Registration Jacket 72265-1

Volume 1

June 5, 2000

166/13 5-574396

166/13 5-576350

166/13 5-577625

Security Equipment Corp.
c/o RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

Attention: Ms. Kim Davis

Subject: Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R
Your letters of January 20 and March 10, 2000

Status of registration

We have reviewed the above two submissions and have provided our comments on the data and labeling for this pending product. Provided that you submit the revised labeling and agree to submit the required outstanding data in a timely fashion, we should be able to make a decision on registration.

Chemistry Data

A. Submit the following additional chemistry data on your source product, [redacted] within 15 months of registration:

1. description of material used to produce product,
2. discussion of formula of impurities, if any, in manufacturing process
3. confidential statement of formula showing certified limits of active ingredient.

B. Submit the following additional chemistry data on your formulated product within 15 months of registration:

1. storage stability
2. corrosion characteristics

C. Submit the freezing point and flash point of this product.

Acute Toxicity Data

These data have been satisfied.

Product ingredient source information may be entitled to confidential treatment

Efficacy Data

These data have been satisfied. A detailed discussion follows below on your product's spray pattern test, the number of 1 second bursts, and total evacuation time. We have included the labeling changes required by these data in the **labeling** section of this letter.

Spray pattern tests

Although we had hoped for more from the videotape that your client made, we were able to use the tape to fill in some gaps and answer some questions regarding what was reported regarding the conduct and results of the spray-pattern tests run last summer. Neither your nor your client's comments about the conduct of the trials adequately explained why the measurements reported were so consistent within distances from the target (in outdoor tests on somewhat windy days) or why most height and width measurements were reported at 6" increments. We used the tape to form a visual impression of the type of spray pattern that the product delivers. Without that information, we would be asking for additional spray-pattern data.

Number of 1-sec spray bursts

We have reviewed the data submission (MRID No. 450631-01) pertaining to the number of one-second bursts that containers of this product can deliver. The test methods reported were acceptable. **The test results indicate that the typical container produced 5 sprayings of one-second in duration.** The container that delivered 6 shots reportedly had used 4.52 seconds of total spraying time for the first 5 shots. One of the raw data sheet bears the notation that subsequent firings of the 5 units tested in that series were not strong enough "to be called a good blast."

Although applying logic might lead one to infer that the number of bursts of approximately one second that a container could deliver would be equal to its evacuation time in seconds, we do not know without testing that such would be the case. The number of approximately one-second bursts that a container can deliver may be as close as one can get to being able to convey to a user how many useful sprayings a container can deliver (assuming one-second shots). In determining the number of one-second bursts provided, it is imperative that only those bursts which deliver a burst which meets the label's distance claims be counted. As the container empties, it is possible that there might be some instances in which there is a hiss but not much spray action. The researchers in the one-second trials made note of such results.

Number of 1-sec spray bursts-continued

When such tests are conducted, we prefer that the bursts be counted but not timed because that would mimic the actual use situation. In other words, the person using the can should be asked to depress the trigger for about one second and to do this at intervals of several seconds until the container is no longer firing a stream likely to be useful against bears. The observer would count and record the number of good blasts that were fired before that point was reached. Because the volunteers used in your trials were given external cues regarding the duration of a second, your study was more controlled in that regard than would have been necessary.

Total evacuation time

We have read your comments regarding evacuation times but have concluded that our earlier position remains appropriate. Again, the videotape suggested that the reported evacuation times include time after which useful contents were no longer being delivered. That is why we elected not to use the reported mean time and attempted to time what appeared to be useful durations from the videotape. While timing from videotape could add sources of error, as long as the tape was made and shown at actual speed, the most serious source of error would not be associated with when spraying began but rather with when the container was no longer discharging useful contents. As that determination would be likely to have a longer reaction time that would judging when spraying began, timing for period of useful contents would tend to produce longer times than maybe should be claimed. When that was done, we obtained times that were shorter than those that your client reported but were consistently above 5 seconds and usually above 6 seconds.

In your one-second-shots test, total times reported for delivering useful sprays were well under 6 seconds. While such testing might not be completely equivalent to evacuation testing, available evidence is fairly consistent that "approximately 5 seconds" would be a duration claim that could be met reliably by the product proposed for registration.

Total evacuation time-continued

At this point, we are not persuaded that a 3-second spray barrier approach would be any more effective against an attacking than would a well-aimed one-second blast. Currently, the 3-second approach is recommended on one registered product's labeling, while the one-second approach is recommended on another's. We hope that information sufficient for indicating the most appropriate use strategy will be forthcoming from users' accounts as feedback on the registered products is received. As the registered products are not identical in composition, the strategy most suited for one product might not be best for another.

Labeling

Submit three copies of final printed labeling with the following changes:

1. On the Front Panel of the Aerosol Container, delete "Equally Effective in Extreme Temperatures ... F)" because we do not have supporting data.

2. Revise your Ingredient Statement and precautionary statements as follows:

Active Ingredients:	
Capsaicin and Related Capsaicinoids*	1.4%
Inert Ingredients:	98.6%
TOTAL	100.0%

*Includes 0.9% Capsaicin and 0.5% Related Capsaicinoids derived from Oleoresin of Capsicum

Labeling-continued

3. Reformat your "Front Panel" as follows:

DO NOT SEEK OUT ENCOUNTERS WITH BEARS. THIS PRODUCT IS A BEAR ATTACK REPELLENT WHICH MAY PROTECT USERS IN SOME UNEXPECTED CONFRONTATIONS WITH BEARS BUT MAY NOT BE EFFECTIVE IN ALL SITUATIONS OR PREVENT ALL INJURIES. READ THIS ENTIRE LABEL BEFORE TAKING THIS PRODUCT INTO AREAS WHERE BEARS MIGHT BE ENCOUNTERED. [same type size as "KEEP OUT OF REACH OF CHILDREN]

KEEP OUT OF REACH OF CHILDREN
DANGER

Strong temporary irritant to eyes, nose and skin. Wash thoroughly with soap and water after handling. See Back Panel for additional precautions.

1. Change the signal word from "WARNING" to "DANGER".
2. Change the net contents to "9.2 oz".
3. On the Back Panel of the Aerosol Container, revise your "Precautionary Statements" to:

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS

DANGER
May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

Labeling-continued

4. On the Back Panel of the Aerosol Container, revise your "Precautionary Statements" to:

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS

DANGER
May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

FIRST AID Have label with you when obtaining treatment advice.	
If on skin or clothing	•Take off contaminated clothing. •Rinse skin immediately with plenty of water for 15-20 minutes. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.
If in eyes	•Hold eye open and rinse slowly and gently with water for 15-20 minutes. •Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.

PHYSICAL OR CHEMICAL HAZARDS

Flammable. Content under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130 F may cause bursting.

ENVIRONMENTAL HAZARDS

Do not apply directly to water. Do not contaminate water by disposing of unused material.

Labeling-continued

5. In the "**DIRECTIONS FOR USE**", change the range and firing duration claims to read as shown below.

   This product has an effective range of 18 to 25 feet. The canister empties in approximately 5 seconds.

   Taken as a whole, the information relevant to spray duration that has been submitted indicates that 5 seconds of useful spray can reliably be expected from this product and that claims of longer durations of useful spray are questionable.

6. Make the changes indicated below to the proposed container label, the "Holster Unit Hang Tag" label, the "Insert", and the "Clam Shell Insert", all of which were submitted on March 10, 2000.

   a. Delete the promotional claims **"Shotgun" Blast Spray Pattern**".

      The ""**Shotgun" Blast Spray Pattern**" is misleading. Although the emanations from an aerosol container and a shotgun initially expand in cross-sectional area covered (in the vertical plane), the similarities end there. Aerosolized particles become smaller and lighter over time and distance, and may remain airborne for an extended period of time. Shot stays essentially the same size over distance, and tends to fall to the earth rapidly. Shotgun blasts tear and destroy tissues. Pepper sprays can cause pain and respiratory problems, but recovery generally occurs within a half hour or so and generally is complete.

   b. Delete the promotional claims "**Equally Effective in Extreme Temperatures (40° to 120°F)**".

      Although containers stored at extreme temperatures were used in some of your reported spray pattern trials, the claim "**Equally Effective in Extreme Temperatures (40° to 120°F)**" is not supported by any data of which we are aware.

6. Delete the claim "**Holster Permits Immediate Firing From Hip**" (which only appears on "Holster Unit Hang Tag" and "Insert"). To support such a claim, you must demonstrate that users firing holstered units can achieve appropriate speed, accuracy, and spray patterns without increasing the degree of their own exposure to the spray.

Adverse data

Once registered, you are also reminded of your responsibility under 6(a)(2) to submit any reports of adverse data or incidents involving your product.

Review of proposed research

The proposed research described by Patrick O'Herren of Brown Bear Resources, Inc., is not directly related to the claims proposed for 72265-R. Rather, the research seems intended to condition bears to stay away from places where they might encounter people. The bears that activate the product would not be attacking people, and indeed there might be no people present at all when the units are activated. The hope seems to be that, after several bad experiences, the bears will omit the sites where they encountered spray from their future routines. We have doubts about the utility of this approach.

If the testing were successful, the product used might have to have a separate registration from 72265-R because of the latter product's limitations on when it may be used. You also might think about ways of restricting availability for any bear-activated pepper spray because over-the-counter purchasers typically would not have the equipment needed to set up units on their premises nor would they have the expertise required to place and orient the mechanisms appropriately.

Distinguishing human- and bear-deterrent products at point of sale

In your letter you informed us of the following two actions that you were taking to insure the consumers could easily distinguish human- and bear-deterrent products at the point of sale:

1. Dropping the ***Frontiersman*** brand for human-deterrent products.

2. Using different product sizes for the human-deterrent (Please indicate the sizes) and bear-deterrent product (9.17 oz size).

In recent months we have received information that consumers could potentially be confused at the point of sale as to which product is for bear deterrence and which product is for human deterrence. Such confusion could result in a hiker, hunter, or camper inadvertently purchasing a product to deter humans instead of a product to deter bears, with life-threatening consequences. Such a product would have insufficient testing, size, power, and labeling. Therefore, we welcome your efforts to correct this confusion and ask you to consider other ways of helping consumers distinguish between the two types of products.

EPA Contact

If you have questions about this letter, please contact me at 703-305-5407 (by phone), 703-305-6596 (by fax), or peacock.dan@epa.gov (by E-Mail).

Sincerely,

Daniel B. Peacock, Biologist
Insecticide-Rodenticide Branch
Registration Division (7504C)

A:\Bear Deterrents\72265-R June2000.wpdJune 5, 2000

Working Copy

[Aerosol Container – Front Panel]

FRONTIERSMAN®
BEAR ATTACK DETERRENT

To Deter Bears from Attacking Humans
For Use When Hunting, Camping, Fishing, Hiking and Biking
or whenever enjoying the great outdoors.

~~"Shotgun" Blast Spray Pattern~~
Glow-in-the-Dark Safety Cap
Will Not Freeze
~~Equally Effective in Extreme Temperatures (40°F to 120°F).~~ out (1)

ACTIVE INGREDIENT:

Capsaicin and related capsaicinoids	~~1.388%~~	1.4
INERT INGREDIENTS	~~98.612%~~	98.6
Total	100.000%	100.0

(2)

Includes 0.8~~37~~% Capsaicin and 0.5~~31~~% other capsaicinoids derived from Oleoresin of Capsicum

.9
.5

Keep Out of Reach of Children
~~**WARNING**~~ DANGER (3)

Do not seek out encounters with bears. This product is a bear attack deterrent that may protect users in some unexpected confrontations with bears but may not be effective in all situations or prevent all injuries. Read this entire label before taking this product into areas where bears might be encountered.
See Back Panel for Additional Precautionary Statements (4)

EPA Reg. No. 72265-R **EPA Est.** _____

9 9.17
28
28 9.17 9336
1834
25676

NET CONTENTS: 9.17 OZ. 9.2 (5)

Manufactured by:
SECURITY EQUIPMENT CORPORATION
330 Sun Valley Circle
Fenton, MO 63026
sabre@stlnet.com
www.sabredefensesprays.com
(800) 325-9568

Made in the U.S.A.

[Aerosol Container – Back Panel]

add "Environmental Hazards"

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles or safety glasses). Strongly irritating to nose and respiratory tract. Wash skin thoroughly with soap and cold water after handling or if sprayed. Immediately remove contaminated clothing and wash clothing before reuse.

First Aid

If in Eyes: Hold eyelids open and flush with a steady, gentle stream of cool water for 15 minutes. Get medical attention.

Physical or Chemical Hazards

~~Flammable!~~ Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

OK

Flash Pt

Has to run flash pt. Article.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS: This product may be used only to deter bears that are attacking or appear likely to attack humans. This product may not be effective in all situations or prevent all injuries. Do not spray this product on objects, tents or humans; such use has **no** deterrent effect on bears. Do not seek out encounters with bears or intentionally provoke them. Keep safety clip in place except when practicing with or using the product. Do not eat or allow to be eaten any food or feed materials that may have become contaminated with this product.

up to 25

lbs of 12/12/2000

Need first pinky lock

This product has an effective range of ~~18 to 25~~ feet. The canister empties in approximately ~~5 to 8~~ seconds.

APPLICATION DIRECTIONS: Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test-fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can.

To Arm and Apply: This product is designed for one-handed operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (Fig. 1). Depress actuator tab for burst of spray (Fig. 2).

Fig. 1

Fig. 2

Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

To Disarm: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (Fig. 3).

Fig. 3
Snap Safety Clip in Place

Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Storage and Disposal

Storage: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.
Disposal: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

[Holster Unit Hang Tag -- Front Panel]

FRONTIERSMAN®
BEAR ATTACK DETERRENT

To Deter Bears from Attacking Humans
For Use When Hunting, Camping, Fishing, Hiking and Biking
or whenever enjoying the great outdoors.

◆ "Shotgun" Blast Spray Pattern ◆ Glow-in-the-Dark Safety Cap ◆ Highly Accessible Holster ◆ Will Not Freeze ◆
◆ Holster Permits Immediate Firing From Hip ◆ ~~Equally Effective in Extreme Temperatures (40°F to 120°F)~~ ◆

ACTIVE INGREDIENT:
Capsaicin and related capsaicinoids ..... ~~1.388%~~ 1.4
INERT INGREDIENTS ..... ~~98.612%~~ 98.6
Total 100.000%
Includes 0.8~~57~~9% Capsaicin and 0.5~~31~~% other capsaicinoids derived from Oleoresin of Capsicum

Keep Out of Reach of Children

WARNING

Do not seek out encounters with bears. This product is a bear attack deterrent that may protect users in some unexpected confrontations with bears but may not be effective in all situations or prevent all injuries. Read this entire label before taking this product into areas where bears might be encountered.

See Back Panel for Additional Precautionary Statements

NET CONTENTS: 9.17 OZ.
9.2

[Holster Unit Hang Tag -- Back Panel]

PRECAUTIONARY STATEMENTS
Hazards to Humans & Domestic Animals

WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles or safety glasses). Strongly irritating to nose and respiratory tract. Wash skin thoroughly with soap and cold water after handling or if sprayed. Immediately remove contaminated clothing and wash clothing before reuse.

First Aid

If in Eyes: Hold eyelids open and flush with a steady, gentle stream of cool water for 15 minutes. Get medical attention.

Physical or Chemical Hazards

Flammable. Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
Refer to product container and insert for complete Directions for Use.

This product has an effective range of 18 to 25 feet. The canister empties in approximately 5 to 8 seconds.

USE RESTRICTIONS: This product may be used only to deter bears that are attacking or appear likely to attack humans. This product may not be effective in all situations or prevent all injuries.

Storage and Disposal

Storage: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.
Disposal: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

EPA Reg. No. 72265-R **EPA Est.** _____

Manufactured by:
SECURITY EQUIPMENT CORPORATION
330 Sun Valley Circle, Fenton, MO 63026
sabre@stlnet.com
www.sabredefensesprays.com
(800) 325-9568

[Insert]

FRONTIERSMAN® BEAR ATTACK DETERRENT

To Deter Bears from Attacking Humans

For Use When Hunting, Camping, Fishing, Hiking and Biking or whenever enjoying the great outdoors.

◆ "Shotgun" Blast Spray Pattern ◆ Glow-in-the-Dark Safety Cap ◆ Highly Accessible Holster ◆ Will Not Freeze ◆ ◆ Holster Permits Immediate Firing From Hip ◆ Equally Effective in Extreme Temperatures (40°F to 120°F) ◆

ACTIVE INGREDIENT:

Capsaicin and related capsaicinoids	1.388%
INERT INGREDIENTS	98.612%
Total	100.000%

Includes 0.857% Capsaicin and 0.531% other capsaicinoids derived from Oleoresin of Capsicum

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Physical or Chemical Hazards

Flammable. Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS: This product may be used only to deter bears that are attacking or appear likely to attack humans. This product may not be effective in all situations or prevent all injuries. Do not spray this product on objects, tents or humans; such use has **no** deterrent effect on bears. Do not seek out encounters with bears or intentionally provoke them. Keep safety clip in place except when practicing with or using the product. Do not eat or allow to be eaten any food or feed materials that may have become contaminated with this product.

This product has an effective range of 18 to 25 feet. The canister empties in approximately 5 to 8 seconds.

APPLICATION DIRECTIONS: Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test-fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can.

To Arm and Apply: This product is designed for one-handed operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (Ffig. 1). Depress actuator tab for burst of spray (Fig. 2).

Fig. 1

Fig. 2

Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

To Disarm: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (Fig. 3).

Fig. 3
Snap Safety Clip in Place

Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Storage and Disposal

Storage: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.
Disposal: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

EPA Reg. No. 72265-R **EPA Est. _____**

NET CONTENTS: 9.17 OZ.

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[Clam Shell Insert – Front Panel]

FRONTIERSMAN® BEAR ATTACK DETERRENT

To Deter Bears from Attacking Humans

For Use When Hunting, Camping, Fishing, Hiking and Biking or whenever enjoying the great outdoors.

◆ "Shotgun" Blast Spray Pattern ◆ Glow-in-the-Dark Safety Cap ◆ Will Not Freeze ◆ ◆ Equally Effective in Extreme Temperatures (40°F to 120°F) ◆

ACTIVE INGREDIENT:

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INERT INGREDIENTS	98.612%
Total	100.000%

Includes 0.857% Capsaicin and 0.531% other capsaicinoids derived from Oleoresin of Capsicum

Keep Out of Reach of Children

WARNING

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See Back Panel for Additional Precautionary Statements

[Clam Shell Insert – Back Panel]

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles or safety glasses). Strongly irritating to nose and respiratory tract. Wash skin thoroughly with soap and cold water after handling or if sprayed. Immediately remove contaminated clothing and wash clothing before reuse.

First Aid

If in Eyes: Hold eyelids open and flush with a steady, gentle stream of cool water for 15 minutes. Get medical attention.

Physical or Chemical Hazards

Flammable. Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

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To Arm and Apply: This product is designed for one-handed operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (Fig. 1). Depress actuator tab for burst of spray (Fig. 2).

Fig. 1

Fig. 2

Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

To Disarm: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (Fig. 3).

Fig. 3
Snap Safety Clip in Place

Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Storage and Disposal

Storage: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.
Disposal: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

EPA Reg. No. 72265-R **EPA Est. _____**

NET CONTENTS: 9.17 OZ.

Manufactured by:
SECURITY EQUIPMENT CORPORATION
330 Sun Valley Circle
Fenton, MO 63026
sabre@stlnet.com
www.sabredefensesprays.com
(800) 325-9568

In response to your letter:

Security Equipment Corporation has dropped the use of the *Frontiersman* brand name from their line of products used against people, replacing it with *Sabre* (Sabre, Sabre Red and Sabre Defense). To further distinguish the two product lines, the *Sabre* line is marketed in a completely different size than the Frontiersman product for deterring bears. The *Frontiersman* brand name will be used solely for the bear deterrent product and will be marketed exclusively in the 9.17 oz. size.

