix?







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9/6/2015 3:36:11 PM EST

Hard to say but...analyzed and checking the patent info is a much better way to find out than a pour test.

9/6/2015 3:47:05 PM EST

9/6/2015 3:57:26 PM EST

checking the patent info is a much better way to find out

Do you think he is lying?

Maybe, he is trying to sell you something.

Let's see the results of this analysis.

I couldn't find the patent # or application for Fireclean, anyone?

**Nehi [Member]**

9/6/2015 4:19:22 PM EST

But, Ballistol is just mineral oil

**12\_gauge [Member]**

9/6/2015 4:23:25 PM EST

**Originally Posted By NeverMiss556:**

Hard to say but I'd guess having it analyzed and checking the patent info is a much better way to find out than a pour test.

Do you think he is lying?

Do you think an identical chemical at the same temperature as its counterpart would layer and resist mixing when mechanically agitated? If so, by all means, bartending will never be the same if you can replicate that.

Imagine! No need to use different liquor to layer drinks. I'd like 3 layers of Goose!

**NeverMiss556 [Member]**

9/6/2015 5:16:03 PM EST

**Originally Posted By Nehi:**

**Originally Posted By NeverMiss556:**

Hard to say but I'd guess having it analyzed and checking the patent info is a much better way to find out than a pour test.

Do you think he is lying?

Maybe, he is trying to sell you something.

Let's see the results of this analysis.

I couldn't find the patent # or application for Fireclean, anyone?

Ha, he did a whole pint of weapon shield and a tub of its grease several years ago, I have to say it is an excellent product as was his FP-10 I used for 20 years.

He is not a snake oil salesman so at this point I have no reason to doubt him until we get more info.

**nuke1 [Member]**

9/6/2015 5:34:30 PM EST

**Originally Posted By 12\_gauge:**

Background: George Fennel (the inventor of FP-10 and later Weapon Shield) has stated that FIREClean is identical to Crisco Vegetable Oil. Going so far as to state that on a spectrometer, they have an identical signature.

<http://i61.tinypic.com/25k22kx.jpg>

I set to prove this either correct, or incorrect.

Same-chemicals have same-specific gravities. In other words, they will mix when introduced to one another. This makes sense, right? You pour honey into more honey, and it all looks the same. You pour new motor-oil into a container of the same new motor oil, and they don't "layer", they are indistinguishable. Water into water...water. So on and so forth, provided both chemicals are identical and of the same temperature.

So...I bought some Crisco vegetable oil, and some Fireclean, stored them both at room temperature, and poured them into the same container. Not necessarily conclusive if they mix, but pretty damning of Mr. Fennel's hypothesis of them being identical if they DON'T mix.

Well, here's the video. You decide...does this look like more of the same chemical being introduced to itself?

<http://www.youtube.com/watch?v=RD0Mu0jYETU>

<http://i57.tinypic.com/2a5iqkh.jpg>

I'm no chemist, a nuke though, and this test tells you very little/nothing. It might be good for oil and water but two petroleum based chemicals/liquids which are very different can mix quite well; ex: oil/gas and in the case of gun cleaning solvents, they could have a similar base say 30wt oil with very different additives and their cleaning

abilities could be very different. So without a real chemical analysis you/we don't know anything about Fireclean.

**tfod [Team Member]**

9/6/2015 5:47:05 PM EST

George Fennel knows his stuff. I have used Weapon Shield with confidence since its debut.

[YOUTUBE] <https://www.youtube.com/watch?v=lcBu6q61G3M>

**nuke1 [Member]**

9/6/2015 5:51:37 PM EST

Salesman with tricks, no different than any other salesman.

**12\_gauge [Member]**

9/6/2015 6:05:04 PM EST

**Originally Posted By nuke1:**

**Originally Posted By 12\_gauge:**

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Funny. When I pour vegetable oil into more vegetable oil. It mixes. Same for fireclean. So why when I mix them...do they not mix? Could it be...that they are different?

**nuke1 [Member]**

9/6/2015 7:02:34 PM EST

**Originally Posted By 12\_gauge:**

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Not sure what you are getting at. Alcohol and water mix, rum and coke mix, chemical composition/molecular bonding have as much or more to do with two liquids mixing than specific gravity.  
<http://antoine.frostburg.edu/chem/senese/101/liquids/faq/miscible-immiscible.shtml>

**12\_gauge [Member]**

9/6/2015 8:10:18 PM EST

**Originally Posted By nuke1:****Originally Posted By 12\_gauge:****Originally Posted By nuke1:****Originally Posted By 12\_gauge:**

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So what you're telling me, is that two chemicals can be exactly the same, at the same temperature, and not mix? Show me.

**iroc409 [Member]**

9/6/2015 11:03:53 PM EST

Where is that video where someone did a temperature test and posted it on YouTube? The experiment was done on a similar type of analysis, with result showing the two had nearly identical flash-off temperature and characteristics.

I don't think anyone could tell unless real data could be shown. Maybe here's an idea, send a sample of each to some place like Blackstone and see if they can find the properties. 🤖

I doubt George Fennel will post any data, neither will FireClean. We shall continue with our speculation! 😊

ETA: I personally doubt that FireClean is just Crisco in a bottle, but I wouldn't be surprised if it is a modified version. Like anything, the modification is what you pay for.

**DasRonin [Team Member]**

9/6/2015 11:22:29 PM EST

Too many "magic beans" being sold as the ultimate gun lube.

Snake oil salesmen!

If the stuff was so great it would have a NSN!

**12\_gauge [Member]**


9/6/2015 11:47:26 PM EST

**Originally Posted By DasRonin:**

Too many "magic beans" being sold as the ultimate gun lube.

Snake oil salesmen!

If the stuff was so great it would have a NSN!

Millitec-1 had an NSN 

**mnvwguy02 [Team Member]**

9/7/2015 12:04:57 AM EST

**Originally Posted By 12\_gauge:**

**Originally Posted By nuke1:**

**Originally Posted By 12\_gauge:**

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Background: George Fennel (the inventor of FP-10 and later Weapon Shield) has stated that FIREClean is identical to Crisco Vegetable Oil. Going so far as to state that on a spectrometer, they have an identical signature.

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That said, your original test shows you have excellent physical intuition. Your test confirms both are oils (aliphatic compounds) and readily miscible. Your test will not show that they are identical. Your test will also show if they are significantly different in chemical make up.

If FireClean is Crisco vegetable oil, they will have the identical IR spectra. Some one curious enough can Have the two tested.

**12\_gauge [Member]**

9/7/2015 12:41:42 AM EST

I do not need IR Spectrum to tell you that the two items I added to the container did not mix. Since they didn't mix, the ONLY logical conclusions are:

They were of different temperature: I accounted for that, they were not.  
They were layered SUPER gently and maybe surface tensions...: I jammed my finger into the shot glass.

and last but not least...

THEY ARE NOT THE SAME.

I fail to see what people are having trouble grasping.

**gman556 [Team Member]**

9/7/2015 12:44:22 AM EST

I do enjoy checking out these threads, and I have not tested any of the new "snake oils", But I have used just about every one of them over the past couple of years, and I have not been impressed with any of them. While I did enjoy trying out the latest incredo-lube for a while, I grew tired of all the disappointment.

A couple of months ago I went back to slip 2000 EWL and 2000 EWL 30 Which I had been using years before all of the snake oil craze and I am remembering again why I liked it in the first place. I use the 2000 EWL for cleaning and the EWL-30 because it stays put.

This is what I will use from now on,YMMV.

**12\_gauge [Member]**

9/7/2015 12:48:28 AM EST

**Originally Posted By gman556:**

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So far, FIREClean is the only one that I've tried that actually met the advertising. The Lucas seems unique, I tried it, too, but prefer the FIREClean. That said, the Lucas is indeed unique in texture as it has a ton of tackifiers in it. But that's not what this thread is to focus on. I created it because more and more people, myself included, had become curious if Fireclean, per Mr. Fennel, was just Crisco Vegetable Oil.

**gman556 [Team Member]**

9/7/2015 1:05:23 AM EST

**Originally Posted By 12\_gauge:****Originally Posted By gman556:**

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I'm sure you are far more knowledgeable than I am, but when I look at and smell the cap of a vegetable oil bottle that has aged a bit, it reminds me of fireclean that had sat on a rifle I had not fired in a couple of months. It has the same tackiness and rancid odor.

Just an observation of mine. Not saying I disagree with your test.

Anyway like I said I will continue to enjoy checking out these threads. Thanks for taking the time for these tests. It doesn't go unappreciated.

**JohnSmith6073 [Member]**

9/7/2015 2:28:25 AM EST

If this is the patent for Fireclean it states it's a blend of veg oils, I think...

[https://www.google.com/patents/CA2867869A1?](https://www.google.com/patents/CA2867869A1?cl=en&dq=CA+2867869+A1&hl=en&sa=X&ved=0CB0Q6AEwAGoVChMIyqvwt5XhXgIV0gWSCh2sXg_p)

[cl=en&dq=CA+2867869+A1&hl=en&sa=X&ved=0CB0Q6AEwAGoVChMIyqvwt5XhXgIV0gWSCh2sXg\\_p](https://www.google.com/patents/CA2867869A1?cl=en&dq=CA+2867869+A1&hl=en&sa=X&ved=0CB0Q6AEwAGoVChMIyqvwt5XhXgIV0gWSCh2sXg_p)

**Willz [Team Member]**

9/7/2015 5:09:23 AM EST

I have an old bottle of Fireclean that I've only used maybe 1/3 of the bottle. It has a distinctly rancid odor. Like old vegetable oil.

I primarily use Slip EWL.

**nuke1 [Member]**

9/7/2015 5:13:11 AM EST

"So what you're telling me, is that two chemicals can be exactly the same, at the same temperature, and not mix? Show me.

No, he is saying the opposite. He is saying like dissolves into like. Two oils will dissolve into each other readily. The oils need not be identical to have good miscibility.

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^^^^This^^^^

OP your original post is confusing, I thought you said they did mix and because they did, Fireclean was the same a veg oil. Your original post is AFU not clear to me.

**12\_gauge [Member]**

9/7/2015 10:23:31 AM EST

**Originally Posted By nuke1:**

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<http://i57.tinypic.com/2a5iqkh.jpg>

**Originally Posted By nuke1:**

I'm no chemist, a nuke though,

I truly am at a loss for a response given the chain of events/data/situation.

**nuke1 [Member]**

9/7/2015 4:53:08 PM EST

**Originally Posted By nuke1:**

**Originally Posted By 12\_gauge:**

Background: George Fennel (the inventor of FP-10 and later Weapon Shield) has stated that FIREClean is identical to Crisco Vegetable Oil. Going so far as to state that on a spectrometer, they have an identical signature.

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OK, you're smart, I'm stupid. I didn't waste time watching your 3 1/2 min video and I blew through your wordy posts. You could have just said "they don't mix". Thanks for the in depth, scientific analysis! Have a nice day.

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**CTGuntalk.com**

Specific Gun related Discussions and Show and Tell. => Gear, optics and accessories. =>  
Topic started by: obewan on September 13, 2015, 02:21:22 PM

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Title: **Yes, It's True: FireClean is Crisco**  
Post by: **obewan** on **September 13, 2015, 02:21:22 PM**

---

LOL

<http://www.thefirearmblog.com/blog/2015/09/13/yes-its-true-fireclean-is-crisco/>  
(<http://www.thefirearmblog.com/blog/2015/09/13/yes-its-true-fireclean-is-crisco/>)

<http://www.vuurwapenblog.com/general-opinion/lies-errors-and-omissions/ir-spectra-fireclean-crisco/> (<http://www.vuurwapenblog.com/general-opinion/lies-errors-and-omissions/ir-spectra-fireclean-crisco/>)

"What did the tests show?"

FireClean is probably a modern unsaturated vegetable oil virtually the same as many oils used for cooking."

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **98Cobra** on **September 13, 2015, 04:59:02 PM**

---

Wow.... A lot of people fell into the hype. I almost bought a bottle to try it

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **CTSixshot** on **September 13, 2015, 06:16:21 PM**

---

Not exactly a gun lubricant, but I've been using petroleum jelly for case lube forever.  
If I really want to splurge, I'll use Vaseline...  
Only in America!  
Actually, I do use PJ as a lube in my semi-auto, too.

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **2ndamendment45** on **September 13, 2015, 06:40:53 PM**

---

KY-Jelly Baby

Sent from my iPad using Crapataalk

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **MadSmith** on **September 13, 2015, 06:53:51 PM**

---

Synthetic engine oil works a charm. It's infused with corrosion inhibitors, designed to work inside vehicle engines to reduce friction between high speed metal-to-metal contact, doesn't dry out or oxidize and gum up, low volatility, readily available.

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **Steevo** on **September 13, 2015, 07:01:02 PM**

---

Lube..... We don't need lube...run it dry

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **imahangtia** on **September 13, 2015, 08:37:55 PM**

---

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Synthetic engine oil works a charm. It's infused with corrosion inhibitors, designed to work inside vehicle engines to reduce friction between high speed metal-to-metal contact, doesn't dry out or oxidize and gum up, low volatility, readily available.

All this oil stuff drives me nuts. When I purchased my Stag AR a few years ago I read a bunch here and on ARFCOM. This oil, that oil, this AND that oil mixed, this grease, etc, etc. Several people said synthetic engine oil. I called Stag a couple of times and was told to use a thin gun oil. So far I've been using Rem Oil. So, MadSmith, am I wasting a few dollars a year (not much) on Rem Oil?

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **Jake** on **September 13, 2015, 09:16:00 PM**

---

Has anyone here ever tried "Ed's Red"?

<http://handloads.com/articles/default.asp?id=9>  
(<http://handloads.com/articles/default.asp?id=9>)

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **MadSmith** on **September 13, 2015, 10:02:55 PM**

---

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All this oil stuff drives me nuts. When I purchased my Stag AR a few years ago I read a bunch here and on ARFCOM. This oil, that oil, this AND that oil mixed, this grease, etc, etc. Several people said synthetic engine oil. I called Stag a couple of times and was told to use a thin gun oil. So far I've been using Rem Oil. So, MadSmith, am I wasting a few dollars a year (not much) on Rem Oil?

---The difference is more between having oil, or running dry. ARs love to run wet. Thin oils will tend not to accumulate as much crud as thicker oils, nor congeal and gum up the works when it's -40 outside.

Synthetic engine oil that's formulated to maintain its lubricity under all weather conditions from being in a black car in the summer under an Arizona sun, to the middle of a Maine winter, also serves that purpose.

Hence the question 'am I wasting money on this or that oil', can be taken somewhat like 'am I wasting money on this or that brand of coffee'. There are 'gourmands' who would turn up their noses at cheap Stop & Shop Colombian Espresso, and there are those who drink a gallon of the stuff every day like it was water. It's pretty much down to preferences.

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **Blaster** on **September 14, 2015, 08:52:24 AM**

---

It has always been my opinion that the gun lubrication industry is replete with hucksters, the modern day equivalent of Snake Oil Salesmen.

I have been sucked reading the debate surrounding the FireClean controversy. One of the supposed original whistle blowers is George Fennel who has been behind products like FP-10 and Weapon Shield.

Here you can see George comparing Frog Lube to his latest Weapon Shield.  
<https://www.youtube.com/watch?v=IQLAE3MtTO> (<https://www.youtube.com/watch?v=IQLAE3MtTOI>)

Yet here in the testing conducted Frog Lube appears to dramatically out perform Weapon Shield. <http://forums.outdoorsdirectory.com/showthread.php/141077-Results-of-gun-care-product-evaluation>  
(<http://forums.outdoorsdirectory.com/showthread.php/141077-Results-of-gun-care-product-evaluation>)

Do any of these tests have relevance to firearms applications? You decide.

My opinion don't over pay there are no magic elixirs.

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **imahangtia** on **September 14, 2015, 09:18:59 AM**

---

A couple of years ago I purchased a quart of synthetic engine oil to use on my Stag, but when I called Stag they said use thin gun oil. Based on what MadSmith said above I am thinking very seriously of changing to the engine oil.

Anyone care to challenge MadSmith's comments?

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **firepolock** on **September 14, 2015, 09:30:33 AM**

---

Been using motor oil for a few years now on my ARs.

Still use RemOil on my bolt action and a few others though

Sent from my SAMSUNG-SM-G870A using Tapataalk

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **discounteggroll** on **September 14, 2015, 09:58:56 AM**

---

I keep a little mobil 1 synthetic on the side when I do an oil change and use that on my AR's. Little bit goes a long way

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **ctsheepdog** on **September 14, 2015, 10:03:27 AM**

---

About a decade or so ago there was a controversy in fly fishing circles when a leading fly treatment product maker was accused of using a generally available product, repackaging it and then marking it up thousands of percent by weight. I can't recall which brand name of fly floatant was involved nor which commercial product but the fishing forums burned for months over this.

Seems some enterprising scientist/angler decided to run the product through a mass spectrometer and compare that to other products with similar physical characteristics. The results were nearly incontrovertible but, in the end, the product continued to sell well because: 1) it worked for the purpose at hand and 2) the average angler did not surf forums and would have no idea he was overpaying.

~~Anyone have access to a spectrometer to test this claim?~~

Sorry, I typed that before I flipped over to the article and saw the graphs themselves.