Attached are the following items:

VOLUME 1 OF 2: ADMINISTRATIVE DOCUMENTS:

1. Application for Pesticide: Other [OPP IDN 256126]
2. A copy of the February 1, 2000 Agency letter
3. Five copies of revised draft labeling
4. Proposed Protocol for Grizzly Deterrent Project (February 23, 2000 Memo from Brown Bear Resources, Inc.)

VOLUME 2 OF 2: PRODUCT PERFORMANCE DATA: ASSIGNED MRID NUMBER: 45063101

Nance, L. (2000): One Second Shot Study of Frontiersman Bear Attack Deterrent. Unpublished study prepared by Security Equipment Corporation, Fenton, MO. 7p. Guideline Number 96-1. [3 copies]

DP BARCODE: D264557

CASE: 064803 DATA PACKAGE RECORD DATE: 03/29/00
SUBMISSION: S577625 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 03/13/00 DUE OUT DATE: 09/19/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 264557 EXPEDITE: N DATE SENT: 03/29/00 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 08/26/00
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR : [illegible]	5/24/00	5/31/00 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Please review letter, label, data and protocol.

Thanks,

dAn

NOTE: Then data is a test on number of 1-sec shots (MRID 450631-01).

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

The a memo is from Patrick O'Herren.

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

NOTE: I have drafted a ltr (copy enclosed, which will be modified after your review.)

3-10-2000
Submission

BROWN BEAR RESOURCES, INC.

Dedicated to the Preservation of the Grizzly

education

research

planning

public relations

technical assistance

Memo

TO: Larry Nance, President, Security Equipment Corporation

FROM: Patrick O'Herren, Executive Director, Brown Bear Resources

RE: Grizzly Deterrent Project

DATE: February 23, 2000

Larry: The following is an update of our design criteria for the Grizzly (*Ursus arctos*) Deterrent Project we are conducting with Montana Fish, Wildlife and Parks and the U.S. Fish and Wildlife Service. Both agencies and Brown Bear Resources have targeted two areas in Montana where we will set bear-activated Frontiersman Bear Attack Deterrent. Those two areas are the Northern Continental Divide Ecosystem and the Selkirk/Cabinet-Yaak Ecosystem.

In those two areas we will provide only Frontiersman Bear Attack Deterrent within newly altered structures such as garbage cans, bird feeders and other similar physical structures that bears are attracted to with great frequently. In order to avoid giving the bear any possible positive reward, all devices are baited with scents only, including the garbage containers

Our goal is to teach *Ursus arctos* (Montana's grizzly or brown bear) that when such structures are visited, they receive a substantial negative experience in the form of a heavy dose of Frontiersman. As such, we will be able to test the efficacy of Frontiersman as a "pepper spray" and whether or not the bears learn to associate such a negative experience with all garbage cans, bird feeders, etc. We will be placing remote cameras on as many sites as we have cameras (we are currently limited to approximately 10 cameras) and will place the devices on private property (for easier monitoring by the landowner) as well as on state and federal lands.

289 North Higgins ■ Missoula, Montana 59802
(406) 549-4506 ■ fax (406) 549-4684 ■ ursus@marsweb.com

Our delivery systems are modifications of those developed by Montana Fish, Wildlife and Parks for use around Glacier National Park. Those devices contained some design flaws (which could result in the failure of the trigger mechanism to activate the spray) which I believe we have overcome. Our first lab test resulted in a person being sprayed with an inert can so we are confident that the delivery devices work. Needless to say, the individual was quite surprised to find herself on the "wrong end" of the pepper product even though it was inert and she knew it was present.

We are utilizing interns from the University of Montana department of wildlife biology to help monitor the devices and replace the Frontiersman spray and/or relocate the devices as necessary. We hope to put 25 devices in each ecosystem, thus enabling each agency to conduct it's own evaluation of the devices and Frontiersman. Brown Bear Resource will compile the results and forward them to you as they become available.

We have constructed approximately 20 delivery devices to date and hope to have the remainder completed by mid-March. While older male grizzlies exit their dens in March/April, the remainder of the males, females and females with cubs generally exit by mid-May. All devices will be in the field by mid-May when grizzlies are frequently seen in low elevation areas often inhabited by people.

This is a long, time, personnel and deterrent intensive project and I appreciate your patience with us in developing the systems for use with your product. I will keep you advised as we set the systems in the field and as we begin to learn of grizzlies (or other wildlife) "hitting" the sites.

Please feel free to contact me at your convenience if you have any questions. Again, I appreciate your participation in this project, which will benefit the people who live in occupied grizzly habitat as well as the bears themselves by helping keep them away from human attractants.

COPY

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

RECEIVED FEB 0 8 2000

February 1, 2000

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Security Equipment Corp.
c/o RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

Attention: Ms. Kim Davis

Subject: Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R
Your letter of January 1, 2000

Thank you for pointing out the sentence concerning [redacted] on the Confidential Statement of Formula (CSF) dated February 19, 1999. That resolves the perceived discrepancy between the number of propellents claimed in the CSF and the spray pattern test report. We apologize for having overlooked the sentence earlier.

In your letter of January 1, 2000, you indicate that the "*OLD FORMULATION*" designation refers to "Frontiersman", which you claim only to have marketed as a anti-personnel product, while the "*NEW FORMULATION*" describes the composition proposed for "Frontiersman Bear Attack Deterrent". You further indicate that, despite its label's indicating that the product should be carried "whenever enjoying the great outdoors", "Frontiersman" product was not designed to be used against bears and that its labeling is consistent with use for protection from other people. **Regardless of what your intent might have been, we find that the name "Frontiersman" itself and other text on that product's label imply use in situations in which encounters with dangerous animals could occur (and might be far more likely to occur than encounters with dangerous people). Thus, "Frontiersman" itself implies a pesticidal claim.**

If granted, the proposed registration of a "Frontiersman Bear Attack Deterrent" would make the situation more confusing. We feel that "Frontiersman" would be a better brand name for a bear deterrent than for an anti-personnel spray. Names like "Night Walk", "Alley Ally" or "Mug Off" would make more sense than "Frontiersman" for an anti-personnel spray. (Our efficacy reviewer conceived of the other names suggested on the spur of the moment. We have not researched whether any of them is trade-marked and/or used for another product.)

We have concluded that the information that you have submitted relative to the spray pattern delivered by the product that you propose for registration is adequate at

Manufacturing process information may be entitled to confidential treatment

the present time. Should we have any questions about spray patterns in the future, we may require additional information on spray pattern.

We suggested that the spray pattern trials be videotaped so that there would be visual documentation of the test methods and results. Because the tape does not show deposit patterns from all distances with adequate resolution and does not show measurements being taken, we were not able to make as much use of the tape as we had hoped and, consequently, asked some additional questions about how the tests were run.

Although product quality control and uniformity in firing position are important factors in a spray pattern test, it seems to us that other factors probably were mainly responsible for the high degree of uniformity in results that you reported.

You must supply test data on the number of approximately one-second bursts that a container can deliver. The relationship between that number and the time to evacuation of the container's useful contents in a continuous firing has not proven to be as direct as one might expect. We feel that it is very useful to know and indicate how many one-second bursts a canister can deliver because that is an index to the number of "shots" they can take at deterring bears. People familiar with other types of aerosol-spray products (e.g., insecticides, hair spray, spray paint, etc.) probably would expect more "shots" and firing duration from bear spray canisters than such containers deliver. Users probably would not take into account relative orifice dimensions or the fact that a can literally loaded for bear must put out a lot of product in a hurry.

We note your intention to use only the 53-mm by 185-mm container for this product. If the container corresponding to those dimensions holds at least 8 ounces of product, that container size would be acceptable to us.

The several accounts of product-specific efficacy information provided for FRONTIERSMAN BEAR ATTACK DETERRENT include reports of witnessed or speculated successful uses. It seems that the suspected hits by grizzly bears on a pepper-spray set in Montana were not witnessed, although there apparently was circumstantial evidence consistent with hits by grizzlies and subsequent departure of the animals from the site. Their departure might have been coincidental to the deployment of pepper spray because officials had taken other steps which should have made the site less attractive to bears. In any event, the exposure arrangement seems to have been more like an ambush-type test and less like the use pattern described on the proposed label.

The reports by Rainer and Bassett of successful uses in Alaska also pertain to situations in which the bears apparently were not attacking but merely were in places where some people preferred them not to be. In one case, it took two shots from close

range to move the bear. The product used in that instance is not identified by the author of the account. (He indicated "your product" in a "To Whom It May Concern" letter.)

Based on information available on the effectiveness of bear deterrents made from Oleoresin of Capsicum (OC), we have inferred that a product comprised as yours is claimed to be and exhibiting spray patterns like those you report should have value as a bear deterrent. No additional efficacy data will be required for registration. However, we strongly suggest that you explore available avenues for obtaining credible information on the effectiveness of your product as the issue of whether all OC bear deterrents are equally effective probably will be raised in the future. We remind you that all results, positive and negative, should be compiled and reported if additional product performance data are requested.

Once registered, you are also reminded of your responsibility under 6(a)(2) to submit any reports of adverse data or incidents involving your product.

We note your intention to follow our instructions regarding labeling. You must submit revised proposed labeling (including all printed material except for shipping documents and sales receipts that is to accompany the product in commerce) revised as we have indicated in our prior letters.

All labeling which refers to firing range and time to empty containers should bear the text shown below.

This product has an effective range of up to 25 feet. The canister empties in approximately 5 seconds.

If you have any questions about this letter, please contact me by phone (703-305-5407), fax (703-305-6596), or E-Mail (peacock.dan@epa.gov).

Sincerely,

Daniel B. Peacock

Daniel B. Peacock, Biologist
Insecticide-Rodenticide Branch
Registration Division (7504C)

IRB BRANCH REVIEW - TSS

Record Number(s)

D264587

5/24/00 5/31/00

IN ____ OUT ____

EFFICACY

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 3/13/00

DATE OF SUBMISSION 3/10/00

DATE SUBMISSION ACCEPTED 5/24/00

TYPE PRODUCTS(S): I, D, H, F, N, R, X S

DATA ACCESSION NO(S). 450631-01

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN BEAR ATTACK DETERRENT

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE registration

CHEMICAL & FORMULATION 1.388% Capsaicin and related Capsaicinoids aerosol

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy reviews of 6/30/99, 11/9/99, 11/30/99, 1/21/00, and 3/29/00, along with the enforcement-case efficacy reviews of 2/7/00 and 3/15/00, which pertained primarily to unregistered products produced by Security. The first of the efficacy reviews for this product discussed the initial application for Federal registration of Frontiersman. The second discussed follow-up submissions and accounts of incidents in which people who used products called "Frontiersman" were mauled by bears nevertheless. The third review for 72265-R discussed whether reported differences between the "*OLD FORMULATION*" and the "*NEW FORMULATION*" shown on a "***CONFIDENTIAL FORMULATION COMPARISON***" included in Security's agent's submission of 10/22/99 might have accounted for two Frontiersman incidents of which we had been made aware and have indicated that the formulation had been improved. The fourth efficacy review discussed Security's representations to the effect that the "*OLD FORMULATION*" actually corresponded to the composition of the "Frontiersman" product (aka the never-registered "Frontiersman by Sabre") and the "*NEW FORMULATION*" is what is being proposed for "Frontiersman Bear Attack Deterrent" (72265-R). The two enforcement-case efficacy reviews were mainly concerned with "Frontiersman by Sabre" and the similar product "Alaska's Best Defense". The fifth efficacy review responded to written comments from the applicant's agent, reassessed the spray pattern data previously reviewed, and noted the absence of data on the number of one-second bursts of product that the container would deliver and the lack of revised proposed labeling amended in response to our prior comments.

This review discusses a submission of 3/10/00 from Security's agent Kim Davis of RegWest Company, Greeley, CO. Davis indicates that her letter is a response to EPA's letter of 2/1/00. Enclosures provided with Davis's letter of 3/10/00 include revised proposed labeling for the "Aerosol Container", a "Clam Shell Insert", an "Insert", and a "Holster Unit Hang Tag"; a report of a number-of-one-second-bursts study, and a "**Memo**" pertaining to proposed field trials intended to condition bears to stay away from certain areas.

201.0 DATA SUMMARY

The one-second-shots report is cited and discussed below.

Nance, L.D. (2000) One second shot study of Frontiersman® Bear Attack Deterrent. Unpublished report, Security Equipment Corporation, Fenton, MO. 7 pp.

MRID# 450631-01

The actual report is only one page long, with most of that page consisting of a table. Two pages of raw data sheets are included with the report, along with a title page and the extra data submission pages that EPA requires.

The report's text describes the study's brief but rather sophisticated procedures. Three "volunteers" fired a total of 10 containers for bursts of approximately one second. Trials were conducted "both indoors and outdoors". Volunteers were aided in estimating a second's duration a Gralab Universal Timer which was set to buzz "to signal one second" thereby telling the volunteers "when to stop spraying."

Those procedures are acceptable to me. I would have preferred that users estimate seconds without a timer because that is what would occur in use situations. Having the cue in these trials probably gave a more accurate result than in trials previously reported for other products. I suspect that most people asked to spray for a second would err on the short side.

Larry Nance reports an "average shot time" of 1.04 with a duration range of 0.84 to 1.22 seconds. In the report, Nance makes no comment about the number of 5-second bursts that the containers delivered, but the table speaks for itself in that regard. Five one-second shots were delivered by nine of the containers, with one container delivering 6 shots. On the second of the raw data sheets, which pertained to 6 units, Larry Nance added several comments including the following:

> The sixth shot on all units except #5 were [sic] to [sic] weak to be called a good burst.

As the total duration of the first 5 shots reported for unit #5 was 4.52 (5.52 sec for 6 shots), its ability to deliver 6 shots may have been due to the fact that its first 5 were relatively short compared to the total times for 5 shots from other containers (4.95-5.59 sec)

Clearly, the data indicate the container can deliver 5 one-second bursts of spray. This result is interesting in view of my prior conclusions that the one-second-shot data were needed and that the "push-to-end-of-hiss" container evacuation times (averaging nearly 8 seconds) previously reported by Security exaggerated the time period over which effective spray would be delivered. On these topics, Davis wrote the following in her letter of 1/20/00:

> Per the guidance document, the spray patterns were to be determined over time so that users may be informed of how many seconds of effective spraying time a given canister would afford them. This is highly useful information given the manner in which these products are intended to be used. What possible relationship could the number of one-second firings from a single canister have to the product's intended container and formulation? On the off chance this is somehow related to "test firings," there are (on average) approximately 8 one-second bursts, based on the average spray duration of approximately 8 seconds. There could not possibly be any more or any less.

Well, there were less. In the efficacy review of 3/29/00, I indicated that I would accept "5 seconds" or "approximately 6 seconds" as spray duration claims for 72265-R. Those were the results that I got when I attempted to time evacuation times (of useful contents) from a videotape supplied by Security. Davis criticized that practice, but reversing her own logic would suggest that a 5-second spray duration would be the appropriate claim. I am not persuaded that reality will always match evacuation times with numbers of one-second bursts and, therefore, believe that both types of test should continue to be required. While "approximately 6 seconds" still might be an accurate claim for this product's evacuation time, I again favor the 5-second claim.

The proposed research "**Memo**" pertains to bear-activated self-sprayings of products by grizzly bears. Brown Bear Resources, Inc. of Missoula, MT, wants to test whether this product could be used to condition grizzlies to avoid certain items ("garbage cans, bird feeders, etc."). I presume that they hope to reduce bear-related damage and the frequency of bear encounters with humans.

As these would be ambush trials with humans not necessarily even being present, their results would not be directly relevant to the claims proposed for 72265-R. Such trials might suggest other useful applications for bear pepper sprays.

The plan is to attract bears to baited sites, and spray them by use of the test product, which would be activated by "delivery devices". As many as 25 delivery devices would be used per "ecosystem". At as many sites as possible, the trials are to be videotaped. The author of the "**Memo**", Patrick O'Herren reports that his outfit has 10 video cameras available at this time. It is not clear how the types of animals visiting stations not equipped with video cameras would be determined.

O'Herren reports that the spray activation devices are to be deployed "by mid-May". If that schedule has been met, the research the he proposes is already in progress.

O'Herren describes research that would be related more so to a new claim -- conditioning grizzlies to keep "away from human habitats" -- rather than the protection-from-attack claim proposed on the pending labeling.

The revised proposed labeling submitted on 3/10/00 was drafted in response to EPA's letter of 2/1/00, which responded to Larry Nance's letter of 1/1/2000. EPA's letter of 2/1/00 evidently "crossed in the mail" with Davis's letter of 1/20/00. However, the only label changes indicated in EPA's letter (changing the spray distance claim to "**up to 25 feet**" and the evacuation time claim to "**approximately 5 seconds**") were not fully implemented.

Davis proposes "**18 to 25 feet**" for the distance claim. I could accept that as it does not overstate performance.

She proposes "**approximately 5 to 8 seconds**" for the evacuation time. I will not accept that: If a "**5 to 8 seconds**" claim were justified, "**approximately**" would not be needed. For reasons indicated above and in prior reviews, I do not believe that 8 seconds is a useful spray duration that anyone should be told to expect from 72265-R. In light of the single-shot data, I am less inclined to allow "**approximately 6 seconds**" than I was previously.

IRB's Daniel Peacock already has drafted comments on the labeling submitted on 3/10/00. His comments include changing the range claim to "**up to 25 feet**" (from efficacy review of 1/21/00) and the evacuation time claim to "**approximately 6 seconds**" (from efficacy review of 3/29/00).

In her letter of 3/10/00, Davis takes issue with the need for one-second-shot data and opines that the product container holds enough product for two ½-second test firings and two 3-second actual use firings. She notes that the proposed use directions direct

> Press trigger for 3 seconds in order to create a barrier between you and the bear.

Although I intend to leave that direction alone for now, I am not sure that a 3-second barrier firing would be the best way to make the product work. If it were, a container with a useful firing time of 5 or 6 seconds would, at most, give a user two shots at one bear (or one shot at each of two bears). I have seen footage of bears turning and running off after encountering spray blasts that lasted less than a second were delivered in their direction. However, those trials did not involve attacking bears.

It will be difficult to get good data on firing times appropriate for deterring attacking bears. The short blasts which seem to be sufficient in "ambush" and "curious bear" trials might not long enough to deter attacking bears. Asking for blast duration information from those who have thwarted bear attacks by using pepper sprays probably would not yield accurate information because they (obviously) would not have been in a position to time spray duration and acute stress tends to distort one's perception of time.

The label for the Counter Assault product (55541-2) also recommends a 3-second barrier firing, but those for other registered bear repellents do not. For Guard Alaska (71545-1), the label does not indicate a firing duration but does state that the spray must "engulf the bear's face, especially the eyes, nose, and mouth." For BearGuard (71920-1), one-second spray bursts are recommended.

The front panels of the various labels include various promotional claims, some of which are objectionable. One claim that is tolerable is Security's traditional statement

For Use When Hunting, Camping, Fishing Hiking and Biking or whenever enjoying the great outdoors.

In past reviews, I have noted that these use scenarios are more appropriate for a bear spray than a personal defense spray to be used against humans, which Security has claimed its "**FRONTIERSMAN by *Sabre***" product was intended to be. (That product reportedly was used unsuccessfully against bears on at least two occasions. A stronger formulation is proposed for 72265-R than Security claims to have used for "**FRONTIERSMAN by *Sabre***". In her letter of 3/10/00, Davis states that Security will no longer use "the ***Frontiersman*** name in their line of products used against people.)