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **jgb** on **September 14, 2015, 04:31:28 PM**

---

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A couple of years ago I purchased a quart of synthetic engine oil to use on my Stag, but when I called Stag they said use thin gun oil. Based on what MadSmith said above I am thinking very seriously of changing to the engine oil.

Anyone care to challenge MadSmith's comments?

Sure... I don't like Mobil 1. I use Pentosin 5W-30, because that what I use in my car & have lying around in the garage.

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **NiCKZ** on **September 14, 2015, 04:42:41 PM**

---

I use brake and caliper synthetic grease on my Glocks' lube points... My dad and I use the Hoppes cleaners and lubes on the rifles and shotguns.

---

Title: **Re: Yes, It's True: FireClean is Crisco**  
Post by: **ctsheepdog** on **September 15, 2015, 12:59:09 PM**

---

Back to the original topic, this observation from the **Vuurwapen Blog**

(<http://www.vuurwapenblog.com/general-opinion/lies-errors-and-omissions/ir-spectra-fireclean-crisco/>) should be taken into consideration as you assess the issue of Fireclean and who first brought up the potential controversy:

**INFRARED SPECTROSCOPY OF FIRECLEAN AND CRISCO OIL**  
(<http://www.vuurwapenblog.com/general-opinion/lies-errors-and-omissions/ir-spectra-fireclean-crisco/>)S

*I also contacted the man who seems to have originated the "FireClean is Crisco" claim. George Fennell of WeaponShield posted on his personal Facebook page that FireClean was Crisco several weeks back (I am told that this has been removed, but I cannot view his Facebook page any more).*

*It was claimed by various people, including the guy who first posted that now-removed stovetop video, that he had scientific proof of this claim. I asked Mr. Fennell if he would provide a copy of the analysis, which he refused to do. He told me all I needed to do was look at FireClean's patent application to see that it was Crisco and/or other vegetable oils. When I asked again, rather politely in my opinion, he sent a very long and agitated message again refusing to supply the test before blocking me on Facebook.*

*Mr. Fennell was the developer of FP-10, a gun oil which, I should mention, I have recommended in the past and said I would purchase over FireClean for reasons of cost. He has since left the company which produces FP-10 and started at WeaponShield. Since then, he has criticized FP-10 as well as FireClean and other oils. I will reiterate that FP-10 provides excellent lubrication characteristics at a competitive price, if you're looking to buy a gun oil.*

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **indawire** on **November 25, 2015, 06:35:57 PM**

---

I'm not going to get involved in what anyone uses for gun parts lube but Fireclean is not Crisco. My choice is unicorn tears mixed with the juices from a virgin elf princess. If I can't get that, Slip 2000.

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **Steevo** on **November 25, 2015, 06:44:03 PM**

---

Crisco has many uses.....

Me a chick, Crisco and a grape Popsicle and use your imagination

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **Jake** on **November 25, 2015, 08:44:30 PM**

---

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Crisco has many uses.....

Me a chick, Crisco and a grape Popsicle and use your imagination

Pictures or it never happened. ;D



---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **token** on **November 27, 2015, 03:56:50 PM**

---

Stupid question, but how is everyone applying motor oil? Q-tip?

---

Title: **Re: Yes, It's True: FireClean is Crisco**

Post by: **firepolock** on **November 27, 2015, 06:03:24 PM**

---

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Stupid question, but how is everyone applying motor oil? Q-tip?

I just use a rag and dab it on

Sent from my SAMSUNG-SM-G870A using Tapatalk

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06-10-2015, 5:04 PM

#1



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
iTrader: 8 / 100%

## Weapon Shield vs. FireClean Friction Test

I know there's a lot of FireClean fans out there so let me know what you guys think. He also has a bunch of other videos testing Weapon Shield against all kinds of other lubes including Frog Lube.

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Last edited by AeroEngi; 06-10-2015 at 7:22 PM..



06-10-2015, 5:16 PM

#2

**Tisne**

Join Date: Jun 2015  
Posts: 24

Junior Member



I've been looking for friction tests. Thanks for the post.



06-10-2015, 6:56 PM

#3



**Niviticus**  
Senior Member

Join Date: Feb 2009  
Location: Highland, CA  
Posts: 1,186  
iTrader: 42 / 100%



I wonder what would have happened if he put a new bearing on there to test the weapon shield. When he tested the fire clean it had removed quite a bit of material which then leads to a higher surface area for when the weapon shield was applied.



06-10-2015, 7:03 PM

#4



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
iTrader: 8 / 100%



Quote:

Originally Posted by **Niviticus**

*I wonder what would have happened if he put a new bearing on there to test the weapon shield. When he tested the fire clean it had removed quite a bit of material which then leads to a higher surface area for when the weapon shield was applied.*

If you look at his other videos, he does exactly that.

Here's the one with the Frog Lube comparison:

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06-10-2015, 7:24 PM

#5



**firebert**  
Senior Member

Join Date: Nov 2011  
Location: Alameda  
Posts: 966  
Trader: 46 / 100%

Looks like fireclean, froglube, slip2000, and lucas all performs comparatively

03FFL - NRA Life Member - GOA Member

22LR - 30-06 - .308 - .223 - .45ACP - 9mm - 12ga



06-10-2015, 7:29 PM

#6



**missiontrails**  
Calguns Addict

Join Date: Nov 2008  
Location: San Diego  
Posts: 7,194  
Trader: 119 / 100%

Frog lube is total crap. Even the liquid version turns into pudding in the bottle after sitting for a year. That stuff should NOT be used on any surfaces that don't get hot. BTW, there is not one part in a semi auto rifle that moves fast enough or has enough pressure on it to "wear" like that bearing did.



06-10-2015, 7:35 PM

#7

**sealocan**  
Veteran Member

Join Date: Mar 2012  
Posts: 4,749  
Trader: 18 / 100%

I'm a weaponshield user and I have always been satisfied with it the only thing that thing that I've seen that makes me question one aspect was a recent anti-rust test performed on a large amount of different products. weapon shield didn't do as good as frog lube or a particular special type of wd40 called "wd40 special rust preventive" ...or something like that.

I know weapon shield will work to prevent rust I just don't know if its the very best product that's available specifically for rust prevention.

\*\* but let me add that maybe I'm just being too picky but I would think with modern technology we would have something that we could put onto our firearms and it would keep the rust off almost indefinitely or longer than the things we have now ( like 5 years or better - NO rust.) even if you lived near the ocean and have a high moisture content in the air.

I understand you might remove some of it while you were cleaning your gun but a quick reapplication and you're good for another 5 years that sounds good to me.

I mean I know they have chemicals that can cover your phone and it will make your phone practically impervious to water so I would think it may be possible with the chemicals we have now.

Last edited by sealocan; 06-10-2015 at 7:51 PM..



06-10-2015, 7:47 PM

#8



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
Trader: 8 / 100%

Quote:

Originally Posted by **missiontrails**

*Frog lube is total crap. Even the liquid version turns into pudding in the bottle after sitting for a year. That stuff should NOT be used on any surfaces that don't get hot. BTW, there is not one part in a semi auto rifle that moves fast enough or has enough pressure on it to "wear" like that bearing did.*

Agreed but it's a good method of comparing different lubricants to one another.

Quote:

Originally Posted by **sealocan**

*I'm a weaponshield user and I have always been satisfied with it the only thing that thing that I've seen that makes me question one aspect was a recent anti-rust test performed on a large amount of different products. weapon shield didn't do as good as frog lube or a particular special type of wd40 called "wd40 special rust preventive" ...or something like that.*

*I know weapon shield will work to prevent rust I just don't know if its the best product that's available specifically for rust prevention.*

This test seems to show Weapon Shield doing fairly well at preventing rust.

<http://www.m4carbine.net/showthread....ics-5-08-12%29>

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amazon

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06-10-2015, 8:13 PM

#9

**sealocan**

Veteran Member

Join Date: Mar 2012

Posts: 4,749

Trader: **18** / 100%



^^^, Thank you AeroEngi, I stand corrected!

I took a look at that link and had to go through a few pages to see the end results but clearly weapon shield products were holding its own and was tied or in better results than the frog lube products.

that test was just like the one I had just recently had seen, both were guys just doing them in their backyard so is understandable that test results may vary.

;-)

but I'm glad to hear that my weapon shield is also a good rest prevented.

I really like the fine needle tip applicator that comes with the smallest tube of weapon shield. I was even able to bend my needle just a little bit to get into hard to get spots.



06-10-2015, 8:26 PM

#10

**Merc1138**

I need a LIFE!!

Join Date: Feb 2009

Posts: 19,122

Trader: **9** / 100%



Quote:

Originally Posted by **sealocan**

*I mean I know they have chemicals that can cover your phone and it will make your phone practically impervious to water so I would think it may be possible with the chemicals we have now.*

The problem is, none of those do very good with wear and heat, which is something you have to account for on a firearm. All they'd really be good for is long term storage, then you'd need to clean it all off and properly lubricate the firearm prior to shooting.

But the thing is, if that's all you want... we've had the ability to do that for decades now. There are rust inhibitors that can be sprayed into bags and sealed, materials slathered over the surface of an object, or even just dunking entire firearms into a vat of cosmoline. It's not pretty, it's not convenient, but it works.



06-10-2015, 8:37 PM

#11

**sealocan**

Veteran Member

Join Date: Mar 2012

Posts: 4,749

Trader: **18** / 100%



I understand what you're saying and also understand where the current rust inhibitors are at this stage of their development.

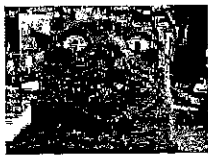
I'm just always hoping for something better.

just part of man ... searching for better tools.



06-10-2015, 8:50 PM

#12



**-hanko**  
Calguns Addict

Join Date: Jul 2002  
Location: Bay Area & SW Idaho  
Posts: 8,882  
iTrader: **5** / 100%

Quote:

Originally Posted by **sealocan**

*\*\* but let me add that maybe I'm just being too picky but I would think with modern technology we would have something that we could put onto our firearms and it would keep the rust off almost indefinitely or longer than the things we have now (like 5 years or better - NO rust.) even if you lived near the ocean and have a high moisture content in the air.*

The product you're longing for is Rig Grease...and I lived line of sight to the ocean about a half mile away for over a decade. ☺

*"Tactical" is like boobs...you can sell anything with it....arf*

*I never once felt out of place or that people were intolerant...but then again, I didn't ask any dumbass questions ...saxman*

*"Heaven goes by favor. If it went by merit, you would stay out and your dog would go in."*  
Mark Twain



06-10-2015, 10:12 PM

#13

**Shenaniguns**  
Calguns Addict

Join Date: Dec 2006  
Location: Back in California?  
Posts: 5,964  
iTrader: **25** / 100%

I've used Weapon Shield since he gave out those samples is 2007. I love their products and have not found a better product and I've had access to most of the products out there. There's many high quality lubes out there, I just feel that Weapon Shield is the best overall.

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-10-2015, 11:00 PM

#14



**Massan**  
Senior Member

Join Date: Jul 2010  
Posts: 1,038  
iTrader: **15** / 100%

How does it perform in suppressed platforms? I use Fireclean exclusively due to its ridiculous performance when suppressed, I can wipe carbon off with a paper towel with no scrubbing. Also, I'm always a bit dubious bout comparison tests performed by one manufacturer against another, plus Fireclean does mention to soak the metal for a few hours(similar to Froglobe) so not quite sure if that would affect the test or not.



06-10-2015, 11:26 PM

#15

**Shenaniguns**  
Calguns Addict

Join Date: Dec 2006  
Location: Back In California?  
Posts: 5,964  
iTrader: **25** / 100%

Quote:

Originally Posted by **Massan**

*How does it perform in suppressed platforms? I use Fireclean exclusively due to its ridiculous performance when suppressed, I can wipe carbon off with a paper towel with no scrubbing. Also, I'm always a bit dubious bout comparison tests performed by one manufacturer against another, plus Fireclean does mention to soak the metal for a few hours(similar to Froglobe) so not quite sure if that would affect the test or not.*

The owner of MTG Firearms in Elk Grove has used Weapon Shield both in the can and in the gun attached with great results. If Fireclean works for you then great, try Weapon Shield next time. You'll save money and will be pleasantly surprised. What's dubious about his testing? Watch all the videos which are uncut and he also told the other company to get the same test certified in a 3rd party lab if they felt it could outperform their product.

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-11-2015, 2:44 AM

#16



**KrisDSA**  
Senior Member

Join Date: Apr 2014  
Location: East Coast / West Coast  
Posts: 1,472  
Trader: 4 / 100%



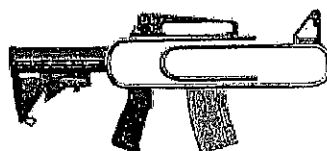
Tagged. Good to know about the fireclean

Glock Sights installed in AV area. PM Me For Prices



06-11-2015, 9:39 AM

#17



**AreWeFree**  
Veteran Member

Join Date: Jan 2013  
Posts: 2,851  
Trader: 17 / 100%



Thanks for the link OP. After watching several of their videos I must say I'm impressed. That guy appears to be quite knowledgeable and impartial.

Needless to say I'm disappointed that slip 2000 did poorly and I know what I'm buying next.



06-11-2015, 10:06 AM

#18

**Shenanigans**  
Calguns Addict

Join Date: Dec 2006  
Location: Back in California?  
Posts: 5,964  
Trader: 25 / 100%



George Fennell is a Lubrication Engineer, he's also the creator of the original formula of FP-10.

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-11-2015, 10:11 AM

#19



**TomT**  
Senior Member

Join Date: Jun 2013  
Location: Fresno  
Posts: 2,237  
Trader: 14 / 100%



I use FP-10 exclusively works really well for me.



06-11-2015, 12:06 PM

#20



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
Trader: 8 / 100%



Glad you guys are enjoying the videos. One thing I've always thought about is why don't any of these lube manufacturers ever put any kind of real tests out to prove that their products actually work and how well they work. Instead, we get slogans like "It Just Works" and we're supposed to believe it.

I've been using this stuff on all my firearms for about 3 years now and I've always thought it was great. These videos just reinforce my decision.

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06-11-2015, 12:54 PM

#21

**Merc1138**

I need a LIFE!!

Join Date: Feb 2009  
Posts: 19,122  
iTrader: 9 / 100%



Quote:

Originally Posted by **AeroEngi**

*Glad you guys are enjoying the videos. One thing I've always thought about is why don't any of these lube manufacturers ever put any kind of real tests out to prove that their products actually work and how well they work. Instead, we get slogans like "It Just Works" and we're supposed to believe it.*

*I've been using this stuff on all my firearms for about 3 years now and I've always thought it was great. These videos just reinforce my decision.*

Because a lot of the time, people don't understand tests, results may not actually appear to be in favor of the manufacturer, and so on. Personally, I'm not going to buy weaponsshield just because someone at weaponsshield shows their product being better than the competition.

That being said, I did find the bit about fireclean having a shelf life to be hilarious. I've never understood why in the world people would want a biodegradable lubricant on their firearms. I want it to protect against wear, it can't do that if it biodegrades(although still not as hilarious as the incidents with froglobe growing mold in guns).



06-11-2015, 2:00 PM

#22



**joe frank64k**

@ the Dark End of the Bar  
CGN Contributor - Lifetime

Join Date: Mar 2009  
Location: Los Angeles County  
Posts: 7,908  
iTrader: 198 / 100%  
Blog Entries: 1



I was a lifelong Breakfee CLP user. The stuff worked great.

I was running low and was going to replenish my stash when I heard that the formula had been changed (and not for the better) when Safariland bought them out.

I was casting about for a replacement when I stumbled upon Weapon Shield. I'm a convert now. Not only does it work much better than the classic CLP, but it's totally non-toxic and even has a pleasing cinnamon smell. ☺

You will never, in your life, have a chance like this again.  
If I were you, I would not pass this up. I would not let this go by...this is rare.  
Come on...what harm??



06-11-2015, 3:29 PM

#23



**-hanko**  
Calguns Addict

Join Date: Jul 2002  
Location: Bay Area & SW Idaho  
Posts: 8,882  
iTrader: 5 / 100%



Quote:

Originally Posted by **AeroEngi**

Glad you guys are enjoying the videos. One thing I've always thought about is why don't any of these lube manufacturers ever put any kind of real tests out to prove that their products actually work and how well they work. Instead, we get slogans like "It Just Works" and we're supposed to believe it.

It's somewhat analogous to K&N automotive air filters...they claim miraculous improvements in HP and torque...though I've never seen a test by an Independent lab funded by somebody other than K&N. ☹

Quote:

Originally Posted by **Merc1138**

I've never understood why in the world people would want a biodegradable lubricant on their firearms. I want it to protect against wear, it can't do that if it biodegrades(although still not as hilarious as the incidents with frog lube growing mold in guns).

They want it biodegradable so there's no chance of them catching the cancer. ☹ Those who don't have a garage or man-cave don't want their so's to say "eeeeeeew, that smelllllls".

Frog Lube = Seal 1 = Track Lube...google trillium marketing. There's way more than just "a" sucker born every minute.

"Tactical" is like boobs...you can sell anything with it....arf

I never once felt out of place or that people were intolerant...but then again, I didn't ask any dumbass questions ...saxman

"Heaven goes by favor. If it went by merit, you would stay out and your dog would go in."