I will not accept the claim "**"Shotgun" Blast Spray Pattern**". As I have noted for other products for which similar claims were proposed, such a claim is misleading. Although the emanations from an aerosol container and a shotgun initially expand in cross-sectional area covered (in the vertical plane), the similarities end there. Aerosolized particles tend to become smaller and lighter over time and distance, and may remain airborne for an extended period of time. Shot stays essentially the same size and retains the same mass over unit distance, and tends to fall to the earth rapidly. Projected shot tears and destroys tissues. Pepper sprays can cause pain and respiratory problems, but recovery generally occurs within a half hour or so and generally is complete.

Peacock recommends deletion of the proposed claim

Equally Effective in Extreme Temperatures (40° to 120°F)

because of a lack of supporting data. I also feel that the claim should be deleted. Security did run spray pattern trials using containers that had been held at temperature extremes of -10°F and 60°F for the trials discussed in the efficacy review of 6/30/99. Similar spray patterns were reported for units held at either temperature. Those products were not tested in environments of those temperatures.

The labels pertaining to the holstered version of the product literally state that such an arrangement "**Permits Firing From Hip**". I feel that such a claim should not be allowed at this time because we do not know whether a user's speed and accuracy would be affected by retaining the product in a holster. We also do not know whether the spray pattern and range would be affected by holstering or whether firing the product while it was attached to one's person would put the applicator at additional risk of exposure to pepper spray.

My specific comments on the revised proposed labeling appear under "CONCLUSIONS".

202.0 CONCLUSIONS

Submission of 3/10/00

1. We have reviewed the data submission (MRID No. 450631-01) pertaining to the number of one-second bursts that containers of this product can deliver. The test methods reported were acceptable. The test results indicate that the typical container produced 5 sprayings of one-second in duration. The container that delivered 6 shots reportedly had used 4.52 seconds of total spraying time for the first 5 shots. One of the raw data sheet bears the notation that subsequent firings of the 5 units tested in that series were not strong enough "to be called a good blast."

2. The proposed research described by Patrick O'Herren of Brown Bear Resources, Inc., is not directly related to the claims proposed for 72265-R. Rather, the research seems intended to condition bears to stay away from places where they might encounter people. The bears that activate the product would not be attacking people, and indeed there might be no people present at all when the units are activated. The hope seems to be that, after several bad experiences, the bears will omit the sites where they encountered spray from their future routines. We have doubts about the utility of this approach.

   If the testing were successful, the product used might have to have a separate registration from 72265-R because of the latter product's limitations on when it may be used. You also might think about ways of restricting availability for any bear-activated pepper spray because over-the-counter purchasers typically would not have the equipment needed to set up units on their premises nor would they have the expertise required to place and orient the mechanisms appropriately.

3. Make the changes indicated below to the proposed container label, the "Holster Unit Hang Tag" label, the "Insert", and the "Clam Shell Insert", all of which were submitted on March 10, 2000.

a. Delete the promotional claims "**"Shotgun" Blast Spray Pattern**" and "**Equally Effective in Extreme Temperatures (40° to 120°F)**".

The "**"Shotgun" Blast Spray Pattern**" is misleading. Although the emanations from an aerosol container and a shotgun initially expand in cross-sectional area covered (in the vertical plane), the similarities end there. Aerosolized particles become smaller and lighter over time and distance, and may remain airborne for an extended period of time. Shot stays essentially the same size over distance, and tends to fall to the earth rapidly. Shotgun blasts tear and destroy tissues. Pepper sprays can cause pain and respiratory problems, but recovery generally occurs within a half hour or so and generally is complete.

Although containers stored at extreme temperatures were used in some of your reported spray pattern trials, the claim "**Equally Effective in Extreme Temperatures (40° to 120°F)**" is not supported by any data of which we are aware.

b. Delete the claim "**Holster Permits Immediate Firing From Hip**" (which only appears on "Holster Unit Hang Tag" and "Insert"). To support such a claim, you must demonstrate that users firing holstered units can achieve appropriate speed, accuracy, and spray patterns without increasing the degree of their own exposure to the spray.

c. In the "**DIRECTIONS FOR USE**", change the range and firing duration claims to read as shown below.

> **This product has an effective range of 18 to 25 feet. The canister empties in approximately 5 seconds.**

Taken as a whole, the information relevant to spray duration that has been submitted indicates that 5 seconds of useful spray can reliably be expected from this product and that claims of longer durations of useful spray are questionable.

Submission of 1/20/00

[NOTE TO DAN PEACOCK: The comments below are retained from the efficacy review of 3/29/00, with some editing due to the content of the material submitted on 3/10/00. Compare this version to what you have incorporated from my review of 3/29/00 and make the appropriate changes. Clearly, spray duration is one area where a change will be needed.]

Many of the issues raised in your letter of January 20, 2000, were addressed in our letter of February 1, 2000, which responded to your client's submission of January 1, 2000, but was sent directly to you.

In February, 2000, we still were awaiting submission of data on the number of one-second bursts that a container of the size to be used for 72265-R will deliver. Those data were submitted on March 10, 2000, and have been accepted.

Although applying logic might lead one to infer that the number of bursts of approximately one second that a container could deliver would be equal to its evacuation time in seconds, we do not know without testing that such would be the case. The number of approximately one-second

1 sec bursts

bursts that a container can deliver may be as close as one can get to being able to convey to a user how many useful sprayings a container can deliver (assuming one-second shots). In determining the number of one-second bursts provided, it is imperative that only those bursts which deliver a burst which meets the label's distance claims be counted. As the container empties, it is possible that there might be some instances in which there is a hiss but not much spray action. The researchers in the one-second trials made note of such results.

When such tests are conducted, we prefer that the bursts be counted but not timed because that would mimic the actual use situation. In other words, the person using the can should be asked to depress the trigger for about one second and to do this at intervals of several seconds until the container is no longer firing a stream likely to be useful against bears. The observer would count and record the number of good blasts that were fired before that point was reached. Because the volunteers used in your trials were given external cues regarding the duration of a second, your study was more controlled in that regard than would have been necessary.

Although we had hoped for more from the videotape that your client made, we were able to use the tape to fill in some gaps and answer some questions regarding what was reported regarding the conduct and results of the spray-pattern tests run last Summer. Neither your nor your client's comments about the conduct of the trials adequately explained why the measurements reported were so consistent within distances from the target (in outdoor tests on somewhat windy days) or why most height and width measurements were reported at 6" increments. We used the tape to form a visual impression of the type of spray pattern that the product delivers. Without that information, we would have asked for additional spray-pattern data.

spray pattern tests

We have read your comments regarding evacuation times but have concluded that our earlier position remains appropriate. Again, the videotape suggested that the reported evacuation times include time after which useful contents were no longer being delivered. That is why we elected not to use the reported mean time and attempted to time what appeared to be useful durations from the videotape. While timing from videotape could add sources of error, as long as the tape was made and shown at actual speed, the most serious source of error would not be associated with when spraying began but rather with when the container was no longer discharging useful contents. As that determination would be likely to have a longer reaction time that would judging when spraying began, timing for period of useful contents would tend to produce longer times than maybe should be claimed. When that was done, we obtained times that were shorter than those that your client reported but were consistently above 5 seconds and usually above 6 seconds.

In your one-second-shots test, total times reported for delivering useful sprays were well under 6 seconds. While such testing might not be completely equivalent to evacuation testing, available evidence is fairly consistent that "approximately 5 seconds" would be a duration claim that could be met reliably by the product proposed for registration.

At this point, we are not persuaded that a 3-second spray barrier approach would be any more effective against an attacking than would a well-aimed one-second blast. Currently, the 3-second approach is recommended on one registered product's labeling, while the one-second approach is recommended on another's. We hope that information sufficient for indicating the most appropriate use strategy will be forthcoming from users' accounts as feedback on the registered products is received. As the registered products are not identical in composition, the strategy most suited for one product might not be best for another.

From the standpoint of efficacy, there are no major impediments to registration of 72265-R except for the label changes needed in the "**DIRECTIONS FOR USE**" and the deletion of certain promotional claims.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
May 31, 2000

review of 1-20-2000 letter & enclosures

IRB BRANCH REVIEW - TSS

Record Number(s)

D263826

3/6/00 3/29/00

IN OUT

EFFICACY

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 1/27/00

DATE OF SUBMISSION 1/20/00

DATE SUBMISSION ACCEPTED 3/6/00

TYPE PRODUCTS(S): I, D, H, F, N, R, X S

DATA ACCESSION NO(S). no new studies

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN BEAR ATTACK DETERRENT

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE sounding off (rebuttal?)

CHEMICAL & FORMULATION 1.388% Capsaicin and related capsaicinoids aerosol

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy reviews of 6/30/99, 11/9/99, 11/30/99, and 1/21/00, along with the enforcement-case efficacy reviews of 2/7/00 and 3/15/00, which pertained primarily to unregistered products produced by Security. The first of the efficacy reviews for this product discussed the initial application for Federal registration of Frontiersman. The second discussed follow-up submissions and accounts of incidents in which people who used products called "Frontiersman" were mauled by bears nevertheless. The third review for 72265-R discussed whether reported differences between the "*OLD FORMULATION*" and the "*NEW FORMULATION*" shown on a "***CONFIDENTIAL FORMULATION COMPARISON***" included in Security's agent's submission of 10/22/99 might have accounted for two Frontiersman incidents of which we had been made aware and show that the formulation had been improved. The fourth efficacy review discussed Security's representations to the effect that the "*OLD FORMULATION*" actually corresponded to the composition of the "Frontiersman" product (aka "Frontiersman by Sabre") and the "*NEW FORMULATION*" is what has been proposed for "Frontiersman Bear Attack Deterrent" (72265-R). The two enforcement-case efficacy reviews were mainly concerned with "Frontiersman by Sabre" and the similar product "Alaska's Best Defense".

In various documents, Security's personnel have maintained that the company never intended "Frontiersman by Sabre" to be a bear deterrent or marketed it as such. The same is claimed for "Alaska's Best Defense". Instead, the company maintains that those products always have been intended to be used solely for people to protect themselves from other people. What the labeling for "Frontiersman by Sabre" and "Alaska's Best Defense" label actually say about the target species is vague (using "attacker" instead of "person", "bear", or other animal). Labels for those products, like those proposed for 72265-R, describe likely use scenarios using phrases such as

> For self-protection against violent attacks while
> **HUNTING, CAMPING, FISHING, HIKING,**
> **& BIKING**, or whenever enjoying the great outdoors.

As I have noted in other reviews, these are bear-attack scenarios, although there certainly have been cases of people attacking people in such situations.

This review discusses a submission of 1/20/00 from Security's agent Kim Davis of RegWest Company, Greeley, CO. Davis indicates that her letter is a response to EPA's letter of 12/22/99.

Although Davis's letter of 1/20/00 states the "RegWest Company will act as sole agent in this endeavor", Security's Larry Nance already has responded directly to our letter of 12/22/99; and his response to that letter was the primary subject addressed in the efficacy review of 1/21/00 (completed before EPA received Davis's letter of 1/20/00). IRB responded to Nance's letter of 1/1/00 in a letter of 2/1/00, which was mailed to Davis.

EPA's letter of 12/22/99 included comments from the "CONCLUSIONS" sections of the efficacy reviews of 11/9/99 and 11/30/99. Davis's letter of 1/21/00 discusses spray pattern testing, product composition, efficacy data, the "alleged" mauling incidents, and labeling. No revised proposed label was included with Davis's letter of 1/20/00. Because it also was concerned with a response to EPA's letter of 12/22/99, I have used the review of 1/21/00 as a template for this review.

On 5/12/98, Counter Assault Bear Deterrent (55541-2) was accepted as the first Federally registered Capsaicin-based bear repellent in the U.S. Prior to that time there had been a dozen or more years of illegal sale of that and similar products (including at least one "Frontiersman" product for some of that time) as unregistered pesticides. Four aerosol attack deterrents are now registered: Counter Assault, Guard Alaska (71545-1), BearGuard (71920-1), and Bear Pause (71768-1). On 11/23/99, a Stop Sale and Removal Order (SSURO) was issued against 71768-1 because EPA learned that product did not contain the substance (Capsaicin) claimed to be its active ingredient.

Security's initial application to register 72265-R was late for the period of time during which EPA had promised to expedite handling of applications for registration of bear repellents. By the time (June of 1999) that I reviewed materials from the initial application, EPA was aware of charges to the effect that "Frontiersman" product and "Alaska's Best Defense" had been sold as unregistered bear repellents and that formulation deficiencies with "Frontiersman by Sabre" has led to product failures including two 1998 incidents that had received press coverage. The information included in the first submission was not adequate for the 72265-R product to be registered at that time. Consequently, there have been subsequent submissions and reviews for the product.

201.0 DATA SUMMARY

One of my questions concerning product formulations was related to a perceived discrepancy between the formulation proposed for 72265-R, as described by the Confidential Statement of Formula (CSF) dated 2/19/99, which appeared to claim only one propellent, and the comment in the spray pattern report to the effect that there are [redacted] propellents for the product.

In his letter of 1/1/2000. Larry Nance noted that the [redacted] which was not claimed as part of the formulation but was mentioned on the CSF of 2/19/99 in the sentence

> The above liquid ingredients are [redacted]

Clearly, [redacted] also would function as a propellent. In the efficacy review of 1/21/00, I drafted an apology for my mistake on that point. The apology was included, unedited, in EPA's letter of 2/1/00.

Manufacturing process information may be entitled to confidential treatment

I also was concerned about the aforementioned differences between the old and new formulations and whether such differences might have a bearing upon product efficacy. In his letter of 1/1/00, Larry Nance noted, regarding the "*OLD FORMULATION*" and the "*NEW FORMULATION*" situation, that the "Frontiersman" product being marketed (i.e., "Frontiersman by Sabre") does not have the same formulation as "Frontiersman Bear Attack Deterrent". Referring to a Davis's submission of 10/22/99, Larry Nance wrote:

> The correct headings for these tables should be Frontiersman in place of OLD FORMULATION and Frontiersman Bear Attack Deterrent in place of NEW FORMULATION. These products are NOT interchangeable. We will not market the Frontiersman Bear Attack Deterrent in the same manner we market Frontiersman. In response to your request in October of 1999, I explained that our Frontiersman Bear Attack Deterrent formula for EPA registration is twice as strong as the Frontiersman formula.

In the efficacy review of 1/21/00, I noted that confusion regarding whether "Frontiersman" was to be used against bears or people could be removed by altering the product's name and labeling so that there was no uncertainty regarding the target species being claimed. Information in that regard was included in EPA's letter of 2/1/00. It seems clear enough that the people who used "Frontiersman by Sabre" but were mauled by bears anyway thought that they had been carrying a bear deterrent.

With her letter of 1/20/00, Davis supplied an amended version of the "*OLD FORMULATION*"/"*NEW FORMULATION*" table that she had included with her submission of 10/22/99. The new table differs from the older one in several ways:

1. the heading "*OLD FORMULATION*" was changed to "*FRONTIERSMAN FORMULATION*";

2. the heading "*NEW FORMULATION*" was changed to "*FRONTIERSMAN BEAR ATTACK DETERRENT FORMULATION**";

3. a row was added to the bottom of the table for the purpose of inserting the text [redacted] in the column for "*FRONTIERSMAN BEAR ATTACK DETERRENT FORMULATION**"; and

4. The asterisk at the end of "*FRONTIERSMAN BEAR ATTACK DETERRENT FORMULATION**" is answered by the text "*Formulation submitted to the EPA for registration."

Assuming that its representations are correct, this table is consistent with claims that "Frontiersman" uses a different formulation than the one intended for 72265-R and that there are [redacted] propellents in 72265-R.

A large portion of Davis's letter of 1/20/00 responds to the comments in EPA's letter of 12/22/99 concerning the spray pattern testing reports and videotape that had been submitted for 72265-R. I was, and still am, surprised by the incredible degree of uniformity of results that were reported in the study. Like Larry Nance before her, Davis states that product quality control and uniform test conditions were responsible. She also states that

Inert ingredient information may be entitled to confidential treatment

Manufacturing process information may be entitled to confidential treatment

> The dimensions of the patterns were determined by measuring them -- with a tape measurer -- from the farthest two horizontal and vertical points of droplets visible on a sheet.

As noted in past efficacy reviews, the same numbers for pattern dimensions appeared time and time again for replicated trials in which the contents of canisters of 72265-R reportedly were fired at a vertical target from fixed distances. For example, the height of the pattern was reported to be 12' in all 12 outdoor trials in which the target was 25' away from the canister (see Table 1 of efficacy review of 11/9/99). In 10 of these trials, the width of the pattern also was reported to be 12', with the other two widths being 12'6" and 13'. Note that these distances are expressed in half-foot increments, as are all but 9 (10%) of the 88 dimension measurements reported for the 44 outdoor trials. Of those 9 cases, 8 (89%) were reported to be 10'5" and 7 (88%) of the 10'5" measurements were reported for pattern heights at the 15' distance (at which outdoor tests reportedly were run on 5 different days).

Considering that the patterns would have been laid down after a largely aerosolized cloud of product traveled through 10'-30' of moving outdoor air (reported wind speeds being 8-10 mph), the degree of uniformity of spray-pattern results was unlikely. In past reviews, I posed questions in an effort to find out if the consistency in results could have been explained by estimating height and width by eye or by usually rounding measured dimensions to the nearest half foot. Target size (or dimensions beyond which no impingements could be detected) seemed an unlikely explanation for all of the consistency reported, because heights as great as 15'6" and widths as great as 14' were reported. To such inquiries, Larry Nance responded by alluding to quality control and making statements such as

> All canisters were shot by the same person and were held at shoulder height.

In her letter of 1/20/00, Davis made similar arguments.

In the efficacy review of 1/21/00, I commented as follows on the "consistency" issue.

> At this point, it is clear that whatever spray pattern testing was done was reported by someone who does not do testing for a living and was more interested in showing the product in a favorable light than in absolute accuracy. From the videotape, it appeared that containers delivered spray with adequate oomph and dispersal. Could this have produced the reported consistency in patterns of deposits on vertical targets as far as 25' away when the product was sprayed outdoors of 5 different days? Not likely, no matter how good the quality control in manufacturing and the consistency in hand position by the sprayer might have been.

Having now read Davis's comments on the issue, I believe that the assessment quoted above remains essentially correct. I concluded in the efficacy review of 1/21/00, that the spray pattern information provided was "adequate at the present time." This and related comments were relayed to Davis in EPA's letter of 2/1/00.

In her letter of 1/20/00, Davis criticized what she evidently perceived as EPA's simultaneous rejection of the videotape and use of it for various purposes, including determining that the reported times to container evacuation were too long. Because of lingering doubt as to the accuracy of the reported spray pattern dimensions, I actually wound up using the videotape as

confirmatory evidence that the canister delivers an appropriate spray pattern. If I had known of and heeded Davis's suggestion to "merely disregard" the videotape, I probably would have asked for more spray pattern testing and insisted on certain additional procedures in an effort to get accurate measurements of dimensions.

Davis's specific comments related to the time-to-evacuation data and claim are quoted and discussed below.

> The timing of the spray was from when the actuator was pressed to the end of the discharge. It is asinine to attempt timing the duration sequence while viewing the video. Unless you are the one firing the can, you cannot be in complete sync with the pressing of the actuator and cannot determine exactly when the discharge was complete. My client stands behind the data. It is interesting to note you say the videotape is too limited to be useful, but try to use it capriciously to invalidate the data....
>
> Per the guidance document, the spray patterns were to be determined over time so that users may be informed of how many seconds of effective spraying time a given canister would afford them. This is highly useful information given the manner in which these products are intended to be used. What possible relationship could the number of one-second firings from a single canister have to the product's intended container and formulation? On the off chance this is somehow related to "test firings," there are (on average) approximately 8 one-second bursts, based on the average spray duration of approximately 8 seconds. There could not possible be any more or any less. The product fires at the same velocity on the first burst as it does on the last - and at the same velocity if fired all at once....
>
> Since there is no scientific rationale supporting the "5 seconds" we elect not to make this change. You are, in essence, saying you find the spray pattern/duration data previously submitted without merit, yet have offered no scientific basis for this determination. You state in your letter that the video is of little use to you, but then try to use it to invalidate the study. Once again, this is unfair to my client. If you have scientific data that invalidates the study, my client would be very happy to furnish you with sample product so you could contract an independent laboratory to perform an independent study. The cost for this study would have to be borne by the Agency, as we have more than met the original requirements outlined in the guidance document. The data clearly support effective ranges of 10, 15, 20 and 25 feet. The label statement of 18 feet is well within these parameters....
>
> One again I will reiterate: The canisters were submitted to show the agency the **type** of container and the labeling on these samples was **not** to be reviewed. The only labeling to be considered is that which I submitted (typed version). The statements on the previously submitted label (This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds.) are correct. As previously demonstrated by the data, the average spray duration is 7.8 seconds. This **is** approximately 8 seconds, not approximately 7.8 seconds (0.2 seconds is undetectable to the user). Until the Agency can provide a compelling and scientific rationale why they refuse to accept the previously submitted data no additional data will be forthcoming.

I also believe that users should be told

> how many seconds of effective spraying time a given canister would afford them.

However, I see no reason to exaggerate the time by using "push-to-end-of-hiss" times (which Davis suggests is what Security obtained) and then rounding up to the next whole second. It would be far better for the users if they were gives a duration that each container is certain to meet (e.g., 5 seconds) rather than one that containers would be unlikely ever to meet. From the registrant's point of view, a longer duration claim might make for a more salable product; but that should not be EPA's criterion for deciding how long of a duration claim should be made. If the applicant decides to continue to propose duration claim that we believe to be excessive, we are not obligated to accept the claim or the product for registration.

I did attempt to time useful spray durations from the videotape, having no better source of information available to me. It appeared from the videotape (see efficacy review of 11/9/99) that the times reported exceeded the amounts of time for which a useful amount of spray was being delivered. The paragraph below is taken directly from that review.

> Firing times appear to represent the onset to the end of the hiss rather than the shorter period of time representing the period of useful discharging of contents. I say this because the times tend to be longer than those reported by others for containers of similar size and because of observations made while watching Security's videotape. When I timed from onset to visual disappearance of a stream likely to be useful, I got times that were shorter (5.23-7.24 sec) than any reported by Nance. For unit #204 (the only one specifically identified on the videotape), my time was 6.92 sec. Due to the nebulous nature of "loss of a useful stream", I probably would get different times if I reran and retimed the tape often; but I probably would never get as high as the 7.76 seconds that Nance reports for #204. When I retimed other units off the tape, my replicated timings fell within a range of 0.3 sec [not actually true, see below]. Because Security continued timing beyond the period of useful discharge of contents, I feel that the duration claim should be shortened to 5 seconds.

Whether the rationale described in that paragraph was "scientific", I felt that it was the best that I could do with the information available to me. It was clear that the time reported by Security for unit #204 exceeded the duration of delivery of useful amount of product (assuming that the tape was made and played at "actual" time).

Although one might think that a one person could simultaneously activate a stopwatch and a spray canister, certain errors could be introduced in the process. Having timed many events, I know from experience that the key to an accurate time is having the same reaction time at the start and the conclusion of the event, rather than having the shortest possible reaction time. The biggest problem with timing off of the videotape was not with starting the watch on time but rather with judging when the spray had begun to peter out and then stopping the watch. Any slowness in that regard would have lengthened the time obtained, but got no times as high as those that Security reported.

I had not thought of this previously for bear deterrents, but there actually is a way to determine from data how likely it would be, in a future single trial, to obtain a result above or below a certain figure. I have used the procedure for determining how likely it would be to obtain a result

below required minima for burning characteristics (especially fuse time) for gas cartridges (incendiary fumigants used to control burrowing animals).

Because (1) it takes about 30 trials to obtain a reasonably good distribution of results, (2) evacuation time has not seemed to us to be as important as other performance characteristics for bear repellents, and (3) we consider the costs of tests, we have not required large numbers of replications for tests of can evacuation time. While Security did provide ample replications on this characteristic, I feel that they timed beyond the period of discharge of useful contents. Therefore, using the gas cartridge procedure with Security's data would produce results that would be in error on the high side. For purposes of illustration and discussion, however, I have done just that.

The first two columns of Table 1 show the specific units tested by Security and the evacuation times reported for those units (indoor and outdoor tests combined). Note that the values reported are clustered at and just below 8 seconds. (Note also that, while 8 [15%] of the evacuation times reported equalled exactly 8.00 seconds, none exceeded 8 seconds. The hundredths-place digit reported is "0" for 24 [44%] of the 54 units tested. With no rounding or estimating of times, each possible last digit should have been represented in about 10% of the trials.) The mean evacuation time reported is 7.83 seconds, with all but 4 reported times being within 0.2 seconds of the mean. Such a tight cluster of values produced a narrow standard deviation. The mean was so many standard deviation units above 5 seconds that the calculated probability of there being an evacuation time of 5 seconds or less is nearly zero. Using these results, even the probability of obtaining an evacuation time of 7 seconds or less would be extremely small. Using Security's data, one also could infer that an evacuation time at least as high as 8 seconds would be obtained only about 9-10% of the time -- too low of an incidence to guarantee on a label.

As noted above, I attempted to time cartridge evacuation off of the videotape that Security submitted because I was interested in the length of time that useful contents of product (likely to reach a bear at some distance) were being discharged. I timed 5 units once, three of the same units twice, and one unit a third time. Between-trial discrepancies for the same unit ranged from 0.21 sec to 0.89 sec. These discrepancies were due to the difficulty in judging when the container had ceased to deliver useful product (which seemed to occur well before the container stopped hissing).

The third through fifth columns of Table 1 show the results that I obtained in timing off of the videotape. (Note that only the entry for unit #204 necessarily corresponds to the unit actually fired by Security, because that was the only unit that could be identified specifically from the tape. The results clustered near #204 were for other units presumably tested outdoors. For the one case where my notes indicate that the unit was fired indoors, I present the results opposite the last of the units tested indoors.)

My first timings of units yielded the 5 values shown in the third column of Table 1. All of these values were below all evacuation times reported by Security. The standard deviation for the 5 first times from the tape is about 3X that obtained using Security's data. This larger value was due in part to the smaller sample size, but there also was a greater range in values for the times taken from the videotape observations. Performing the same calculations that were made for Security's data yielded a probability of about 1 in 500 that time 5 seconds or lower would occur. This would be in the vicinity of a "guaranteeable" claim, but the underlying data are too limited and too questionable to be given much faith. (For gas cartridges, we use 1 in 1000 as the cut-off for determining whether a minimum fuse time of 5 seconds can be claimed.) Using the 3

values for the first retiming of units produced a mean of about 6 seconds, which was less than a standard deviation unit above 5 seconds. Obviously, such a small sample size should not really be used for calculating probabilities.

For a guaranteed evacuation time, 5 seconds would still be the one to use. For an "approximately" estimate, six seconds might be better.

Davis's claim to the effect that a container which takes 8 seconds to evacuate under continuous firing would necessarily produce eight bursts of approximately one second seems to be based on her own reasoning rather than any test data. Her reasoning is logical. However, test data are needed to produce an actual number. It has been my experience with aerosol containers for other types of products that they appear to be "refreshed" in the "oomph department" if the have been idle for a while and shaken a slight bit before use. It also is clear that a person's estimates of how long a second is would affect the actual duration (and, therefore, the number) of perceived one-second bursts. Based on some observations, I suspect that most people would err on the short side if asked to demonstrate how long a second is. Rather than to simply trust my own experience or logic, however, I feel that the appropriate way to determine how many 1-second blasts a container can deliver is to test specifically for that.

Security's own product literature for non-FIFRA-regulated human attack deterrents in the "*SABRE*" and "*SABRE Red*" lines suggest that claiming a specific number of ½-second blasts is perceived to be a way of attracting customers. I settled on the 1-second duration as something useful to know about bear deterrents because spray durations (again timed from videotape) of less than a second (but sometimes more than ½ second) seemed to be all that were needed to avert bears (in "ambush" or "curious bear" situations, at least). The test-firing issue should be a factor in a user's estimating how much "juice" a container still has left. Clearly, a user would not want to discard useful containers prematurely and would be ill-equipped if a spent container were that he/she had available when a bear was encountered.

In her letter of 1/20/00, Davis reiterates prior representations from herself and Security that the company was not aware of the Frontiersman incidents involving human injury. I have discussed this circumstance in prior reviews, and will not spend much time on it here. It seems to me to be reasonable at this point to inform Security about what we know of the incidents. The only reservation that I would entertain concerns revealing the names of the victims, unless this information already has appeared in news items.

It is not clear when Security came to know of the alleged incidents or what the company now knows about them. In his letter of 1/1/00, Larry Nance claimed no knowledge of the incidents, but did state that

> The Frontiersman product does not claim in any way to be a bear deterrent....

EPA's letter of 2/1/00 did not mention the incidents and did not indicate the presence of enclosures that might have pertained to them.

In her letter of 1/20/00, Davis suggests that EPA might have decided

> to hold this product's registration hostage because of my client's previous sale of unregistered product.

That does not seem to me to have been the case. All of the bear pepper sprays that have been registered to date were previously sold (illegally) as unregistered pesticides, and labels for those products tended to be even more blatant in making or implying claims of efficacy against bears than "Frontiersman by Sabre" and "Alaska's Best Defense" have been. The incident reports for "Frontiersman by Sabre" have affected the course of progress toward registration because we have felt it prudent to carefully assess formulation and spray pattern issues to make sure that whatever might be "wrong" with Frontiersman by Sabre as a material for use against bears is not also wrong with Frontiersman Bear Attack Deterrent, 72265-R. The ongoing case with "Alaska's Best Defense" (and "Frontiersman by Sabre", by inference) has taken up a considerable amount of our time, including some that might have been spent sooner on registration of 72265-R. However, it appears to me that the absence of proposed labels revised as we have indicated in prior communications and data on the number of 1-second bursts a container can deliver currently are major factors delaying the registration of 72265-R. I say this because I already have indicated that no more efficacy or spray-pattern data are needed and have prescribed what would be needed in terms of firing data and label changes to make the product acceptable from the standpoint of efficacy.

Davis's submission of 1/20/00 included copies of the efficacy data that I discussed in the efficacy review of 1/21/00. Comments on those items, including the conclusion that no more efficacy data are required, were included in EPA's letter of 2/1/00, which was sent directly to Davis.

The content and tone of Davis's letter of 1/20/00 suggests that she was frustrated by certain statements in EPA's letter of 12/22/99. Most of the content of that letter was taken directly from the efficacy reviews of 11/9/99 and 11/30/99, which I wrote. Because Dan Peacock, prepared EPA's letter of 12/22/99, much of Davis's apparent anger is directed toward him.

Davis takes particular offense at the phrase "**If and when this product is registered**" which, in context, appears in a paragraph which states that container sizes may not be changed for this type of product via the "Notification" process. (Peacock added the emphasis to the paragraph when he assembled the letter.) Davis seems not to object to having to use the amendment process to obtain approval for new containers sizes. Instead, the states that the "If and when" text

> implies that the Agency has some type of hidden agenda that is unfair to my client.

I used "If and when" simply because saying "When this product is registered" would imply a guarantee that the product was going to be registered. We seldom, if ever, guarantee that any product will be registered and should never do so when we are still awaiting submissions that respond appropriately to our last letters to the applicants. In addition to not knowing to what extent the promised submissions would be suitable, there are other factors beyond our control (such as the timing of such submissions and the applicant's raising of new issues).

202.0 CONCLUSIONS

Many of the issues raised in your letter of January 20, 2000, were addressed in our letter of February 1, 2000, which responded to your client's submission of January 1, 2000, but was sent directly to you. That letter indicated that no additional efficacy data are required for 72265-R at this time and that no additional spray pattern data are required.

We still are awaiting submission of data on the number of one-second bursts that a container of the size to be used for 72265-R will deliver. Although applying "logic" might lead one to infer that the number of bursts of approximately one second that a container could deliver would be equal to its evacuation time in seconds, we do not actually know that such would be the case. The number of approximately one-second bursts that a container can deliver may be as close as one can get to being able to convey to a user how many useful sprayings a container can deliver. In determining the number of one-second bursts provided, it is imperative that only those bursts which deliver a burst which meets the label's distance claims be counted. As the container empties, it is possible that there might be some instances in which there is a hiss but not much spray action.

In conducting the test, bursts should be counted but not timed. In other words, the person using the can should be asked to depress the trigger for about one second and to do this at intervals of several seconds until the container is no longer firing a stream likely to be useful against bears. The observer would count and record the number of good blasts that were fired before that point was reached. Unless something went wrong with the testing, only 5 to 10 containers would have to be used to obtain these data. More than 5 would be needed only if there was a great deal of variation among the first 5 tested.

Although we had hoped for more from the videotape that your client made, we were able to use the tape to fill in some gaps and answer some questions regarding what was reported regarding the conduct and results of the spray-pattern tests run last Summer. Neither your nor your client's comments about the conduct of the trials adequately explained why the measurements reported were so consistent within distances from the target (in outdoor tests on somewhat windy days) or why most height and width measurements were reported at 6" increments. We used the tape to form a visual impression of the type of spray pattern that the product delivers. Without that information, we would be asking for additional spray-pattern data.

We have read your comments regarding evacuation times but have concluded that our earlier position remains appropriate. Again, the videotape suggested that the reported evacuation times include time after which useful contents were no longer being delivered. That is why we elected not to use the reported mean time and attempted to time what appeared to be useful durations from the videotape. While timing from videotape could add sources of error, as long as the tape was made and shown at actual speed, the most serious source of error would not be associated with when spraying began but rather with when the container was no longer discharging useful contents. As that determination would be likely to have a longer reaction time that would judging when spraying began, timing for period of useful contents would tend to produce longer times than maybe should be claimed. When that was done, we obtained times that were shorter than those that your client reported but were consistently above 5 seconds and usually above 6 seconds. Without requiring more testing in that area, the best that we can do would be to accept a "5 seconds" assurance or an "approximately 6 seconds" claim.

From the standpoint of efficacy, the major impediments to registration of 72265-R are the lack of information on the number of one-second spray bursts a can delivers and the lack of proposed labeling revised as we have indicated in prior communications.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
March 29, 2000

TABLE 1. Evacuation times for Frontiersman Bear Attack Deterrent (72285-R)

CONTAINER NUMBER	SECURITY'S RESULTS (sec)	JACOBS RESULTS (sec)	JACOBS RETIME 1 (sec)	JACOBS RETIME 2 (sec)
111	7.80			
112	7.75			
113	7.90			
114	8.00			
115	8.00			
116	7.80			
117	7.80			
D-1	7.76			
D-2	7.71			
D-3	7.76			
D-4	7.59			
D-5	7.80			
D-6	8.00			
D-7	7.90			
D-8	7.95			
D-9	7.90			
D-10	7.95			
D-11	7.85			
D-12	7.90	6.98	7.24	
501	8.00			
502	7.80			
503	7.93			
504	8.00			
505	7.91			
506	7.91			
301	7.59			
302	7.65			
303	7.95			
304	7.75			
305	7.75			
401	7.90			
402	7.95			
403	7.85			
404	7.95			
204	7.76	6.92		
205	7.61	6.53		
206	7.67	6.12	5.23	
207	7.54	6.54	6.75	6.31
208	7.79			
209	7.75			
210	7.73			
211	7.86			
212	7.75			
213	7.70			
214	7.75			
215	7.80			
216	8.00			
217	7.80			
218	7.75			
219	8.00			
220	7.90			
221	8.00			
222	7.80			
223	7.90			
NUMBER TESTED	54	5	2	1
AVERAGE SCORE	7.83	6.61	5.99	6.31
VARIANCE	0.01	0.12	1.16	---
STANDARD DEVIATION	0.12	0.34	1.07	---
S.D. UNITS > MINUMUM	23.38	4.71	0.92	---
MINIMUM TIME (sec)	5.00	5.00	5.00	5.00
PROB. OBS. < MINIMUM*	<0.000000001	0.0019	35.79	NA

* See: Hodgman, C.D. (1938) Handbook of chemistry and physics. Cleveland (Chemical Rubber Publishing Co.), p. 183.

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval Expires 05/31/98

United States **Environmental Protection Agency** 401 M Street, S.W. Washington, DC 20460-0001	☐ Registration ☐ Amendment ■ Other	OPP Identifier Number **256126**

Application for Pesticide – Section I

1. Company/Product Number **EPA File Symbol: 72265-R**	2. EPA Product Manager **Daniel Peacock**	3. Proposed Classification ■ None ☐ Restricted
4. Company/ Product (Name) **Frontiersman® Bear Attack Deterrent**	PM #	
5. Name and Address of Applicant (*Include ZIP Code*) **SECURITY EQUIPMENT CORPORATION** **c/o RegWest Company** **P.O. Box 2220** **Greeley, CO 80632-2220** ☐ *Check if this is a new address*	**6. Expedited Review.** In accordance with FIFRA Section 3(c)(3)(b)(i) my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section – II

☐ Amendment – Explain below.	☐ Final printed labels in response to Agency letter dated _____
■ Resubmission in response to Agency letter dated **February 1, 2000**	☐ "Me Too" Application.
☐ Notification – Explain below.	☐ Other – Explain below.

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Section – III

1. Material This Product Will Be Packaged In:

Child Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
☐ Yes* ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Metal ☐ Plastic ☐ Glass ☐ Paper ☐ Other (Specify): _____
***Certification must be submitted**	If "Yes" Unit Packaging Wgt. / No. Per Container	If "Yes" Packaging Wgt. / No. Per Container	

3. Location of Net Contents Information	4. Size(s) Retail Container	5. Location of Label Directions
☐ Label ☐ Container		☐ On Label ☐ On Labeling Accompanying Product

6. Manner in Which Label is Affixed to Product ☐ Lithograph ☐ Stenciled ☐ Paper glued ☐ Other _____

Section - IV

1. Contact Point (***Complete items directly below for identification of individual to be contacted, if necessary, to process this application.***

Name	Title	Telephone No. (Include Area Code)
Kim Davis, CC, APC	**Consultant/Agent**	**(970) 353-0611**

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

6. Date Application Received **(Stamped)**

2. Signature	3. Title	4. Typed Name	5. Date
	Consultant/Agent	**Kim Davis, CC, APC**	**March 10, 2000**

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

RegWest Company
P.O. Box 2220 Greeley, CO 80632-2220 970/353-0611 FAX 970/353-0613

FedEx
AB 8157 7198 4975

March 10, 2000

450631-00

Office of Pesticide Programs
Document Processing Desk - *7505C*
U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

ATTN: Dan Peacock, Insecticide/Rodenticide Branch

Dear Mr. Peacock:

SUBJECT: Security Equipment Corporation
Frontiersman® Bear Attack Deterrent
EPA File Symbol: 72265-R
Your Letter Dated February 1, 2000

On behalf of its client ***Security Equipment Corporation***, RegWest Company is responding to your letter of February 1, 2000 in continuing support of subject product's FIFRA Section 3(c)(3)(b)(i) pesticide product registration. RegWest Company will act as sole agent in this endeavor.

Attached are the following items:

VOLUME 1 OF 2: ADMINISTRATIVE DOCUMENTS:

1. Application for Pesticide: Other [OPP IDN 256126]
2. A copy of the February 1, 2000 Agency letter
3. Five copies of revised draft labeling
4. Proposed Protocol for Grizzly Deterrent Project (February 23, 2000 Memo from Brown Bear Resources, Inc.)