Mark Twain



06-11-2015, 10:30 PM

#24



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
Trader: 8 / 100%

Quote:

Originally Posted by **Merc1138**

Because a lot of the time, people don't understand tests, results may not actually appear to be in favor of the manufacturer, and so on. Personally, I'm not going to buy weaponshield just because someone at weaponshield shows their product being better than the competition.

That being said, I did find the bit about fireclean having a shelf life to be hilarious. I've never understood why in the world people would want a biodegradable lubricant on their firearms. I want it to protect against wear, it can't do that if it biodegrades(although still not as hilarious as the incidents with frog lube growing mold in guns).

Agreed but how hard is it to understand the test in the subject video?

Yup, sounds pretty silly that a firearms lubricant has a shelf life. George in the video described it as similar to vegetable oil.

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06-12-2015, 1:32 PM

#25



**firebert**  
Senior Member

Join Date: Nov 2011  
Location: Alameda  
Posts: 966  
Trader: 46 / 100%

## Quote:

Originally Posted by **Shenanigans***George Fennell is a Lubrication Engineer, he's also the creator of the original formula of FP-10.*

That title probably gets him lots of woman

03FFL - NRA Life Member - GOA Member

22LR - 30-06 - .308 - .223 - .45ACP - 9mm - 12ga



06-12-2015, 1:38 PM

#26


**Massan**  
Senior Member

 Join Date: Jul 2010  
 Posts: 1,038  
 Trader: **15** / 100%

## Quote:

Originally Posted by **Shenanigans***What's dubious about his testing? Watch all the videos which are uncut and he also told the other company to get the same test certified in a 3rd party lab if they felt it could outperform their product.*

He states that reading the bottle it mentions "Use within one year of purchase" and yet on all my bottles it is not mentioned anywhere whatsoever, same on the website. I have 3 bottles, one I bought about 3 years ago now (and still working well so that shelf life if real is not applicable) and 2 recent ones from about 6 months ago and the labels haven't changed.

That statement alone without supporting proof asides from what he says on the video is disillusioning, and the comparison to "vegetable oil" is also misleading unless he has the individual ingredients (short of asking Fireclean or having some high grade equipment to identify the ingredients) to compare to the MSDS.

I'm sure Weapon Shield is an excellent lube but my observation still stands that I don't trust tests from one manufacturer against another. As to why Fireclean (and others) don't perform the same test using a 3rd party, I don't know but more than likely they either don't care or know it will also fail.



06-12-2015, 2:54 PM

#27


**AeroEngi**  
Veteran Member

 Join Date: Oct 2010  
 Location: Glendale, CA  
 Posts: 2,880  
 Trader: **8** / 100%

## Quote:

Originally Posted by **Massan***He states that reading the bottle it mentions "Use within one year of purchase" and yet on all my bottles it is not mentioned anywhere whatsoever, same on the website. I have 3 bottles, one I bought about 3 years ago now (and still working well so that shelf life if real is not applicable) and 2 recent ones from about 6 months ago and the labels haven't changed.*

*That statement alone without supporting proof asides from what he says on the video is disillusioning, and the comparison to "vegetable oil" is also misleading unless he has the individual ingredients (short of asking Fireclean or having some high grade equipment to identify the ingredients) to compare to the MSDS.*

*I'm sure Weapon Shield is an excellent lube but my observation still stands that I don't trust tests from one manufacturer against another. As to why Fireclean (and others) don't perform the same test using a 3rd party, I don't know but more than likely they either don't care or know it will also fail.*

See post 138 in this thread: <http://www.m4carbine.net/showthread....th-AR15/page14>

Seems as if Fireclean has removed the expiration date from their labels. Maybe George had an older bottle?

SHOP42A.COM



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06-12-2015, 4:52 PM

#28

**-hanko**  
Calguns AddictJoin Date: Jul 2002  
Location: Bay Area & SW Idaho  
Posts: 8,882  
Trader: 5 / 100%

Quote:

Originally Posted by **Shenaniguns***George Fennell is a Lubrication Engineer, he's also the creator of the original formula of FP-10.*

Self-taught, or with a degree...and if a degree, from what school??

Quote:

Originally Posted by **Massan***That statement alone without supporting proof asides from what he says on the video is disillusioning, and the comparison to "vegetable oil" is also misleading unless he has the individual ingredients(short of asking Fireclean or having some high grade equipment to identify the ingredients) to compare to the MSDS.**I'm sure Weapon Shield is an excellent lube but my observation still stands that I dont trust tests from one manufacture against another. As to why Fireclean(and others) dont perform the same test using a 3rd party, I dont know but more than likely they either dont care or know it will also fail.*

If it's like Seal 1 or Frog Lube, there is zero info in the MSDS describing what's in the crap. Both claim that the products meet the same mil-spec as CLP, but both refuse to provide test results. None have ever been sold to the U.S. Government. Both are pure crap.

I have yet to see a weapons manufacturer recommend either. ☹

*"Tactical" is like boobs...you can sell anything with it....ar**I never once felt out of place or that people were intolerant...but then again, I didn't ask any dumbass questions ...saxman**"Heaven goes by favor. If it went by merit, you would stay out and your dog would go in."*

Mark Twain



06-12-2015, 8:16 PM

#29

**Shenaniguns**

Calguns Addict

Join Date: Dec 2006  
Location: Back in California?  
Posts: 5,964  
Trader: 25 / 100%

Quote:

Originally Posted by **Massan***He states that reading the bottle it mentions "Use within one year of purchase" and yet on all my bottles it is not mentioned anywhere whatsoever, same on the website. I have 3 bottles, one I bought about 3 years ago now(and still working well so that shelf life if real is not applicable) and 2 recent ones from about 6 months ago and the labels havent changed.**That statement alone without supporting proof asides from what he says on the video is disillusioning, and the comparison to "vegetable oil" is also misleading unless he has the individual ingredients(short of asking Fireclean or having some high grade equipment to identify the ingredients) to compare to the MSDS.**I'm sure Weapon Shield is an excellent lube but my observation still stands that I dont trust tests from one manufacture against another. As to why Fireclean(and others) dont perform the same test using a 3rd party, I dont know but more than likely they either dont care or know it will also fail.*

There is ways for companies to test products to see what they're composed of, but that's above my pay grade. You honestly think someone would make those claims of a competitors product and not risk being sued out of business?

Quote:

Originally Posted by **-hanko***Self-taught, or with a degree...and if a degree, from what school??*

*If it's like Seal 1 or Frog Lube, there is zero info in the MSDS describing what's in the crap. Both claim that the products meet the same mil-spec as CLP, but both refuse to provide test results. None have ever been sold to the U.S. Government. Both are pure crap.*

*I have yet to see a weapons manufacturer recommend either. ☹*

Weird question but he lists University of Pittsburgh, email him if you doubt his credentials.

And for those who want to see Weapon Shield's msds sheets here's a link: <http://www.weaponshield.com/msds.htm>

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-12-2015, 8:26 PM

#30

## Shenanigans

Calguns Addict

Join Date: Dec 2006  
Location: Back in California?  
Posts: 5,964  
Trader: 25 / 100%



George Fennell's credentials:

### INVENTOR

Doctor of Astronomy and Astrophysics 1979 - 1985: PITT (University of Pittsburgh - Research Associate, Allegheny Observatory)  
Lubrication Engineer (PE) 1986 - 2004: MPC (Co-Founder, Vice President, Technical Director) 1985 - Present: Steel Shield Technologies, Inc. (Co-Founder, President, Technical Director)

Organizations: SAE (Society of Automotive and Aerospace Engineers) Member ASNE (American Society of Naval Engineers) Member NCMA (National Contract Management Association) Member STLE (Society of Tribologists and Lubricant Engineers) Member

In 1986, Dr. George C Fennell, a former scientist in Astronomy and Astrophysics is doing consulting and contract works in advanced lubrication and surface Tribology, formulated a revolutionary metal treatment oil additive which can activate "ABF" (Advanced Boundary Film) through a proprietary and unique "electro-chemical ionization" (ECI) process. He has been known since then in the industry as the "Father of Advanced Boundary Film Lubrication and halogenation without corrosion". On the basis of ABF, a series of specialty lubricants were derived to meet the specific requirements of various purposes, which is so far to date, the most advanced formulas in lubrication and lubrication theory. In retrospective, the nearly half a century research and development obviously embodies the relentless pursuit of several generations of scientists from scratch to reality. Over the years, since the official launch of Steel Shield in the market, there have been tremendous aftermarket products trying to resemble Steel Shield, but due to its unique formula and advanced chemistries, none have been found even remotely successful. To this date, Dr. Fennell is still the leader and top expert in his field.

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-12-2015, 8:49 PM

#31



## Carcassonne

Senior Member

Join Date: Jul 2012  
Posts: 1,798  
Trader: 11 / 100%



The Falex device isn't taken seriously by Tribologists. You can put Head and Shoulders shampoo on the wheel and it will perform as good or better than Weapons Shield on the Falex test.