VOLUME 2 OF 2: PRODUCT PERFORMANCE DATA: ASSIGNED MRID NUMBER: 45063101

Nance, L. (2000): One Second Shot Study of Frontiersman Bear Attack Deterrent. Unpublished study prepared by Security Equipment Corporation, Fenton, MO. 7p. Guideline Number 96-1. [3 copies]

In response to your letter:

Security Equipment Corporation has dropped the use of the *Frontiersman* brand name from their line of products used against people, replacing it with ***Sabre*** (Sabre, Sabre Red and Sabre Defense). To further distinguish the two product lines, the ***Sabre*** line is marketed in a completely different size than the Frontiersman product for deterring bears. The ***Frontiersman*** brand name will be used solely for the bear deterrent product and will be marketed exclusively in the 9.17 oz. size.

Please enlighten us on the "other factors" you believe *"probably" were mainly responsible for the high degree of uniformity in results* reported during the spray pattern test. To make such a statement without qualification or explanation, once again, speaks to a hidden agenda. We would much prefer to address these issues - and your opinions - openly and honestly.

Volume 2 of this submission contains the "one-second" test you requested. However, we differ with your perspective on the usefulness of this information. The statement comparing people's familiarity of this product' use to other aerosol products (e.g., insecticides, hair spray, spray paint, etc.) presents a rather unbelievable opinion. Your comparative products are not intended for use under "panic" or "attack" conditions and any comparison along these lines is rather naïve. To reiterate language presented on the proposed language (and taken directly from the guidance document you supplied - emphasis added):

Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container, make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test-fire in areas inhabited by bears. Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

Putting this language into practical use, and referencing the one-second shot data and previously submitted firing data, a person would first become familiar with this product thus eliminating any type of product type confusion. Test firings would not be conducted in bear attack situations. There are optimally approximately 10 test firings (1/2 second each) in each container. There are optimally approximately two test firings (1/2 second each) and two full firings (3 seconds each) in each container.

The draft labeling submitted herewith has been revised to reflect the aerosol container, the holster unit hang tag, the holster unit insert and the clam shell insert. In addition, we are proposing the following language be used that combines your concerns/comments while representing the submitted data:

- This product has an effective range of 18 to 25 feet. The canister empties in approximately 5 to 8 seconds.

Security Equipment Corporation has contacted Brown Bear Resources to conduct an effectiveness study this spring. A copy of their proposed protocol is included with this submission. We would appreciate a swift review of and comment on this proposed protocol in order to conduct the study "in season." Patrick O'Herren, the Director, and Mr. Nance will be participating in the study.

Please contact me at (970) 353-0611 or at regwestco@aol.com if you need additional information or wish to discuss the contents of this letter.

Regards,
RegWest Company

Kim Davis, CC, APC
Consultant/Agent

Attachments
pc: SEC - Nance, L.

B.11

DP BARCODE: D263826

CASE: 064803 DATA PACKAGE RECORD DATE: 03/06/00
SUBMISSION: S576350 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 01/27/00 DUE OUT DATE: 08/04/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 263826 EXPEDITE: N DATE SENT: 03/06/00 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	
DIV : RD	/ /	/ /	
BRAN: IRB	/ /	/ /	
SECT: PM04	/ /	/ /	
REVR : WY	3/6/00	3/29/00	OBJ
CONTR:	/ /	/ /	

ADMIN DUE DATE: 08/03/00
NEGOT DATE: / /
PROJ DATE: / /

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Please review the attached letter and comments.

thanks,

Dan

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

RegWest Company
P.O. Box 2220 Greeley, CO 80632-2220 970/353-0611 FAX 970/353-0613

Certified Mail RRR
Z 162 801 084

January 20, 2000

Document Processing Desk
Office of Pesticide Programs - ***7505C***
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460-0001

ATTN: Dan Peacock, Insecticide/Rodenticide Branch

Dear Mr. Peacock:

SUBJECT: Security Equipment Corporation
Frontiersman® Bear Attack Deterrent
EPA File Symbol: 72265-R
Your Letter Dated December 22, 1999 (copy attached)

On behalf of its client ***Security Equipment Corporation***, RegWest Company is responding to your letter of December 22, 1999 in continuing support of subject product's FIFRA Section 3(c)(3)(b)(i) pesticide product registration. RegWest Company will act as sole agent in this endeavor.

I offer the following information in response to your letter:

A. Spray Pattern Test and Video

1. To be exact, 56 units (12 at 10 feet from target, 10 at 15 feet from target, 17 at 20 feet from target, 15 at 25 feet from target and 2 at 30 feet from target) were fired in the study. There is nothing ***remarkably uniform***, i.e., uncommonly consistent, about the spray patterns, as stated in your letter. The consistency is directly attributable to the quality of the can components, the manufacturing process precision (equipment and formula) and the fact that the same person fired identical cans consistently. If you are implying the study itself somehow lacks validity you are grossly mistaken. Perhaps the other products' studies/videos you have seen show inconsistencies due to inferior manufacturing, formulation or hardware. The dimensions of the patterns were determined by measuring them - with a tape measurer - from the farthest two horizontal and vertical points of droplets visible on the sheet.

2. Since the video was not a required piece of information, per the October 15, 1998 *Bear-Deterrent Registration Kit for Pepper Spray Products* (hereinafter the "guidance document"), and since it is not very useful to you, I suggest you merely disregard it. At the minimum it supports the validity of the spray pattern study, as you **can** see exactly how the study was conducted. Tiny droplets that are violently dispersed from a can, as is the case with this product, are very hard to document without use of a foreign dye. For numerous reasons my client did not want to alter the product formulation (as others have) for this study.

Manufacturing process information may be entitled to confidential treatment

3. The timing of the spray was from when the actuator was pressed to the end of discharge. It is asinine to attempt timing the duration sequence while viewing the video. Unless you are the one actually firing the can, you cannot be in complete sync with the pressing of the actuator and cannot determine exactly when the discharge was complete. My client stands behind the data. It is interesting to note you say the videotape is too limited to be useful, but try to use it to capriciously invalidate the data.

4. I have attached another copy of the CSF submitted February 19, 1999. Please read the highlighted line that states [redacted]
Perhaps you were confused because the formula comparison omitted this information. I have also attached a revised formula comparison.

5. Per the guidance document, the spray patterns were to be determined over time so that users may be informed of how many seconds of effective spraying a given canister would afford them. This is highly useful information given the manner in which these products are intended to be used. What possible relationship could the number of one-second firings from a single canister have to the product's intended container and formulation? On the off chance this is somehow related to "test firings," there are (on average) approximately 8 one-second bursts, based on the average spray duration of approximately 8 seconds. There could not possibly be any more or any less. The product fires at the same velocity on the first burst as it does the last – and at the same velocity if fired all at once.

6. We take particular offense to the phrase *If and when this product is registered.* This implies that the Agency has some type of hidden agenda that is unfair to my client. Had you explained your reasoning behind the requirement for Agency approval prior to introducing a new size, I would not have cited the regulations or PR Notice as applicable to this product. This is entirely indicative of why I suspect a hidden Agenda. Based on the rationale, it is reasonable to require approval prior to marketing this product in a different size container. Once again for the record, my client has no intention at this time to market this product in any size other than the 9.17 oz. If an additional size is desired in the future, we will first obtain Agency approval.

7. We note this and once again reiterate you could have explained this in the last Agency letter.

B. Review of Two Incident Reports

1. Until you can empirically prove a Frontiersman product was involved in the *incidents* we must insist you refer to them as alleged incidents. To date you have not provided any useful information concerning these alleged incidents in spite of repeated requests for the information. Once again it is unfair to my client to withhold this information. I have attached a batch record of the manufactured product that appeared in the market place shortly before and during 1998. We refuse to supply the composition of all Frontiersman products sold in Wyoming during this time frame because the remainder of my client's product line is out of Agency jurisdiction.

   As previously stated, my client is very interested in investigating these two alleged incidents, however, the Agency must provide the following information: the names, addresses and phone numbers of those alleging the incidents; the hospital, park service, insurance and/or police reports; witness information; the complete product name and lot number; the dates, times and locations of the alleged incidents; a complete description of the alleged incidents; and any other information currently in your possession. Upon receipt of this information my client intends to conduct a thorough investigation. We also request some explanation as to why the Agency has withheld the specifics of these alleged incidents, in spite of repeated requests for such, and why, if my client's product was involved, those involved did not directly contact my client.

C. Review of Labeling

1. Since there is no scientific rationale supporting the "5 seconds" we elect not to make this change. You are, in essence, saying you find the spray pattern/duration data previously submitted without merit, yet have offered no scientific basis for this determination. You state in your letter that the video is of little use to you, but then try to use it to invalidate the study. Once again, this is unfair to my client. If you have scientific data that invalidates the study, my client would be very happy to furnish you with sample product so you could contract an independent laboratory to perform an independent study. The cost for this study would have to be borne by the Agency, as we have more than met the original requirements outlined in the guidance document. The data clearly support effective ranges of 10, 15, 20 and 25 feet. The label statement of 18 feet is well within these parameters.

2. Once again I will reiterate: The canisters were submitted to show the Agency the type of container and the labeling on these samples was not to be reviewed. The only labeling to be considered is that which I submitted (typed version). The statements on the previously submitted label (This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds.) are accurate. As previously demonstrated by the data, the average spray duration is 7.8 seconds. This is approximately 8 seconds, not approximately 7.8 seconds (0.2 seconds is undetectable to the user). Until the Agency can provide a compelling and scientific rationale why they refuse to accept the previously submitted study, no additional data will be forthcoming.

3. The format of the submitted labeling was patterned after the stamped accepted label you provided and is consistent with 40 CFR 156.10. Once again I reiterate the canister samples were submitted not for label review but merely to demonstrate the type of canister and label format.

4. No comment.

D. Comparison of Two Formulations

1. With the submission of the attached batch record we are providing a definitive way of verifying the accuracy of the formulations on the comparison sheet. I have revised the comparison to include the [redacted] in the current formula. There is no compelling reason to subject the Frontiersman and Frontiersman Bear Attack Deterrent formulations to chemical analysis. The Agency is once again implying that the previously submitted data are somehow flawed, inaccurate or fantasy without any factual, scientific basis for such a determination. If you are going to hold this product's registration hostage because of my client's previous sale of unregistered product - in spite of the fact he has jumped through hoops to satisfy the regulatory requirements - we wish you would merely state that succinctly. To impose these kinds of unfounded mandates and continually infer that my client is being less than forthright - without substantive documentation - is an abuse of regulatory power.

2. Attached are reports from cooperators who were provided samples of the Frontiersman Bear Attack Deterrent product. These cooperators report favorable results against bears. You will also note one cooperator used the product against foxes. Before you can hold my client accountable for that, be assured he had no control over how these people actually used the product and in no way indicated the product was to be used against anything but bears. I will also remind you that per the guidance document, citing data already in the Agency's files could satisfy the efficacy data requirements. Because the Agency did not provide any information concerning the ownership of that data, we chose not to cite it (due to compensation issues) and submitted instead our own public literature compilation in addition to informal reports utilizing my client's proposed product. Your tenacity in wanting my client to submit additional data on his specific formulation is particularly abusive considering the press release you e-mailed to my client (copy attached). To refresh your memory, the release is dated November 23, 1999 and Tim Osag of the EPA is quoted as

Manufacturing process information may be entitled to confidential treatment

saying: We don't want people going into bear country with a product on their hip that may not do its job if needed . . . We know capsaicin sprays are effective."

Mr. Peacock, I must say I am very perplexed by and disappointed in the letter dated December 22, 1999. We had been lead to believe, from our previous conversations and the guidance document, that a registration notice was imminent. Now I can come to no conclusion other than the Agency has a hidden agenda to punish my client for an action he is willing to remedy, but can't because of the hidden agenda. The "if and when" statement is particularly revealing and disturbing in that the Agency is not dealing in a forthright manner with my client and me.

My client has met all the regulatory requirements delineated in the guidance document starting with the initial submission dated February 19, 1999. The guidance document indicated these products could be reviewed within 60 days of receipt. Our initial submission passed front-end screen March 2, 1999, giving the Agency a 90-day due date for me-too products of early June 1999. The Agency response was dated July 22, 1999 and began the pattern of picking apart the submission, particularly the data, when no specific protocol had been provided. We responded to that letter in August 26, 1999 and addressed all issues raised in the Agency letter. That submission passed front-end screen September 2, 1999. The 90-day time frame for response was once again exceeded, in spite of submitting additional information October 22, 1999 in response to our October 14, 1999 conversation. My client and I understand that we're all busy people, still, my client deserves to be treated fairly.

If this type of unfair treatment continues my client will have no other recourse but to seek additional assistance in the form of legal or congressional intervention. My client does not want to resort to this, but will if necessary.

Please contact me at (970) 353-0611 if you need additional information or wish to discuss the contents of this letter.

Regards,

RegWest Company

Kim Davis, CC, APC
Consultant/Agent

Attachments

pc: SEC - Nance, L.

Pages 54-55 Manufacturing process information may be entitled to confidential treatment

FAX TRANSMITTAL COVER SHEET FOR BASE NATURAL RESOURCES OFFICE

TO: LARRY NANCE
FAX: 1-636-343-1318
PHONE: 1-800-325-9568

3CES/CEVNR
4803 8th St
Elmendorf AFB AK

Fax: 552-0799 Tele: 552-2436

SUBJECT: Bear spray

DATE: 28 June 99

OF PAGES (including cover sheet): 2.

REMARKS:

This is the only Bear that has been sprayed. I have not had the chance to try it myself but I do carry a can with me at all times. [Black Bear #729 3yr old Female 110 pds]

If I could can I get the M.D.S. for the spray Thank You

MSGT Robert BASSETT

DO NOT TRANSMIT CLASSIFIED INFORMATION OVER UNSECURED TELECOMMUNICATIONS SYSTEMS. OFFICIAL DOD TELECOMUNICATIONS SYSTEMS ARE SUBJECT TO MONITORING AND USE OF DOD TELECOMMUNICATIONS SYSTEMS CONSTITUTES CONSENT TO MONITORING.

06/14/99

To Whom It May Concern:

I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with black and brown bears. I responded to a black bear in a residential area. Upon arrival I was able to use your product. The first shot was from about ten feet. The bear's first response was a snort, then shook its head, and then went up a tree. I was then able to shoot it again, from about four to five feet. The bear's response this time was a snort in which she had saliva hanging down from her snout. After this shot she proceeded down the tree very rapidly and ran off into the woods.

Bear 727 3yr. old about 110 pds

Roy Rainer

FAX TRANSMITTAL COVER SHEET
FOR
BASE NATURAL RESOURCES OFFICE

TO: Larry Nance
FAX: 1-636-343-1318
PHONE: 1-800-325-9568

3CES/CEVNR Fax: 552-0799 Tele: 552-2436
4803 8th St
Elmendorf AFB AK

SUBJECT: Bear Spray

DATE: 23 July 99

OF PAGES (including cover sheet):

REMARKS:

DO NOT TRANSMIT CLASSIFIED INFORMATION OVER UNSECURED TELECOMMUNICATIONS SYSTEMS. OFFICIAL DOD TELECOMUNICATIONS SYSTEMS ARE SUBJECT TO MONITORING AND USE OF DOD TELECOMMUNICATIONS SYSTEMS CONSTITUTES CONSENT TO MONITORING.

22 July 99

To Whom it may Concern:

I am a Wildlife Conservation Agent in the state of Alaska. Part of my duties are working with wildlife here on the base this includes foxes, black bears, brown bears and moose. I have responded to two calls on foxes that were getting to friendly with people used your pepper stray (Frontiersman) the three foxes moved off and started rolling around in the grass trying to remove the stray. It helped in getting them away from the people and keeping them away. On the 22 of July I used your stray to move a trouble black bear, the bear was about six feet in a tree, I strayed the bear from about seven feet right in the face, it jumped out of the tree and headed away from me for about 50 feet and started rubbing it's face in the grass. We followed the bear for about a mile and watched it move from water hole to water hole, trying to remove the stray.

Bear was a visitor to the base. And was about 2-3 years old and about 70 pounds.

Robert Bassett

Montana Fish, Wildlife & Parks

FAX TRANSMITTAL

Region Two
3201 Spurgin Road
Missoula, MT 59804
(406) 542-5529 (FAX number)

Date: 12/30 Time: 11 am

To: LARRY NANCE

FAX No.: 636-343-1318 Telephone No.:

Total no. pages: 3
(including transmittal sheet)

If you do not receive all pages, please call (406) 542-5500. Thank you.

From: JAMES J JONKEL

Telephone No.: 406-542-5508

Message: LARRY - THANKS FOR THE EXPERIMENTAL SAMPLES OF "FRONTIERSMAN" BEAR SPRAY. I'LL TRY THE THE BEAR SPRAY SETS AGAIN IN THE SPRING. IF YOU WANT ME TO USE THE "FRONTIERSMAN" BEAR SPRAY AGAIN I WOULD BE GLAD TO DO SO.

THANKS JAMIE

Jamie's Copy

07

Montana Fish, Wildlife & Parks

Region 2
Hunting District 285 ELK
Species Elk/Grizzly B.
Kill Permit No. 99-123

GAME DAMAGE WORKSHEET

Complainant: [redacted] Phone: [redacted]
Address: [redacted] City: Cozy Corner County: Mineral
Date Complaint Received: 10/25/99 Date of Response: 10/25/99
Location of Damage: Drainage: Alma GPS Location: _____

1. Does complainant allow public hunting to aid in the management of game populations? *Circle One:* Yes/No
2. Does adjacent property allow public hunting? *Circle One:* Yes/No
3. Is the property leased or are fees being charged for hunting? *Circle One:* Yes/No

Nature of Damage: *Circle One:* Haystack Grazing Livestock Fence Crop _____ (specify)
Building Garbage Physical Safety Nuisance
Other ELK CARCASS ate by bears (3)

Estimate Number of Animals Causing Damage: 3 If Human Attack: Victim Name: None
Victim Age: _____ Injury: None
Description of Damage: ATE ELK, Got into Garbage, Lots of rotting around compound by bears (3) (Saw 1 2 cubs)

Complete if black bear/grizzly or if animal is captured:

1. Culvert trap: Yes/No Snare trap: Yes/No
2. Trap set for how many nights: 0
3. Animal captured: Yes/No Number Captured: _____
4. Relocation site: Drainage _____
5. GPS location: _____
6. Sex: M/F Weight: _____
7. Age Class *Circle One:* YOY Yearling Sub-adult Adult

Trap not set. Paper County Sh

Complete if the animal is tranquilized:

1. Ear tag: Yes/No
2. Ear Tag Color: _____ Ear Tag Number: _____
3. Drug Type: _____
4. Drug Dose (mg): _____ Volume (ml): _____
5. Vial # _____
6. Induction Time: _____
7. Complications: Yes/No
If yes, what? _____

Actions taken or Recommendations: (Special seasons, repellents, herding, fencing, live traps and transplanting, direct control by killing, tranquilizer gun, steel trap, scare-away gun, etc.)

* Calls: 10/25/99, 10/26/99
I Removed ELK from area and they cleaned up all garbage on 10/26/99
Set trap (culvert) on 10/26/99
Gave Don (Bear bag ammo + M-80s) on 10/25/99
Met Jamie 10/26/99 - to set snares (2 bears)
Bears back - TRAP was disabled by Bubba.

Complete if Lion Response - *Circle One:*

Sighting: A visual observation of a lion
Encounter: Unexpected direct meeting without incident or recurrent sighting in close proximity to homes, stables, corrals, etc.
Incident: A conflict with serious results (killing dog, or forcing lion to back down.
Attack: Human is killed or injured.

What action did lion take: *Circle All Applicable*
Watched person Growled Hissed Showed Teeth
Lip Curl Fled Crouched Attacked

What action did human take: *Circle All Applicable*
Backed Away Waved Arms Talked Threw Rocks
Other _____

All materials will be used for intended purposes or will be returned to Montana Fish, Wildlife and Parks.

Signature of Landowner or Designated Representative for Materials

10/25/99
Date

Bill Kom
Signature of Investigator

Cc: Field Services - Helena, Region, Landowner

Picked up trap 10/27/99

Personal privacy information

Region 2
Hunting District 285
Species GRIZZLY BEAR
Kill Permit No. _____

Montana Fish, Wildlife & Parks

GAME DAMAGE WORKSHEET

Complainant: [redacted] Phone: [redacted]
Address: [redacted] City: COZY CORNER County: MISSOULA
Date Complaint Received: 10/25 & 10/26 Date of Response: 10/25 - 11/18 (5 VISITS BY KOPPEN + JENKEL)
Location of Damage: Drainage: HOUSE ON WOODMAN ROAD GPS Location: _____

1. Does complainant allow public hunting to aid in the management of game populations? *Circle One:* Yes/No
2. Does adjacent property allow public hunting? *Circle One:* Yes/No
3. Is the property leased or are fees being charged for hunting? *Circle One:* Yes/No

Nature of Damage: *Circle One:* Haystack Grazing Livestock Fence Crop _____ (specify)
Building Garbage Physical Safety Nuisance
Other ELK CARCASS PULLED OFF GAME POLE / BIRD FEEDERS

Estimate Number of Animals Causing Damage: _____ If Human Attack: Victim Name: N/A
Victim Age: N/A Injury: _____
Description of Damage: BEAR WITH TWO YEARLING CONSUMED ELK ON ONE NIGHT & CAME BACK THE NEXT THREE NIGHTS FOR GARBAGE & BIRD SEED

Complete if black bear/grizzly or if animal is captured:

1. Culvert trap: Yes/No Snare trap: Yes/No
2. Trap set for how many nights: 6 HRS ON 10/26
3. Animal captured: Yes/No Number Captured: _____
4. Relocation site: Drainage _____
5. GPS location: _____
6. Sex: M/F Weight: _____
7. Age Class *Circle One:*
   YOY Yearling 2 Sub-adult Adult FEMALE

Complete if the animal is tranquilized:

1. Ear tag: Yes/No
2. Ear Tag Color: _____ Ear Tag Number: _____
3. Drug Type: _____
4. Drug Dose (mg): _____ Volume (ml): _____
5. Vial # _____
6. Induction Time: _____
7. Complications: Yes/No
   If yes, what? _____

Actions taken or Recommendations: (Special seasons, repellents, herding, fencing, live traps and transplanting, direct control by killing, tranquilizer gun, steel trap, scare-away gun, etc.)

10/6 KOPPEN REMOVED ELK & ISSUED BACKER SHEETS & CHERRY BOMBS
'26 BEARS BACK GOT INTO GARAGE & BIRD FEEDERS. NO REAL RESPONSE TO BACKER SHEETS. KOPPEN SET TRAP @ NOON. & CLOSED TRAP & SET UP RED PEPPER AFTER GETTING SKUNKCORNS PERMISSION
'27 - 11/18 BEARS LEFT ON 28TH. I HAD HITS ON RED PEPPER SPRAY SET. ONE TO SKUNKCORNS DOG & TWO I BELIEVE WERE GRIZZLY. THE RED PEPPER SPRAY MAY HAVE WORKED. FURTHER TESTING IS NEEDED.

Complete if Lion Response - *Circle One:*

Sighting: A visual observation of a lion
Encounter: Unexpected direct meeting without incident or recurrent sighting in close proximity to homes, stables, corrals, etc.
Incident: A conflict with serious results (killing dog, or forcing lion to back down.
Attack: Human is killed or injured.

What action did lion take: *Circle All Applicable*
Watched person Growled Hissed Showed Teeth
Lip Curl Fled Crouched Attacked

What action did human take: *Circle All Applicable*
Backed Away Waved Arms Talked Threw Rocks
Other _____

All materials will be used for intended purposes or will be returned to Montana Fish, Wildlife and Parks.

NOTE: I USED 3 CANS OF THE EXPERIMENTAL "FRONTIERSMAN" SHARETANE SPRAY.

N/A
Signature of Landowner or Designated Representative for Materials

11/18/99
Date

Signature of Investigator

Cc: Field Services - Helena, Region, Landowner

Personal privacy information

EPA United States Environmental Protection Agency

Office of Communication and Public Involvement (OCPI)
999 18th Street, Ste. 500
Denver, CO 80202-2466

Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming

EPA orders halt to sales of bear spray

FOR IMMEDIATE RELEASE - November 23, 1999

Dana Stotsky, EPA (303) 312-6905
Tim Osag, EPA (303) 312-6582
Jennifer Wintersteen, EPA (406) 441-1130

Denver - - Concerned that a spray intended to deter bear attacks on humans may not be effective, the U.S. Environmental Protection Agency today ordered the Missoula, Montana-based manufacturer of "Bear Pause" to halt sales immediately.

EPA will also ask distributors to pull the product from their shelves and advises people who bought the spray not to rely on it. Bear Pause is made by ChemArmor of Missoula and carried an EPA registration number (EPA Reg. No.71768-1).

At issue is the chemical formula used in the spray. Capsaicin, the chemical that makes hot peppers hot, is an EPA-approved active ingredient in pepper sprays used to deter attacks by dogs and bears. While EPA had approved a purified form of capsaicin in BearPause in March 1999, EPA learned that ChemArmor, without Agency approval, had substituted a much cheaper and untested active ingredient in Bear Pause, vanillyl pelargonamide, "VP" for short.

While belonging to the same chemical family (capsaicinoids) and incorrectly called "synthetic capsaicin," VP is chemically distinct from capsaicin and is not used as the active ingredient in any registered product in the U.S. EPA does not have reliable data on its chemistry, toxicity, ecological effects or effectiveness.

"We don't want people going into bear country with a product on their hip that may not do its job if needed," said Tim Osag who enforces pesticide law for EPA's Denver regional office.

"ChemArmor could apply to register Bear Pause with VP," Osag said, "but they would have to provide data about its chemistry, its health and environmental effects, and its effectiveness. They didn't do that. In their original application, they stated that capsaicin would be the active ingredient. We know capsaicin sprays are effective. We can't say

that about VP."

EPA is charged with oversight of thousands of products in commerce. Makers of "pesticide" chemicals from disinfectants to lawn chemicals to bear sprays must register their products with the Agency. They provide information to EPA about contents, formulas, uses and hazards. It is illegal to submit incorrect information in that process. Osag said the Agency is considering additional enforcement and registration options besides the "stop sales."

"Right now, the most important thing is to get the material off the market and get the word out to back-country users," Osag said.

EPA has not received evidence of similar problems with other bear-deterrents on the market. As part of its normal monitoring work, however, the Agency may test similar products in the future to verify that they contain capsaicin and not VP, Osag said.

A list of properly registered bear deterrents is attached to this news release and is also available on EPA's Internet site at http://www.epa.gov/region08/toxics/pests/repelbr.html or by calling 1 (800) 227-8917 (from CO, MT, ND, SD, UT and WY) or (303) 312-6312 from outside EPA's Region 8.

Registrants of Bear-Deterrents Containing Capsaicin	
1. Counter Assault Bear Deterrent **EPA Reg. No. 55541-2** Application received 7/22/97 Registered May 12, 1998	Bushwacker Backpack & Supply Co. Inc. 120 Industry Court Kalispell, MT 59901 Attention: Mr. Pride Johnson Tel: 1-800-695-3394 E-Mail: counterassault@bigsky.net Web Site: counterassault.com/
2. Guard Alaska Bear Repellent **EPA Reg. No. 71545-1** Application received 7/13/98 Registered December 22, 1998	McNeil River Enterprises, Inc., 750 West Diamond, Suite 203 Anchorage, AK 99515 Attention: Mr. Randy Prater Tel: 1-888-419-9695 E-Mail: randy@guardalaska.com Web Site: guardalaska.com
3. BearGuard **EPA Reg. No. 71920-1** Application received 12/16/98 Registered March 18, 1999	Guardian Personal Security Products, Inc. 21639 North 14th Ave. Phoenix, AZ 85027 Attention: Mr. Karl Scholz Tel: 1-800-527-4434 E-Mail: guardianproducts@worldnet.att.net Web Site: guardianproducts.com
	Universal Defense Alternative Products (UDAP)

4. UDAP Pepper Power **EPA Reg. No.** **71920-1-72007** [A subregistrant of Bear Guard]	13160 Yonder Road Bozeman, MT 59715 Contact: Mark Matheny Tel: 1-800-232-7941 E-Mail: bearman@udap.com Website: udap.com
5. Bear Peppermace **EPA Reg. No.** **71920-1-61311** [A subregistrant of Bear Guard]	MACE Security International, Inc. 160 Benmont Ave. Bennington, VT 05201 Contract: Eric Crawford Tel: 1-802-447-1503 E-Mail: mace@sover.net Website: mace.com

URGENT

ROUTING AND TRANSMITTAL SLIP

Date 4-5-2000

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. Rita Kumar		
2. Linda Arrington		
3. Mary McDonald		
4. Mary Jane Wingett		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

Please return to EPA Reg 7 ASAP because they have a pending enforcement action based on this review.

URGENT

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Daniel B. Peacock	223
	Phone No. 305-5407

5041-102

☆ U.S.G.P.O. 1994 300-891/80021

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

Dan Peacock on 04/05/2000 01:15:02 PM

To: Rita Kumar/DC/USEPA/US@EPA, Linda Arrington/DC/USEPA/US@EPA, Mcdonnell.Mary@EPA.GOV@EPA, Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Bill Jacobs/DC/USEPA/US@EPA
Subject: Completion of Enforcement Case Review:ECR, FY2000-VII-004

Addressees,

This informs you that Bill Jacobs has finished his review of the above ECR. Today I am sending the file and his review through the normal routing channel, as I know it: Rita, Linda, Mary M. and Mary W.

Please forward it as quickly as possible because Region 7 has an enforcement case pending completion of this ECR.

Thank you,

Dan Peacock
305-5407

IRB BRANCH REVIEW - TSS

Record Number(s)

D263376

2/17/00 3/15/00

IN ____ OUT ____

EFFICACY

3-15-
2000
EOR

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO. ____

DATE DIV. RECEIVED 2/10/00

DATE OF SUBMISSION 1/31/00

DATE SUBMISSION ACCEPTED 2/17/00

TYPE PRODUCTS(S): I, D, H, F, N, R, S

DATA ACCESSION NO(S). none

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN DEAR ATTACK DETERRENT, Alaska's Best Defense, and Frontiersman by Sabre

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE Region 7 enforcement case

CHEMICAL & FORMULATION 1.388% Capsaicin and related Capsaicinoid aerosol and weaker aerosol containing the same active-ingredient complex

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy reviews of 6/30/99, 11/9/99, 11/30/99, 1/21/2000, and 2/7/2000. The last of these reviews discussed "FAXed" items pertaining to an enforcement case being coordinated by EPA's Region 7 office in Kansas City, KS. This review pertains to the paper versions of those items and others related to the enforcement case, which refers to a product called **"Alaska's Best Defense"** that Security Equipment Corporation has marketed.

In past efficacy reviews for 72265-R, there have been discussions of the differences and similarities between the composition and labeling of the product proposed for Federal registration of Frontiersman Bear Attack Deterrent and those of other Security products with less distinct label claims. One issue considered was whether having one or more pictures of bears on the labeling for a "pepper-spray" implies that the product is a bear deterrent. In the review of 2/7/2000, I discussed the issue hypothetically because I could not discern the graphics on the FAXed copies of labeling that I reviewed then. I did note, however, that the use scenarios mentioned on labeling pertained to situations (e.g., hunting, fishing, camping, hiking) in which bears could be encountered and none pertained to situations (such as parking garages, urban alleys) which would imply that the "attacker" would be far more likely to be a person than a bear.

The materials discussed in this review include

1. a memorandum of 1/31/2000 from Mary Jane Wingett of the EPA Region 7 office in Kansas City, KS, to Mary McDonnell of the Pesticides Branch of EPA's Office of Compliance Assurance (OECA);

2. a bound file pertaining to enforcement inspections of Security Equipment Corporation, Fenton, MO, on 12/7/1999;

3. a bound file pertaining to enforcement inspections of Security Equipment Corporation, Fenton, MO, on 7/9/99 and of VF Grace, Inc, Anchorage, AK, on 5/7/99; and

4. assorted loose materials in the folder for item 3.

In her memorandum of 1/31/00, Wingett provided information about the product, notably that there are pictures bears on a "bag tag entitled 'Alaska's Best Defense Pepper Spray'" and on "clamshell labeling" bearing the same product name, and the company's claimed concept for the product. Wingett also asked for answers to the following questions:

1. Is the material with the picture of the bear considered labeling if distributed with the product?

2. Is the product required to be registered?

3. Is the product registered?

Based on the materials FAXed by Wingett on 2/1/00 to the Insecticide-Rodenticide Branch regarding "**Alaska's Best Defense**", I provided tentative answers to those questions in my review of 2/7/00. Those answers were:

1. yes, the bag tag is considered to be labeling;

2. yes, the product is required to be registered due to implied claims of being an animal-attack deterrent; and

3. no, the product is not registered.

In this review, I consider whether to alter those answers in any way in light of the additional details provided in the items included in the "paper" package for this case. The "paper" packages include many pages of documents which largely speak for themselves. To save time and space, I will not list or discuss all of the items in those files. Instead, I will concentrate on those which are most relevant to Region 7's questions and closely related issues.

201.0 DATA SUMMARY

The file pertaining to the inspection of 12/7/99, begins with a cover letter dated 1/4/00 from Joseph H. Leslie, Enforcement Program Coordinator, Missouri Department of Agriculture (MDA), Jefferson City. The report for the 12/7/99 inspection of Security Equipment Corporation is dated 12/16/99 and is signed by Michael R. Welch of MDA. Of special interest in Welch's report of 12//16/99 are the alleged representations by Larry Nance of Security that the company does not consider the text-bearing insert in the clamshell package to be part of the label. That insert also depicts a standing bear. Larry Nance's assertion bears on Wingett's first question, namely

> Is the material with the picture of the bear considered labeling if distributed with the product?

Larry Nance's assertion notwithstanding, the answer remains "Yes." §2(p)(1) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) defines "LABEL" as

> the written, printed, or graphic matter on, or attached to, the pesticide or device or any of its containers or wrappers.

§2(p)(2) of FIFRA defines "LABELING" as

> all labels and all other written, printed, or graphic matter --
>
> (A) accompanying the pesticide or device at any time; or
>
> (B) to which reference is made on the label or in literature accompanying the pesticide or device, except to current official publications of ....

The clamshell insert accompanies the product and, in fact, goes around it. Therefore, the insert qualifies as a "LABEL" and as "LABELING". (That the product is a pesticide is discussed at length below.)

On the clamshell insert in the package pertaining to the inspection of 12/7/99, the product's name "**Alaska's Best Defense *PEPPER SPRAY***" appears in larger type on the insert than it does on the container; and the text on the insert is flat while that on the container is rounded because the product comes in a cylinder. In addition to the name of

the product, the front side of the clamshell insert bears claims about the product's contents -- **"15% Oleoresin Capsicum (Red Pepper)** -- and the product's activity -- **"2,000,000 SHU'S"**. The front panel of the clamshell also shows a picture of a rearing bear, above which appear the words shown below.

For self-protection
against violent
attacks while
HUNTING,
CAMPING,
FISHING,
HIKING, AND
BIKING.
Or whenever enjoying
the great outdoors.

Made in USA

The back side of the clamshell insert repeats the name of the product, repeats the use scenario information (as narrative in smaller print), provides use directions, provides user safety information, states that the product is "15% Oleoresin Capsicum (Red Pepper)", describes the product's mode of action, and provides the company's name and address. The insert touches most of the bases that a pesticide label is required to do, although there is no registration number (because the product is not registered) and there are some deficiencies in the content of the various sections. Perhaps the most glaring deficiency is the failure to identify, in words, the target species. The clamshell insert describes the target organism as "THE ATTACKER" rather than as man or beast. However, the picture of the rearing bear below the list of activities associated with a potential need to use the product speaks volumes in implying that this product is suitable for use against attacking bears.

The package related to the inspection of 12/7/99 also includes a printed "bag tag". It appears that the bag tag goes at the top of a bag that holds a container of the product. The product would be sold in the bag, and the bag tag clearly would accompany the product in commerce and, in likely scenarios, home from the store with the customer. Thus, the bag tag label qualifies as a label under §2(p)(1) and as labeling under §2(p)(2)(A). The content of the bag tag is much like that of the clamshell insert, including a picture of a rearing bear, descriptions of the same use

scenarios, use directions, ingredients information, user safety statements, description of mode of action, and verbal identification of the target organism only as "**THE ATTACKER**" and variants thereof.

The implied utility of the product against non-human organisms (bears) fully capable of qualifying as an "attacker" goes directly to Wingett's second question.

> Is the product required to be registered?

The answer to this question also remains, "Yes". The labeling may have been crafted to straddle the line between being a product sold for protection against attacks by other people and a product sold to protect people from attacks by animals including bears. The labeling does not specifically state what set of organism(s) "THE ATTACKER" might include, and the container label itself lacks a picture of a bear. Though it is clearly wrong for a pesticide, Security's position that the clamshell insert is not part of the label is a potential component to an argument that the product's label does not claim or imply it to be a bear deterrent. Products sold to protect people from other people are not considered to be pesticides. They may be regulated to some extent by the Consumer Product Safety Commission. Products sold to protect people from attacks by nonhuman animals are pesticides.

Among other things §2(u) of FIFRA defines "PESTICIDE" as

> any substance or mixture of substances intended for preventing, destroying, or mitigating any pest....

In defining "PEST", §2(u) of FIFRA includes

> any insect, rodent, nematode, fungus, weed or ... any other form of terrestrial or aquatic plant or animal life ... which the Administrator declares to be a pest under 25(c)(1).

§25(c)(1) of FIFRA authorizes the administrator

> to declare a pest any form of plant or animal life (other than man and other than bacteria, virus, and other micro-organisms on or in living man or other living animals) which is injurious to health or the environment.

Under this authority, bears which attack people are pests and people who attack people are not, even though both types of attacks can be "injurious to health".

The definition of "PESTICIDE" includes "intended" as a key word for determining whether something is considered to be a pesticide, and one could argue that "intended" implies why the product is marketed rather than why it is purchased. When a product's intended uses are worded precisely on its labeling and that product is used in a fashion not claimed by label text (which prohibits alternative uses), one could argue with some confidence that the product was not used as its producer intended. When the label text is less specific and includes words and pictures which imply certain uses, the product would seem to be "intended" to be used for any purpose which the labeling implies.

"**Alaska's Best Defense**" is not registered as a pesticide in the U.S., but the bag tag label and the blister-pack (clamshell) labels for that product include pictures of bears. If a product were of a type that would have no plausible use to deter bears and/or if the product's name were something like "BEAR® BRAND TAR REMOVER", a picture of a bear on an element of labeling would not clearly imply claims for effects against bears. Such considerations clearly do not apply to "**Alaska's Best Defense Pepper Spray**". That pepper-spray products are used to deter attacking bears is relatively common knowledge in places where bears occur, including Alaska. "**Alaska's Best Defense Pepper Spray**" apparently is (or was) marketed in containers of at least "300 grams" of aerosol product containing Oleoresin of Capsicum and comes with a bag-tag label which describes the product as

PEPPER SPRAY
For self-protection against violent attacks while
HUNTING, CAMPING, FISHING, HIKING AND BIKING
or whenever enjoying the great outdoors.