<https://www.youtube.com/watch?v=ejEx...I&spfreload=10>

Be sure to ask your doctor if depression, rectal bleeding, and suicide are right for you.

In the United States a person's expertise on a subject is inversely proportional to their knowledge of the subject: The less they know about something, the more they become an expert on it.



06-12-2015, 8:54 PM

#32

**Shenaniguns**  
Calguns Addict

Join Date: Dec 2006  
Location: Back in California?  
Posts: 5,964  
Trader: 25 / 100%

Quote:

Originally Posted by **Carcassonne**

*The Falex device isn't taken seriously by Tribologists. You can put Head and Shoulders shampoo on the wheel and it will perform as good or better than Weapons Shield on the Falex test.*

<https://www.youtube.com/watch?v=ejEx...I&spfreload=10>

If head and shoulders can clean, lube and protect a firearm better than Weapon Shield than provide some proof here and we'll be all eyes.

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-12-2015, 9:03 PM

#33



**Carcassonne**  
Senior Member

Join Date: Jul 2012  
Posts: 1,798  
Trader: 11 / 100%

Quote:

Originally Posted by **Shenaniguns**

*If head and shoulders can clean, lube and protect a firearm better than Weapon Shield than provide some proof here and we'll be all eyes.*

Let me post again what I wrote. This time pay attention to the **BOLD** parts.

Quote:

**The Falex device isn't taken seriously by Tribologists.** You can put Head and Shoulders shampoo on the wheel and it will perform as good or better than Weapons Shield **on the Falex test.**

Be sure to ask your doctor if depression, rectal bleeding, and suicide are right for you.

In the United States a person's expertise on a subject is inversely proportional to their knowledge of the subject: The less they know about something, the more they become an expert on it.

*Last edited by Carcassonne; 06-12-2015 at 9:10 PM..*



06-12-2015, 9:22 PM

#34

**Shenaniguns**  
Calguns Addict

Join Date: Dec 2006  
Location: Back in California?  
Posts: 5,964  
Trader: 25 / 100%

Quote:

Originally Posted by **Carcassonne**

*Let me post again what I wrote. This time pay attention to the highlighted parts.*

Sarcasm missed you...

Thanks for the heads up on the Falex machine, I'll keep that in mind when this testing is used.

All I know is I've used this product for 10's of thousands of rounds since 2007 through various firearms with fantastic results. It's extremely slick as a lubricant, cleanup is easy as it repels carbon and lead plus I've never had any rust in my carry guns.

Like I said in my first post, there's many high quality lubes out there but IMO I think Weapon Shield is the best overall that I've tried. I think I've given away all my bought and free samples of almost everything else to friends that were using inferior stuff like remoil and breakfree.

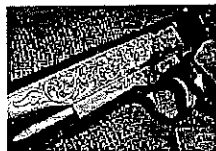
YMMV

**My opinions are my own and do not represent the position of other companies I may be involved with.**



06-12-2015, 10:04 PM

#35



**stryper**  
CGN/CGSSA Contributor  
CGN Contributor

Join Date: Feb 2012  
Location: Delano, Ca  
Posts: 518  
iTrader: **50** / 100%

I have been using Weapons Shield oil and grease for several years. I forgot where which forum it was on, but there was a link where you could get a free sample. It was mailed to me very quickly, and I tried it on an AR build that I was just putting together. After the barrel break in period, I re-oiled all the friction surfaces, and liberally coated the entire bolt. I didn't clean the AR again till I had over 1k rds through it. AR owners can imagine the carbon build up on the bolt from shooting cheap ammo. To my surprise, the carbon came off rather easily. I didn't fall off, but instead of having to use a scraper to get the tough spots, I used a small wire brush and brake cleaner. All the friction surfaces looked great too. It impressed me enough, that I ordered a large bottle, and their grease. It is said that the more you use Weapons Shield, clean up becomes even easier. This is true. I use the grease for high friction areas like the rails on my pistols, and the bolts on my rifles. I use the oil for all the other parts. This stuff goes a long way, and will last you a long time before you have to reorder.



06-12-2015, 10:40 PM

#36

**Merc1138**

I need a LIFE!!

Join Date: Feb 2009  
Posts: 19,122  
iTrader: **9** / 100%



Quote:

Originally Posted by **Carcassonne**  
*The Falex device isn't taken seriously by Tribologists. You can put Head and Shoulders shampoo on the wheel and it will perform as good or better than Weapons Shield on the Falex test.*

<https://www.youtube.com/watch?v=ejEx...I&spfreload=10>

Didn't know about that before(thanks for the heads up), but that's exactly why I stated this:

Quote:

Originally Posted by **Merc1138**  
*Personally, I'm not going to buy weaponshield just because someone at weaponshield shows their product being better than the competition.*



06-12-2015, 11:20 PM

#37



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
iTrader: **8** / 100%



Quote:

Originally Posted by **Carcassonne**  
*The Falex device isn't taken seriously by Tribologists. You can put Head and Shoulders shampoo on the wheel and it will perform as good or better than Weapons Shield on the Falex test.*

<https://www.youtube.com/watch?v=eJEx...I&spfreload=10>

So according to the info in your video, the Lucas oil should've outperformed Weapon Shield in the following video but it didn't.

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06-12-2015, 11:41 PM

#38

**Merc1138**

I need a LIFE!!

Join Date: Feb 2009

Posts: 19,122

Trader: 9 / 100%

Quote:

Originally Posted by **AeroEngi**

*So according to the info in your video, the Lucas oil should've outperformed Weapon Shield in the following video but it didn't.*

Barely wipes the bearing off at 10:50.

Drops the bearing out of frame at 13:55.

Spends a whole lot of time cleaning the bearing with a lot more brake cleaner at 14:25 than he used previously.

Begins slipstream test at 10:03, begins weaponshield test at 12:22. So 2 minutes 19 seconds or so between tests. Doesn't begin lucas test until 17:13, almost 5 minutes after the weaponshield test.

No way to determine what he's really doing to the race with the grinding stone, as we can't see the condition of the race prior to any testing.

I'm too lazy to count how long he's grinding and we don't know how much pressure he's using.

I do not see a method to determine that the increase in force is happening consistently during the tests. I could try and guess it and time it based on glancing at the scale, but just eyeballing it he doesn't seem to jam on the lever with the weaponshield as quickly as the others.

Does any of that mean that the weaponshield may not have performed as well as the lucas if the conditions of the testing were actually controlled? No. But because there are so many variables, I can't watch that and agree with it being definitive of anything.

edit: I am not a lube engineer. Do not work for a lube company, and have no vested interest in proving which works better than what other than for my own usage on my own firearms. That being said, as a casual observer watching the video, I find the number of discrepancies I spotted at a glance to be quite odd. If I really wanted to I could probably start nitpicking and find more, but just with one viewing there is enough that I question the validity of the demonstration as a "test" of anything.

Last edited by Merc1138; 06-12-2015 at 11:49 PM..



06-12-2015, 11:55 PM

#39



**AeroEngi**  
Veteran Member

Join Date: Oct 2010  
Location: Glendale, CA  
Posts: 2,880  
Trader: 8 / 100%

Quote:

Originally Posted by **Merc1138**

Barely wipes the bearing off at 10:50.

Drops the bearing out of frame at 13:55.

Spends a whole lot of time cleaning the bearing with a lot more brake cleaner at 14:25 than he used previously.

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edit: I am not a lube engineer. Do not work for a lube company, and have no vested interest in proving which works better than what other than for my own usage on my own firearms. That being said, as a casual observer watching the video, I find the number of discrepancies I spotted at a glance to be quite odd. If I really wanted to I could probably start nitpicking and find more, but just with one viewing there is enough that I question the validity of the demonstration as a "test" of anything.

I could say the same thing about Carcassonne's video. The bearings weren't even wiped down in that video and any material deposited by the bearing onto the spinner is still there. Also, what he's doing with the stone is he's removing the material that was deposited onto spinner by the wearing of the bearing. One of his other videos show exactly how he uses the stone to "reset" the surface on the spinner.

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**amazon**

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06-13-2015, 12:19 AM

#40

**Merc1138**  
I need a LIFE!!

Join Date: Feb 2009  
Posts: 19,122  
Trader: 9 / 100%



Quote:

Originally Posted by **AeroEngi**

*I could say the same thing about Carcassonne's video. The bearings weren't even wiped down in that video and any material deposited by the bearing onto the spinner is still there. Also, what he's doing with the stone is he's removing the material that was deposited onto spinner by the wearing of the bearing. One of his other videos show exactly how he uses the stone to "reset" the surface on the spinner.*

That doesn't mean the stone is being used the same way between videos. You're right about the video that Carcassonne posted, but the point was to show a way that the test could be manipulated, not an attempt to demonstrate product performance.