The use-scenario claims are repeated on the container label which also calls the product "***Your edge against personal attack!***"

The expression "***personal attack***" is vague. It could imply "attack of one's person" or that the product is to be used to protect oneself from whatever attackers there might be (including bears, dogs, people, moose, etc., but not organisms that do not attack violently). Because "personal" can also mean "involving persons or human

beings" (Websters New World Dictionary of American English, Third College Edition, 1988, New York: Simon and Schuster, Inc., p. 1008), "***personal attack***" could be construed as meaning "attack by another person". However, I suspect that many potential customers would take the broader meaning, especially with use-scenario listings which virtually cover the gamut of likely places for attacks by bears but only hit a subset of possible places where people might attack people.

People have been attacked and even killed by other people while fishing, hiking, camping, etc. However, it seems to me that labeling for a product primarily designed for person-against-person use also would mention use sites and scenarios (dark alleys, parking areas, walking home alone at night, etc.) where violent encounters with other people are especially likely. If the product's container held 300 g of material and its labeling showed a picture of a bear, I suspect that many would infer that it was loaded for bear.

It should be noted at this point that the bag-tag and clamshell labels submitted for 72265-R (as "**BEAR ATTACK DETERRENT FRONTIERSMAN**© BY ***SABRE***") both bear the phrase

For self-protection against violent attacks while
HUNTING, CAMPING, FISHING, HIKING,
& BIKING, or whenever enjoying the great outdoors.

These are the same use scenarios that are claimed for "**Alaska's Best Defense**" and "**FRONTIERSMAN**© by ***SABRE***". The bat tag and clam shell insert both claim 72265-R to be "**22%** Oleoresin Capsicum (Red Pepper)".

A look at the places where it is sold and the context in which "**Alaska's Best Defense**" is displayed might also provide a context consistent with intent to be sold as a bear repellent. To me, pictures of bears on labeling for something called "**Alaska's Best Defense Pepper Spray**" implies that the product is being marketed to provide personal defense against bears. If Security meant the product only to be used for defense against people, a picture of otherwise unarmed person about to spray a menacing-looking person wielding a weapon would have been a better choice for conveying such an intent (as would a different product name).

In this context, the product brochures included in the package provided by the MDA on 1/4/00 are interesting. The "**SECURITY** EQUIPMENT CORPORATION" brochure stickered "98-

'99" presents an array of products, some of which appear to be pepper sprays of one sort or another. Most of the pepper-spray products come in small containers and clearly appear to be intended for use for protection against attacks by other humans. Such intent can be inferred from statements such as

> UV-ultraviolet light sensitive dye for police suspect identification

and

> Highly effective results against individuals under the influence of drugs and/or alcohol.

Some packages are said to hold as little as ½ oz of product (reportedly enough for "Approximately 35 - ½ second sprays" over a "Maximum effective range up to 8 feet". The "SABRE®" line is implied be for "personal defense for the average citizen" and is to contain

> a unique blend of orthochlorobenzalmalonitrile (CS) Tear Gas and Red Pepper (OC).

One 3-oz size, "SABRE® MAGNUM", is called "a favorite with women and security professionals everywhere." A 1¼-oz "SABRE®" unit is claimed to be preferred by "Truck drivers, campers and security guards", while a 2-oz "SABRE®" package reportedly is

> A real handful of personal protection preferred by campers, security guards and women.

That product is said to be able to deliver "Approximately 20 - ½ bursts" at a "Maximum effective range up to 12 feet".

A product described as "SABRE® POLICE MAGNUM 4 OZ. UNITS" is described as

> Our largest unit, preferred by law enforcement officials, now available for civilian use.

That item is claimed to be capable of "Approximately 90 - ½ sprays", with no clear allowance for whether the "powerful shotgun stream or fogger" version of the container is used.

The "SABRE®" line may be accessorized with a "Pocket Key Case Holder" that seems to come in a choice of 8 colors or a "jogger unit", which comes with a strap.

The "SABRE® *Red*" line apparently comes in a similar size range but is variously claimed to contain 13.2% Capsaicin (doubtfully the case) and "oleoresin capsicum (OC)". The product is claimed to have a rating of "2,000,000 Scoville Heat Units", allegedly making it "THE HOTTEST AVAILABLE ON THE MARKET TODAY", while still providing "safe, non-lethal protection." The "SABRE® *Red*" product line is much like that described for the "SABRE®", although only red "belt clip" holster and "jogger unit" accessories are shown for it.

Except for the mentioning of "campers" there is little, if anything, in the "SABRE®" and "SABRE® *Red*" promotions that suggests use in places where there would be a reasonable expectation of an encounter with a bear. While the target organism for these product lines is not specifically identified, phrases like "police suspect identification", "preferred by law enforcement officials", "effective results against individuals under the influence" imply that the products are for use against people. (I cannot see enough of the labels in the brochure's illustrations to determine whether use against humans is claimed any more clearly on labels. Clearly, it should be.) The store displays of "SABRE®" products shown on the back cover of "98-'99" brochure show a picture of what appears to be a man in a dark alley. While details of the figure are obscured by a shadow, that picture implies use of the product in a setting where a person might encounter "bad guys".

The effective ranges claimed for the "SABRE®" and "SABRE® *Red*" products and the large numbers of half-second bursts claimed for their ½-4-oz containers suggest that relatively little material would be delivered per unit time and that what comes out would be delivered with relatively little oomph -- perhaps suitable for an up-close encounter with a human but not for use against a bear. Any campers using such products to deter bears might be more than a little disappointed with the results. Sadly, campers are sometimes attacked (and killed) by other humans. Whether and of the "SABRE®" or "SABRE® *Red*" products would protect campers from other humans is not for consideration under FIFRA.

Security's "98-'99" brochure promotes "**Alaska's Best Defense** PEPPER SPRAY" and "**FRONTIERSMAN by *SABRE*®**" on a single page, at the bottom of which "**SABRE® *Red*** PEPPER **FOAM** PERSONAL DEFENSE WEAPON" also is promoted. The information on the last of these is rather non-committal as to use pattern, and the text on the picture of its label is too

small for me to read (beyond the name of the product and some precautionary items).

"**FRONTIERSMAN by *SABRE*®**" is claimed to have a

> Maximum effective range 12-20 feet, depending on model.

Containers for "Three convenient sizes (1-lb, 9-oz, and 3-oz) are illustrated, and a "1 lb Unit in Nylon Belt Loop Holster" also is shown. The brochure claims, "Holsters available for each size". The brochure describes "**FRONTIERSMAN by *SABRE*®**" as

> Our line of outdoor spray deterrents. For Self-Protection against violent attacks while camping, hiking, hunting, biking or fishing.

The words "**Active Ingredient: 15% OLEORESIN CAPSICUM (RED PEPPER**" are clearly visible on two of the three "**FRONTIERSMAN by *SABRE*®**" containers depicted.

For "**Alaska's Best Defense**", the promotional text is limited to

> Same great formula as Frontiersman. Available in two sizes. Nylon holsters are also available.

Two sizes of containers are illustrated. In both pictures, the product name, an ingredients' statement like that for "**FRONTIERSMAN by *SABRE*®**", some precautionary text, and "MADE IN USA" can be discerned. Also legible is the claim "***Your edge against personal attack!***". Both sizes of containers also are illustrated in clamshell packs, with text from the insert label and the container label being visible, although much of it is not legible due to the small sizes of the illustrations. Each clamshell insert illustrated shows a bear at the bottom right corner, although having seen a full-sized insert helped me to identify the animal.

At this point, one might ask why the two formulation strengths (13.2% "Capsaicin" and 15% OC) were used if all of the OC products were to be used by people solely for protection from other people. The "outdoor" claim for "**FRONTIERSMAN by *SABRE*®**" could be part of the answer, but many of the situations in which the "SABRE®" and "SABRE® *Red*" products might be needed also would be outdoor. Security might have known that bear deterrents must be registered as pesticides and might have made a conscious

decision to put out a product for that market which the company could characterize as an anti-human agent in the event of a FIFRA enforcement action began. The company's representations to EPA (see below) have been that such was not the case.

(In 1998, there were several products being sold in the U.S. which were blatantly claimed to be bear deterrents without having been registered. Since 5/12/98, several products claimed to be bear deterrents and claimed to contain Capsaicin have been registered. 72265-R's application remains pending for a variety of reasons, only one of which is the fact that Security missed the window-of-opportunity time period during which EPA gave applications for registration of bear deterrents extremely high priority.)

The "**SECURITY EQUIPMENT CORPORATION**" brochure sticker-labeled "2000" has a different format than the "98-'99" brochure discussed above and may have been designed with a different audience (seemingly retailers) in mind. The second paragraph of its "INTRODUCTION" section begins with the sentence

> SEC is the proud manufacturer of the Sabre®, Sabre Defense, and Sabre Red® civilian and law enforcement sprays as well as the Frontiersman® Bear Attack Deterrent sprays.

The last part of that sentence notwithstanding, the brochure makes no further mention of Frontiersman® Bear Attack Deterrent sprays, concentrating instead on the anti-human products. One such product -- the "PEN UNIT" -- comes in a pen-like container claimed to hold 0.36 oz of product. (In his letter of 12/11/99 to the Missouri Department of Agriculture, Security's David Nance states that he omitted specific information on the 72265-R product as well as "Frontiersman or the Alaska's Best Defense" from the 2000 catalog because of ongoing issues with EPA.)

The package sent by the MDA on 1/4/00 also includes paper copies of electronic and paper communications between Security Equipment Corporations and the Insecticide-Rodenticide Branch. In a letter to Daniel Peacock, David Nance discusses the various product lines. Among other things, D. Nance states,

> I have informed all of our distributors that both the Frontiersman and Alaska's Best Defense are not "Bear Attack Deterrent Sprays", and that they cannot be marketed and sold as such.

> Additionally, we have not taken orders from any customers or prospects who wanted to sell "Bear Attack Deterrent Sprays". As a result, we have lost many customers and potential new ones. I can assure you neither myself nor any of our sales representatives are selling any of Security's products as "Bear Attack Deterrents".... I believe we are doing everything possible to follow the EPA's guidelines and to prevent any violations from occurring.

One might argue that, if Security were truly doing "everything possible ...", they would not have pictures of bears on elements of labeling for **"Alaska's Best Defense"** and would not have use scenarios associated with use against bears as the only ones claimed for **"Alaska's Best Defense"** and **"FRONTIERSMAN by *SABRE*®"**.

David Nance goes on to mention customer

> demand for pepper sprays larger than our 4.4 oz magnum defense sprays. Consumers like the firing mechanism and spray patterns of the larger Frontiersman and Alaska's Best Defense sprays. Not only are the Frontiersman and Alaska's Best Defense models not marketed as bear sprays, but they also do not contain the same active ingredient as the Frontiersman Bear Attack Deterrent Spray. However, these sprays do have a greater range than the smaller canisters and enable consumers protection against multiple attackers. Many consumers feel more secure with these larger canisters. It is my understanding that the Frontiersman Bear Attack Deterrent Spray and the registered "Bear Attack Deterrent" sprays have been created with the sole purpose of preventing bear attacks, and they should not be used to prevent attacks from humans. Thus, the demand exists for large pepper sprays to prevent human attacks. Is the EPA preventing the sale of these products?

The answer to the question at the end is, "No." EPA has no jurisdiction over products that are clearly labeled for use only against other people. If labeling for **"Alaska's Best Defense"** and **"FRONTIERSMAN by *SABRE*®"** did not list only bear-consistent use scenarios or imply use against bears in other ways and clearly stated that the products were only

for use to prevent attacks by humans and were not to be used to deter bears or other non-human animals, EPA could not stop the marketing of those products.

As discussed below, Security claims to have been aware since 1997 that "**FRONTIERSMAN by *SABRE*®**" was being used to deter animals. Despite certain representations, the company seems not to have been entirely committed to losing such business. While the bears pictured on labeling for "**Alaska's Best Defense**" do not appear as menacing as those on proposed labeling for 72265-R ("**FRONTIERSMAN® BEAR ATTACK DETERRENT**"), depicting a rather calm bear might have been part of a strategy of trying to duck FIFRA in a technical sense while at the same time flaunting it. It might be possible to find some older promotional materials which tout one or both of these products as bear sprays.

David Nance's statement "Frontiersman and Alaska's Best Defense ... do not contain the same active ingredient as the Frontiersman Bear Attack Deterrent Spray" is not consistent with other representations on file for 72265-R. The "*OLD FORMULATION*" and "*NEW FORMULATION*" information shown on a "***CONFIDENTIAL FORMULATION COMPARISON***" included in a submission of 10/22/99 by Security's agent (Kim Davis, RegWest Company, Greeley, CO) indicated that "Oleoresin Capsicum" was in both formulations, although more of it was claimed for the "*NEW FORMULATION*". In his letter of 1/1/2000, Larry Nance took issue with Davis's characterization of the formulations, stating

> The correct headings for these tables should be Frontiersman in place of OLD FORMULATION and Frontiersman Bear Attack Deterrent in place of NEW FORMULATION. These products are not interchangeable. We will not market the Frontiersman Bear Attack Deterrent in the same manner we market Frontiersman.

Larry Nance did not dispute the composition information provided by Davis, only the names assigned to the formulations. Whether his statements amount to record straightening or revisionist history remains to be seen.

The file introduced by Leslie's letter of 1/4/2000 includes many invoices, some of which indicate Security's shipments of "Alaska's Best" in various package sizes and packaging arrangements. These shipments occurred between 1/15/99 and 6/21/99. (In a letter of 12/11/99 to Michael R. Welch of the Missouri Department of Agriculture, David Nance stated that Security stopped manufacturing "**Alaska's Best Defense**"

on 7/9/99, following mention "of a stop-sale for this product" during MDA's inspection of Security's facility.) Many "Frontiersman" shipments through the beginning of December of 1999 also are documented. There is one invoice (of 6/1/99 to Kalispell, MT) which lists "Large Frontiersman Bear Deterrent W/Nylon Holster - Polybag Package" with a unit price but no contribution to the total bill.

In his letter of 12/11/99, David Nance presents his side of the histories of "Alaska's Best Defense", "Frontiersman" (presumably the 15% OC version), the application for 72265-R, and dealings with enforcement agencies. The letter is 11 pages long plus attachments (which include the product brochures discussed above).

According to David Nance, the"Frontiersman" product was developed in 1995 as a means for using up containers purchased for a fire-extinguisher product that had been the subject of an EPA "stop-sale". "Alaska's Best Defense" came to be because someone in Alaska wanted Security to "private label the Frontiersman for him". The labeling was produced with the bear, "the famous Alaskan Flag, snow covered mountains, and forestry setting" because those "things are synonymous with Alaska!" When that customer stopped paying, Security decides to sell "Alaska's Best Defense" themselves "in order to recoup our investment".

According to David Nance, in 1997, Security began to hear things like "Frontiersman has protected a man from a mountain lion". A year later, the company learns that a distributor of theirs has been "selling Frontiersman to the concessions of Yellowstone National Park." This intelligence persuades Security to begin development of a product

> created with the purpose of preventing animal attacks, and unlike the Alaska's Best Defense, it will be marketed as a Bear Spray.

David Nance states that Security received a registration kit from Richard King of EPA (Biopesticides and Pollution Prevention Division) and implies that this occurred in 1998. On 10/15/98, D. Nance states that Security received a "Bear-Deterrent Registration Kit for Pepper-Spray Product" from Daniel Peacock of the Insecticide-Rodenticide Branch. Security filed for registration of the product that became file symbol 72265-R on 2/19/99. Despite some level of awareness of actions against "non-registered bear spray products" scheduled for 1/15/99, Security continued to sell "Alaska's Best Defense" and "Frontiersman" because, according to D. Nance,

> Having never sold one can of the Frontiersman Bear Attack Deterrent, we are certain that we are not violating EPA regulations

and

> Because we are not manufacturing a bear spray product, **we have not received any information from the EPA about a possible stop sale of non-registered bear spray products. Nor have we received any information from the EPA stating that we cannot continue to sell our Frontiersman or Alaska's Best Defense products.**

D. Nance claims that the references to calling police and not attempting to "CAPTURE ATTACKER" made it clear that the product was not intended to be use against bears. (One might argue that calling the police would be advisable if the "attacker" were a bear. The victim in one of the 1998 "Frontiersman" incidents was rescued by a helicopter after having called "911" from a cell phone.)

To this point (middle of third page) in his letter, D. Nance has acknowledged that Security knew that Frontiersman (at least) was being diverted by others to sale for use against animals but felt that, as the company was not selling it for that purpose officially, the product did not have to be registered and would not be subject to a stop-sale order. The company knew that its product claimed to be a bear deterrent would have to be registered before it could be sold in the U.S. and had taken steps toward obtaining a registration.

D. Nance reports that the question of whether "Frontiersman and Alaska's Best Defense" were pesticides was addressed by EPA (Region 4) employee Tyres Tatum who did an undercover investigation of pepper sprays being offered for sale at the 1999 Shooting Hunting Outdoor Trade Show in Atlanta, GA (early February). D. Nance claims that he persuaded Tatum that Security's products were not pesticides.

The remainder of D. Nance's letter discusses his view of the registration process for 72265-R and matters related to the inspections of July and December, 1999. Included in these discussions is the aforementioned announcement that production of "Alaska's Best Defense" was suspended last July. D. Nance expresses frustration that the registration for 72265-R has not yet been issued.

I suspect that there is some truth to what D. Nance wrote in his letter of 12/11/99. However, if Security had been dead set against diversion of "Frontiersman" to the bear deterrent market, they could have modified its label to make it clear that the product was to be used only against human attackers. Label modification could have begun in 1997 (the time of the mountain lion use) and, had that happened, could have made its way to containers being offered for sale at the time when Tatum allegedly gave D. Nance certain assurances. It is clear to me that label changes could have made it clear whether "Frontiersman" and "Alaska's Best Defense" were to be used against human attackers or against animal attackers. (The enforcement case files do not seem to include copies of any letters or e:mails in which Security informed distributors or retailers that "Alaska's Best Defense" and "Frontiersman by Sabre" were not to be sold or used as animal-attack deterrents.)

As EPA does not allow "anti-human" claims on pesticide labels, any pepper spray not clearly labeled for use only against human attackers is potentially under the purview of FIFRA. D. Nance's letter mentions several product promotions from other companies that seem to straddle the line between being a pesticide or not. To buttress his allegations (e.g., use of a picture of a bear, human and animal use for the same unregistered product), D. Nance also includes attachments related to those product promotions. Any problems with those promotions would properly be addressed in actions pertaining directly to the companies involved. Some if the items may have been addressed already.

D. Nance's letter includes statements to the effect that Security was notified late in the game about the need for bear repellents to be registered and the possibility of stop sales for "Alaska's Best Defense" and "Frontiersman". He also wonders whether certain other pepper-spray manufacturers have been investigated.

Bear deterrents were sold illegally for years prior to 1998, and products clearly intended for use only against other humans do not have to be registered under FIFRA. These circumstances left EPA without a complete record of who was or might have been making products claimed or implied to be bear deterrents. We notified those that we knew about from one source or another (e.g., tips, running across promotional items, inspections). There also was at least one EPA press release on the topic of bear repellents in 1998. We missed some companies and are now playing catch-up with them, using time that could otherwise be spent on product registration or reregistration activities.

In late 1998 and early 1999, we gave priority to registration applications for bear repellents so that those that were sufficiently close to qualifying for registration might be registered prior to or not long after the stop-sale on unregistered products went into effect. As such priorities were granted at the expense of actions on other types of vertebrate pesticides (and some insecticides), the privileges could not be extended forever. Some of the delays experienced by Security in its quest of a registration for 72265-R were due to the quality of the items submitted, but other delays were similar to those encountered for other pending products due to our program's heavy workload.