Even ignoring the amsoil video, the slp 2000, ws, lucas video actually made the inconsistent test conditions more obvious than the first video (in my opinion anyway, could also be that issue of seeing a magic trick one too many times and spotting how it's done).



Page 1 of 2 1 2 &gt; ▾

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**MICHEL  
 &  
 ASSOCIATES, P.C.**  
 Attorneys at Law

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## Replies



Ryan Guinn

Lol I put 500 trouble free rounds through my shield today with 1 drop of WS on the slide grooves. Came home, used the WS solvent and oil. My house actually smelled great till my kids came home

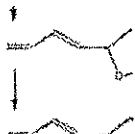
Yesterday at 7:00 PM · 1



George Fennell

Here's the facts....all vegetable oils will "polymerize" through various chemical means naturally, usually involving a free radical or oxygen rich fatty acid polymerization. What this means is that these oils, over time (not long....look at the FireClean label...says "Use within one year of purchase") will thicken, dry out and form an organic polymer or "plastic" which is why the FBI experienced seizures after 6 months of storage with these oils. They are NOT designed to be used as gun oils, and because our elitist liberal government wants anything "green", this is being taken advantage of by the opportunistic charlatans that will pass anything off to make a buck. MY PROBLEM IS IT WILL COST SOMEONE THEIR LIFE SOMEDAY when they go to use their stored weapon with this shit on it and it FAILS. want to read a little more in depth about drying oils and polymerization?....

[https://en.m.wikipedia.org/wiki/Drying\\_oil](https://en.m.wikipedia.org/wiki/Drying_oil)



Drying oil - Wikipedia, the free encyclopedia  
[en.wikipedia.org](https://en.m.wikipedia.org/wiki/Drying_oil)

A drying oil is an oil that hardens to a tough, solid...

Yesterday at 7:24 PM · 2



George Fennell

Now...when you put another type oil over this mess....you'll create a nightmare of goopy polymerized incompatible polar and non-polar crap that will make you rue the day you used it. Ok...I'm done.

Yesterday at 7:25 PM · 1



George Fennell

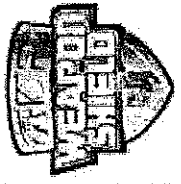
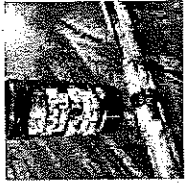
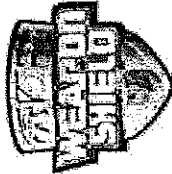
Stan, that's total crap what FC said. Yes it will occur if there's another oil there, but that's my point....up until these bullshit vegetable oils, we NEVER had a single compatibility issue in the



George Fennell Timeline ▾ 2015 ▾ June ▾

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Photos



George Fennell

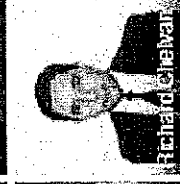
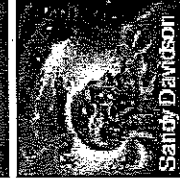
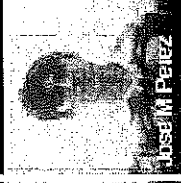
June 11, 2015

I can see NO difference in basic composition and performance. The shooting industry has become inundated with products that are everyday cns, with sensational claims, and super-sensational prices. It really seems to work on the psyche of the retail public. Instant fanboys and followers who believe without foundation of proof and testing. The self appointed experts are rampant ( all you need it seems is a camera and YouTube ) and screw all our years of science and education combined with research. The regulatory agencies like FTC.GOV and consumer protection agency either do not seem to care anymore or are overwhelmed with it all so much that they've given up in trying to police it all.

Every claim we make is backed by hard proof and evidence both in lab testing and field usage. Like I've always said....if Weapon Shield products are not the VERY BEST products you have ever used and our claims are anything less than what we make, I will refund your purchase price as well as your shipping.

NOTHING BEATS WEAPON SHIELD.....PERIOD!

Friends · 2,270



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and more in English

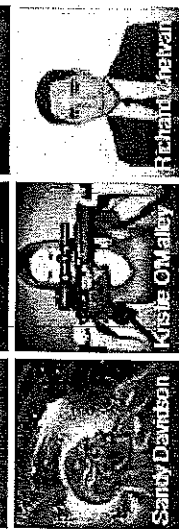
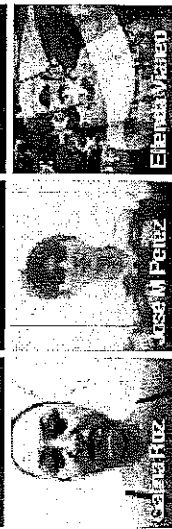
EXHIBIT

tabbles

7



Friends: 2,270



Engelbert, P. 1907  
 1907-1910  
 1910-1913  
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 1976-1979  
 1979-1982  
 1982-1985  
 1985-1988  
 1988-1991  
 1991-1994  
 1994-1997  
 1997-2000  
 2000-2003  
 2003-2006  
 2006-2009  
 2009-2012  
 2012-2015

Collin Pierce It's over priced junk. There are some good videos on this over less colorless rip off  
 June 11, 2015 at 2:45pm

George Fennell #rumsiswong #fascism #patriotism  
 June 11, 2015 at 12:18pm

Curie Menahan I don't use just any lubes (ky) on my guns. I am exclusive to weapon shield! There is your next ad George  
 June 11, 2015 at 12:36pm

Claude Hill Amen George!  
 June 11, 2015 at 10:20am

George Backus Will you be testing g96 synthetic next?  
 June 11, 2015 at 1:45pm

George Fennell We will be testing that on Monday in Quantico VA. I'll either video it or let you know how it does George.  
 June 11, 2015 at 9:02am

George Backus Just curious to see how it does as the only other milspec oil, breakfree seems to be the only product that posts decently against weapon shield  
 June 11, 2015 at 9:05am

George Fennell We will always give it a fair and equitable go. I'll be demo'ing it for the 'Boys at Quantico Academy'  
 June 11, 2015 at 8:09pm

Collin Pierce You can buy it cheaper at any auto parts store only difference is it has the dyes and smells added. Outer less colorless synthetic motor oil shouldn't cost more.  
 June 11, 2015 at 1:58pm

Richard Alves Unfortunately, your competitors are now going to make a taste test showdown vs. Weapon Shield  
 June 11, 2015 at 2:45pm

George Fennell Well Orisofc doesn't taste good at all. I accidentally got some on my finger touched my mouth and ewwww.....  
 June 11, 2015 at 8:05pm

George Fennell ...can I just say "F%\*% AUTOCORRECT?"  
 June 11, 2015 at 8:05pm

Dave Hickman I've been guilty of using axle grease on a belt fed 60 some years ago. Never cooking oil  
 June 11, 2015 at 2:45pm

Dave Hickman And motor oil!!!  
 June 11, 2015 at 2:45pm

Search for people, places and things



George Fennell

May 9 · 2013 · 1 · 0

Here's a message I got from a friend and really cool guy via messenger last evening. I've omitted his last name unless he wants it published, but it's a prime example of the emails and messages I get every day with regards to the so called "hype the tripe lubes" and "Pam for Guns" no stick veggie oils. For those of you who think that FireClean has anything over Crisco Oil, read this...

Hi George,

I was a solid fireclean user and even spread my personal bottles around the shooting friends at the sportsmans club. Until this week. I have always treated my ar rifle builds with fireclean and they feel smooth and shoot well and it eases cleaning immensely. Until this week. I had built my girlfriend and son there first ar rifles with quieten and predator billet receivers and young mfg carrier groups. Treated everything with fireclean and stuck them in an indoor temp controlled safe for about a year. Took the. To fire these guns and when cycling the bolts it felt like I filled them with molasses or tar. They were almost sticky. Got out severa other guns that I lubed and put away. Same thing. Super sticky and the lube has turned to thick tacky gunk. Never again. I follow you on Facebook for a while now and I would like to switch to your products. I do store some of my guns for years without use. I lube them and store them. Relube them before use. But I can't have them "gummed up" after storage.

Any info or input would be appreciated.

Thank you

Scott

More

52 people like this.

3 shares



Greg Elzer I too have seen this firsthand , Weapon Shield is my choice !  
George your product is the best!!

15 · May 9 · 1 · 0



Brandon Edwards W. Crawford this is a perfect example of what we were talking about a few weeks ago.

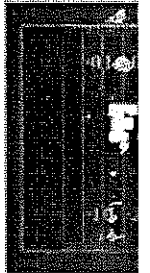
15 · May 9 · 1 · 0



Varrallo Fabrizio Elenda



George Fennell



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talking about a few weeks ago.

👍 1 · July 14 · 11:50 am



Vianella Fabrice Eltonda



👍 1 · July 14 · 11:50 am

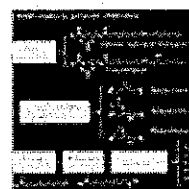


John Gelbour Weapon Shield...Period!!!!!! There is no equal or substitute available on this Earth. I can't explain how outstanding this product is, I cleaned and lubed many weapons many times during a 21 year military career and Weapon Shield has no equal. I thank you George, your a genius!!

👍 3 · July 14 · 11:50 am



George Fennell This is called "free radical polymerization" of vegetable oil. It will occur ON the gun, as well as IN THE BOTTLE after it sits for a year.  
<http://vegetableoilbasedpolymers.wikispaces.com/4-Vegata...>



#### vegetableoilbasedpolymers - 4. Vegetable Oil Polymer Production

VEA- Don't BUILD your POLYMER WHERE YOU CAN PREVENT IT

👍 2 · July 14 · 11:50 am



Brett Foster I had the same issues when I tried the same product. I also felt I got a lot more metal wear on my \$7k Open Pistol with metal wear marks on parts if the barrel that I never had before using Fireclean.

👍 1 · July 14 · 11:50 am



George Fennell Weapon Shield will absolutely STOP the wear-pattern dead in its tracks Brett, I guarantee it.

👍 2 · July 14 · 11:50 am

👉 View more replies



Don Stout Jr Nice

👍 1 · July 14 · 11:50 am



George Fennell 🙌🙌🙌

👍 1 · July 14 · 11:50 am



Don Stout Jr Hoy did you do the Viking tactical CLP test yet?? Maybe the bracelet can make a debut.

👍 1 · July 14 · 11:50 am



George Fennell It's "Rand CLP" Don...."approved by Viking Tactics". It appears they paid Kyle for his endorsement....which I don't feel so bad about. 🙌🙌🙌

👍 1 · July 14 · 11:50 am



George Fennell Hahah! Definitely on the bracelet....I'm trying to get to it this week. I hope I can. I have CorrosionX as well as Machinegunners Lube to do



## Intro

- Chief Technical Officer (CTO) & Co-Founder, President at Steel Shield Technologies, Inc.
- Studied Astronomy at University of Pittsburgh
- Lives in Bethel Park, Pennsylvania
- From Butler, Pennsylvania

## Photos



## Friends 2,270



July 2015

George Fennell with Taran Butler

July 21, 2015

I am constantly entertained (sarcasm) every time I see or hear someone tout the incredible virtues of "FrogLube" or "FireClean". It demonstrates the willingness of people to just "trust" in truth-in-advertisement and not know whether a product is truly working or if they just "think it's working". Until you've had soybean oil (FrogLube) or Crisco oil (FireClean) on your gun long enough to experience the nightmares of free radical polymerization, molding, increased frictional coefficients on the metal-to-metal contacts, and a host of other nightmares which are encountered when using another oil or product with them, (which usually ends up in a complete gummy mess that will stop your weapon from running) you'll "think" they are doing what the manufacturer says they're doing. Being in this industry and in specialty lubricants for nearly 30 years, I can HONESTLY say that vegetable oil lubricants are the absolute poorest examples of lubrication and wear prevention that exist, in their proposed state and usage. Because something is deemed "Green" does not at all mean it is the product of choice for the chosen job. If it's to be used as a lubricant and its veggie oil, you have little to no protection against high wear and shortened service life of your weapon. For all of the fanboys and girls who unknowingly "brought into this fantasy", it's not too late to change and save your guns. Of course I'll guarantee "Weapon Shield" to out-perform any of them, including Rand CLP (another vegetable based oil) by a factor of 10:1 in lubricating, cleaning, protecting and preserving your weapons and virtually STOPPING the wear process dead in its tracks and "increasing" the service life of your weapon for many years to come. My guarantee...

If Weapon Shield, Weapon Shield Solvent, or Weapon Shield Grease are not the very best products you have ever used, or do not live up to EVERY claim we make, I will immediately refund your purchase price as well as your shipping.

That my friends, is KNOWING you have the best there is. How many refunds have I ever done? ...Zero/0/None. Have a great weekend.

**Nothing Beats WEAPON SHIELD...**

- Increases Weapons functional Reliability And Maximizes Accuracy And Feeling
- Virtually Eliminates Wear And Increases Weapon Service Life
- Shields And Protects Against Rust And Corrosion

EXHIBIT

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News Feed Requests Messenger Notifications More

August 1



**George Fennell**

Try the same with weapon shield ....same deal, and we use REAL science....not skillet n' egg veggie no-stick Crisco. Google "vegetable oils and polymerization". Google "polymerization" (key word "polymer") to understand it if you don't already. Look at FireClean label...use within one year of purchase. REALLY!??????



EXHIBIT

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August 1 · 1



**George Fennell**

Use within one year of purchase....that's because it is subject to free radical polymerization and WILL polymerize. (Key...base word polymer). All veggie oils will do this and are the worst lubricants on the market.



August 1 · Edited · 3



**Adam Dyer**

Use within one year of purchase, what if it's sat on a shelf for a year before purchase?

August 1 · 3



**George Fennell**

It's expired then.

EXHIBIT

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August 1 · Edited · 3



**Adam Dyer**

Use within one year of purchase, what if it's sat on a shelf for a year before purchase?

August 1 · 3



**George Fennell**

It's expired then.

August 1



**George Fennell**

Ain't that some ambiguity lol?

August 1



**Adam Dyer**

I own some fireclean.... I've recommended it for certain uses. As far as the fog lube .... I've never recommend it

August 1



**George Fennell**

Look at it this way Adam, I spectra-analyzed it to be certain of its identity (Vegetable oil), then went and looked up the patent # (phony) they use...its for vegetable oil...why pay them \$13.99 for 2 ounces? Buy a big bottle of Crisco oil and save big time...or use something that will REALLY stop the wear and tear, protect it, and keep it clean/wipe dry after hundreds of rounds...Weapon Shield. You read my guarantee and I've been in this industry since 1988 and sponsored it all during my FP-10 days as well as my current Weapon Shield days. I sponsor more and give to the industry than anyone else in my category. Check it [www.weaponshield.com/sponsor.htm](http://www.weaponshield.com/sponsor.htm)

Time to maybe reconsider? It's your decision and the life and care of your guns...coming from a lubrication engineer and small arms specialist my whole professional career. Oh yea....check out our YouTube "Weaponshield" channel...see the demo on FireClean. Later...I'm out riding and enjoying the day.



**Weapon Shield Sponsorships**

[weaponshield.com](http://weaponshield.com)

August 1 · 1



**Adam Dyer**

Oh ... I never said I purchased and fireclean. I own some. It was prize table stuff. I work a lot of matches each year and there is always lube left over and I'll pick it up and bring it home. I do have a Weaponshield package in the shop as well. I do enjoy the needle oiler and use it often.

August 1 · 2



**George Fennell**

Awesome brother! 🙌👍👍

August 1

EXHIBIT

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**George Fennell**

Yesterday at 12:54 AM • Edited • 2

I have just been informed by the match director of the Brownell's Lady 3 Gun (Ms Lisa Marie Judy) that she refuses to accept my sponsorship and "do business with me" over a benign comment that was made a couple of months ago on my personal page, and was never intended to "hurt feelings" nor did it imply anything directly to anyone in particular. The simple comment was taken down in good faith as a gesture of my friendship and even an apology was made publicly. I thought the so called "issue" was resolved, but apparently there are latent hostilities there. It's not even worth mentioning but is directly related to her position as Outdoor Marketing Director of Lucas Oil products which is one of our direct competitors. I have never bashed Lucas Oil or her (Lisa Marie Judy), of which she states that I did. Quite untrue. I have actually given Lucas Oil an above average rating and credited them in my video. If Weapon Shield out performed them, that certainly is not bashing. And I will state for the record...I DONT BASH ANYONE. If I say FrogLube is soybean oil, that's because it's the truth, not bashing. Same with FireClean being Crisco vegetable oil. That's the truth...not bashing. But I have never said a negative thing about her or Lucas Oil products.

She declares it to be her match and her say so, and she has the right of refusal. So be it. To say I'm disappointed is an understatement. I was looking forward to sponsoring it and being there myself to greet all of our fine lady shooters. I regret that "serving two masters" has interfered in being able to participate in an open and public match.

I have been a sponsor to this industry for over 28 years and feel insulted and discriminated against for the very first time. I'm sorry I have to inform you all of this but I see no recourse as having tried to resolve it via messenger. It isn't happening. So weapon Shield after having sponsored the last two Brownell's Lady 3 Gun matches will no longer be sponsoring them. Please let all our other Sponsored shooters and competitors know. Thank you. G

54 people like this.

[View previous comments...](#)



**Andreas Mitschke**

A Sponsor honors a match with his products.... To refuse a highly recommended company I didn't understand.... I had not the opportunity to check different oils but I see your work to honor the sport and of course your product( so I can use the

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