I first heard about Frontiersman in late 1997 when I saw a mention of it in an internet item included in a package routed for my review (but submitted for another product). As noted in the efficacy review of 6/30/99 for 72265-R, the author claimed to prefer **"Frontiersman by Sabre"**, which was described as being **"15% water-based Oleoresin Capsicum"**. The originator of the item apparently was identified only by an e:mail address.

In the Fall of 1998, I heard about incidents of people who were mauled by bears after having used "Frontiersman by Sabre". (These are discussed in prior efficacy reviews.) Dan Peacock may be able to document when IRB first obtained a name and address for the manufacturer of the product. It is clear from an e:mail of 10/4/99 from Peacock to Wingett that Peacock had been told by others that "Frontiersman" and "Alaska's Best Defense" were being sold as unregistered bear repellents. Documents in the file suggest that I knew about "Alaska's Best Defense" at least as early as 5/14/99. Identifying himself as a "Sporting Goods Buyer", a Mike Kiger of Kalispell, MT, e:mailed Peacock on 3/19/99, stating that

> Security Equipment claims they have one approved product (Alaska's Best Defense) and one that is not approved (Frontiersman). Your information says Security Equipment products are not approved. Can you clear this up for us?

Others conveyed information to Peacock about those products at about the same time. I was aware of allegations of their continued sale while working on the efficacy review of 6/30/99 but may not have known for sure that the product being proposed for registration was not of the same composition as the "Frontiersman" that was involved in the incidents.

Although we had used data from rather general sources to support claims that OC pepper sprays deter attacking bears, we had additional concerns about the efficacy of "Frontiersman by Sabre" because of the aforementioned incidents. We require product-specific spray pattern data for bear deterrents, and had significant questions with the spray pattern data originally submitted for 72265-R. (Poor spray volume and/or strength seemingly were factors in the 1998 incidents with "Frontiersman by Sabre".)

One of the loose items in the thinner enforcement file (for the inspections of 5/7/99 and 7/9/99) is a copy of a FAX of 10/14/99 from Lyn Frandsen of EPA Region 10 to Wingett. This FAX relates to an internet item which appears to show that Security Equipment Corporation filed with the U.S. Patent & Trademark Office (PTO) for a trademark for "***ALASKA'S BEST*** DEFENSE" on "03/08/1999". The "**Goods and Services**" entry on the PTO's "TRADEMARK TEXT AND IMAGE DATABASE" includes the following words:

> OUTDOOR ANIMAL REPELLANT AEROSOL SPRAY CONTAINING RED PEPPER AS AN ACTIVE INGREDIENT.

The registration file for 72265-R also includes a copy of that item plus another PTO item which pertains to "***FRONTIERSMAN***", identifies a "**Filing Date**" of "11/02/1995" and a "**Registration Date**" of "10/15/1996", and has a "**Goods and Services**" entry which includes the words "red pepper personal defense spray".

The bound contents of the thinner enforcement file pertain to the MDA's inspection of 7/9/99 and follow-up thereto and to the Alaska Department of Environmental Conservation's (ADEC's) 5/799 inspection of VF Grace, Inc., of Anchorage, AK. The package includes a letter of 7/15/99 from Larry Nance of Security. That letter recounts interactions between Security and EPA as well as other registration-related activities. For the period up to 7/15/99, L. Nance's letter covered many of the same events that D. Nance's letter of 12/11/99 also addressed.

The labels included in what appears to be the MDA's portion of the package are container labels for 165-g and 300-g sizes of "**Alaska's Best Defense** PEPPER SPRAY".

Other information in the thinner file includes e:mails pertaining to alleged violations by Security. These include allegations or references to allegations by other pepper spray manufacturers regarding "Frontiersman by Sabre" and the product sold in Alaska. There also is a

note from Tatum in which he states that he "conducted an inspection" of another company, and referred it to Region 9, but did not make a referral for "Securities, in Missouri."

ADEC's report of 5/18/99 for the VF Grace inspection of 5/7/99 notes that the labeling collected for "Alaska's Best Defense" bore a picture of a bear. The author of that report (Lombardi) refers to "comments from the EPA Registration Division" to the effect that the product would be considered to be a bear repellent. Pictures of the labeling that ADEC collected suggest that it was similar to the labeling for "Alaska's Best Defense" that I have discussed previously in this review. Much of the text on the pictures of the labels is illegible -- a circumstance which owes much to the nature of the packaging and the shape of the container. I can, however, discern the face of the bear and the "**HUNTING, CAMPING, FISHING, HIKING, AND BIKING**" phrase on the clamshell label, as well as the active ingredient claim ("**15%** OLEORESIN CAPSICUM") and various sentences and phrases on certain labeling elements.

Some representation of the labeling collected by ADEC apparently was shown or described to me in May of 1999, prompting me to send the following e:mail on 5/14/99:

> The can has a picture of a bear (worth the proverbial 1000 words) and says to carry the product when hiking, fishing, camping, etc. The "personal protection" sought in those situations would be from bears rather than people. Go get 'em!

Some 10 months later, those comments provide a "nutshell" summary of this case.

The labeling for "**Alaska's Best Defense**" implies that the product can be used to prevent attacks by bears and, through lack of specific pest claims, other non-human animals. As it is currently labeling, it appears to be an unregistered pesticide. The labeling could be changed to make it clear that the product is to be used only against the types of people who attack innocent people. The labeling revisions needed would include deletion of the pictures of bears, changing the product's name, clearly and unequivocally stating that the product is to be used against human attackers only and not against animals, and modifying the use scenario claims to reflect those in which humans would be the likely attackers. Many of these same changes would be needed for "**FRONTIERSMAN® by *SABRE***".

202.0 CONCLUSIONS

The answers to the questions posed in Mary Jane Wingett's memorandum of January 31, 2000, remain:

1. yes, the bag tag is considered to be labeling;

2. yes, the product is required to be registered due to implied claims of being an animal-attack deterrent; and

3. no, the product is not registered.

Regarding item "2.", it should be noted that the elements of labeling for "**Alaska's Best Defense**" and "**Frontiersman by SABRE®**" indicate bear-typical use scenarios and make no clear statements to the effect that the product is only to be used against people. Therefore, claims as an animal repellent are implied and, in the case of "**Alaska's Best Defense**", amplified by the picturing a bear on the clamshell and bag-tag labels. Such products should be considered to be pesticides until such time, if any, that the statements and graphics which make them appear to be pesticides are modified so that it is clear that they are not pesticides.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
March 15, 2000

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 N. 5TH STREET
KANSAS CITY, KANSAS 66101

January 31, 2000

SUBJECT: Enforcement Case Review
Security Equipment Corporation
Fenton, Missouri
Alaska's Best Defense (Unregistered Pesticide)

FROM: Mary Jane Wingett
Enforcement Senior Leader
Pesticides Branch

TO: Mary McDonnell
TPED (2245-A)

Attached is a December 7, 1999, producer establishment report for an inspection conducted at Security Equipment Corporation, Fenton, Missouri. This inspection was conducted because the Agency has received complaints that Security Equipment Corporation is producing and distributing an unregistered pesticide, Alaska's Best Defense.

The file contains copies of the company's brochures, label and labeling for their products. Specifically, there is a specimen label entitled "Alaska's Best Defense Pepper Spray," a specimen bag tag entitled "Alaska's Best Defense Pepper Spray" which includes a picture of a bear on it and a specimen clamshell labeling entitled "Alaska's Best Defense Pepper Spray" which also includes a picture of a bear on it.

The company contends that the material with the bear on it is not labeling. It is my belief that the material with the bear on it is labeling and that the bear on the labeling is an implication that Alaska's Best Defense is for use on bears which brings the product under the purview of FIFRA. I also believe that the product is required to be registered under Section 3.

Please comment on the following:

1. Is the material with the picture of the bear considered labeling if distributed with the product?

2. Is the product required to be registered?

3. Is the product registered?

RECYCLE

Any other information, such as any correspondence that the Registration Division may have had with the company concerning registration requirements would be helpful. I spoke with Dan Peacock this morning about this Enforcement Case Review request. He suggested that you send this request to either him or to Bill Jacobs. With Dan's verbal concurrence this morning, I am requesting an expedited review of this case. We continue to receive complaints from the industry about this product and calls from the producer inquiring about the status of the review of the inspection report.

If you have any questions, you may call me at (913)551-7389.

Attachment

Also attached is the 7/9/99 inspection as background.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

TRANSMITTAL

SUBJECT: Enforcement Case Review (ECR) Request
ORE/TPED ECR Log Number: 400 VII -004

FROM: Toxics and Pesticides Enforcement Division (2245A)
Office of Regulatory Enforcement

TO:

REGISTRATION DIVISION
- [x] Linda Arrington, Ombudsman (7505C) SEE NOTE FROM REGION
- [ ] Other Peacock/Jacobs expecting this.

ANTIMICROBIAL DIVISION
- [ ] Yvette Hopkins, Ombudsman (7510W)
- [ ] Other _____

BIOPESTICIDES AND POLLUTION PREVENTION DIVISION
- [ ] William Schneider (cc: Janet Andersen), (7511W)
- [ ] Other _____

Please review the attachment(s) and provide technical evaluation and appropriate documentation of the following elements pertaining to the product(s) in question:

- [x] Registration
- [ ] Efficacy
- [x] Labeling
- [ ] Device Determination
- [ ] Claims/Advertising
- [ ] Toxicity Category
- [ ] Packaging
- [ ] Other _____

Specific Request: SEE REGIONAL QUESTIONS, Please specify claims also

PLEASE RETURN THE COMPLETED ECR TO: Josie Fayson (2245-A)
FOR ADDITIONAL INFORMATION, CONTACT CASE OFFICER McDonnell
PHONE #: 202/564-4173

IRB BRANCH REVIEW - TSS

455.
11 S-574389

Record Number(s)

D262753

IN 2/1/00 OUT 2/7/2000

EFFICACY

2-7-2000 ECR

FILE OR REG. NO. 72265-R (and unregistered product from same company)

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 2/1/2000

DATE OF SUBMISSION 1/31/2000

DATE SUBMISSION ACCEPTED 2/1/2000

TYPE PRODUCTS(S): I, D, H, F, N, R_x S

DATA ACCESSION NO(S). none

PRODUCT MGR. NO. 04

PRODUCT NAME(S) ALASKA'S BEST DEFENSE PEPPER SPRAY (collected)
~~FRONTIERSMAN BEAR ATTACK DETERRENT (pending)~~

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE Region 7's questions about collected product

CHEMICAL & FORMULATION Pending: 1.388% Capsaicin and related capsaicinoids aerosol
Collected: "15% OLEORESIN CAPSICUM (RED PEPPER)" aerosol

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> "**only to deter bears which are attacking or appear likely to attack humans**".

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy reviews of 6/30/99, 11/9/99, 11/30/99, and 1/21/2000.

The first efficacy review for 72265-R discussed the initial application for Federal registration of Frontiersman Bear Attack Deterrent. The second discussed follow-up submissions and accounts of incidents in which people who used products called "Frontiersman" were mauled by bears nevertheless. The third review for 72265-R discussed whether reported differences between the "*OLD FORMULATION*" and the "*NEW FORMULATION*" shown on a "***CONFIDENTIAL FORMULATION COMPARISON***" included in Security's agent's submission of 10/22/99 might account for two Frontiersman incidents of which we had been made aware and show that the formulation had been improved.

The fourth review discussed the incidents and the formulation differences further. A key element of those discussions was the applicant's contention that the "*OLD FORMULATION*" and the "*NEW FORMULATION*" were misnomers, In a letter of 1/1/2000, Nance stated that the "Frontiersman" product currently marketed does not have the same formulation as "Frontiersman Bear Attack Deterrent" is to have. Referring to an earlier submission, Nance wrote

The correct headings for these tables should be Frontiersman in place of OLD FORMULATION and Frontiersman Bear Attack Deterrent in place of NEW FORMULATION. These products are NOT interchangeable. We will not market the Frontiersman Bear Attack Deterrent in the same manner we market Frontiersman. In response to your request in October of 1999, I explained that our Frontiersman Bear Attack Deterrent formula for EPA registration is twice as strong as the Frontiersman formula.

In the earlier reviews, I noted that, in one reported mauling incident, the product used apparently had neither the range nor the efficacy to be called a "BEAR DETERRENT". In the other incident, the bear eventually was driven off, but the product may have lacked sufficient range or may have been fired too late in the approach.

This review discusses materials FAXed to the Insecticide-Rodenticide Branch (IRB) on 2/1/2000 by Mary Jane Wingett of the EPA Region 7 office in Kansas City, KS. (The cover sheet is dated "1/31/2000". Wingett initially had problems FAXing the items that day but succeeded on the next day.) These materials pertain to a product called "**Alaska's Best Defense**" the canister label of which includes the words "BY SECURITY EQUIPMENT CORPORATION". No evidence of an EPA registration number is apparent on the FAXed materials.

Wingett indicated in an e:mail of 1/31/2000 that she was sending a paper version of the inspection report to our Office of Compliance Assurance (OECA) and appended a copy of her memorandum of 1/31/2000 to Mary McDonnell of OECA regarding that transmittal. In that memorandum, Wingett provided information about the product, notably that there are pictures bears on a "bag tag entitled 'Alaska's Best Defense Pepper Spray'" and on "clamshell labeling" bearing the same product name, and the company's claimed concept for the product. Wingett also asked for answers to the following questions:

1. Is the material with the picture of the bear considered labeling if distributed with the product?

2. Is the product required to be registered?

3. Is the product registered?

The materials FAXed by Wingett on 2/1/2000 include labeling for "**Alaska's Best Defense**". Daniel Peacock of IRB sent those materials to me for review plus a memorandum of 1/25/00 from EPA Region 10 (Seattle, WA) to Region 7. According to that item, the Alaska Department of Environmental Conservation

(ADEC) inspected a wholesale distributor's facility in Anchorage, AK, on 5/7/99 and 1/11/00 and found records of two shipments of "**Alaska's Best Defense**" to the distributor.

Peacock also provided labeling (and comments thereon that he "e:mailed" to Region 10) pertaining to another entity's unregistered aerosol product declared by its labeling to be "*For Defense Purposes*". Except for showing that "**Alaska's Best Defense**" is not the only apparent "line-straddler", the labeling for that product does not seem to me at this point to be relevant to Security Equipment Corporation, 77265-R, "**Alaska's Best Defense**", or anything called "Frontiersman". Peacock's reasoning about the other product's status as a pesticide would be relevant where its labeling parallels that for "**Alaska's Best Defense**".

The labeling for "**Alaska's Best Defense**" that Wingett FAXed to us apparently was taken from material that the ADEC collected on 5/7/99. According to Region 7's memorandum of 1/25/2000, the ADEC did not collect any of that product in its 1/11/2000 inspection, but

> the inspector stated that the product labeling was identical as [sic] that found during the inspection of May 7, 1999.

201.0 DATA SUMMARY

Below, I discuss the three specific questions in Wingett's e:mail of 1/31/2000. Following those comments, I discuss the labeling for "**Alaska's Best Defense**" more generally and compare it to labeling that we have received earlier for "Frontiersman".

1. "Is the material with the picture of the bear considered labeling if distributed with the product?"

Yes. §2(p)(1) of FIFRA defines "LABEL" as

> the written, printed, or graphic matter on, or attached to, the pesticide or device or any of its containers or wrappers.

§2(p)(2) of FIFRA defines "LABELING" as

> all labels and all other written, printed, or graphic matter --
>
> (A) accompanying the pesticide or device at any time; or

> (B) to which reference is made on the label or in literature accompanying the pesticide or device, except to current official publications of ....

It appears that the bag tag goes at the top of a bag that holds a container of the product. The product would be sold in the bag, and the bag tag clearly would accompany the product in commerce and, in likely scenarios, home from the store with the customer. Thus, the bag tag label qualifies as a label under §2(p)(1) and as labeling under §2(p)(2)(A).

2. Is the product required to be registered?

Yes. It appears that the labeling has been crafted to straddle the line between being a product sold for protection against attacks by other people and a product sold to protect people from attacks by animals including bears. Products sold to protect people from other people are not considered to be pesticides. Products sold to protect people from attacks by nonhuman animals are pesticides. The crafting of the label is evident from its failure to state absolutely what type(s) of organisms would be doing the attacking.

Among other things §2(u) of FIFRA defines "PESTICIDE" as

> any substance or mixture of substances intended for preventing, destroying, or mitigating any pest....

In defining "PEST", §2(u) of FIFRA includes

> any insect, rodent, nematode, fungus, weed or ... any other form of terrestrial or aquatic plant or animal life ... which the Administrator declares to be a pest under 25(c)(1).

§25(c)(1) of FIFRA authorizes the administrator

> to declare a pest any form of plant or animal life (other than man and other than bacteria, virus, and other micro-organisms on or in living man or other living animals) which is injurious to health or the environment.

Under this authority, bears which attack people are pests and people who attack people are not, even though both types of attacks can be "injurious to health".

The definition of "PESTICIDE" includes "intended" as a key word for determining whether something is considered to be a pesticide. To me, "intended" implies why the product is marketed rather than why it is purchased. When a product's intended uses are worded precisely on its labeling and that product is used in a fashion not claimed by label text (which prohibits alternative uses), one could argue with some confidence that the product was not used as its producer intended. When the label text is less specific and includes words and pictures which imply certain uses, the product would seem to be "intended" to be used for any purpose which the labeling implies.

The bag tag label and the blister-pack (clamshell) labels allegedly include pictures of bears. Due to the image quality of the FAXed materials, I cannot clearly see bears on the materials circulated for review. If a product were of a type that would have no plausible use to deter bears and/or if the product's name were something like "BEAR® BRAND TAR REMOVER", a picture of a bear on an element of labeling would not clearly imply claims for effects against bears. Such considerations clearly do not apply to "**Alaska's Best Defense Pepper Spray**". That pepper-spray products are used to deter attacking bears is relatively common knowledge in places where bears occur. "**Alaska's Best Defense Pepper Spray**" apparently is marketed in containers of "300 grams" of aerosol product containing Oleoresin of Capsicum and comes with a bag-tag label which describes the product as

PEPPER SPRAY
For self-protection against violent attacks while
HUNTING, CAMPING, FISHING, HIKING AND BIKING
or whenever enjoying the great outdoors.

The use-scenario claims are repeated on the container label which also calls the product "***Your edge against personal attack!***"

The expression "***personal attack***" is somewhat vague. It could imply "attack of one's person" or that the product is to be used to protect oneself from whatever attackers there might be (including bears, dogs, people, moose, etc., but not organisms that do not attack violently). Because "personal" can also mean "involving persons or human beings" (Websters New World Dictionary of American English, Third College Edition, 1988, New York: Simon and Schuster, Inc., p. 1008), "***personal attack***" could be construed as meaning "attack by another person". However, I suspect that many would take the broader meaning, especially with use-scenario listings which virtually cover the gamut of likely places for attacks by bears but only hit a subset of possible places where people might attack people.

People have been attacked and even killed by other people while fishing, hiking, camping, etc. However, it seems to me that labeling for a product primarily designed for person-against-person use also would mention use sites and scenarios (dark alleys, parking areas, walking home alone at night, etc.) where violent encounters with other people are especially likely. If the product's container held 300 g of material, I would be inclined to think it was loaded for bear.

A look at the places where the item is sold and the context in which "**Alaska's Best Defense**" is displayed might also provide a context consistent with intent to be sold as a bear repellent. To me, pictures of bears on labeling for something called "**Alaska's Best Defense Pepper Spray**" implies that the product is being marketed to provide personal defense against bears. If Security really meant the product only to be used for defense against people, a picture of otherwise unarmed person about to spray a menacing-looking person wielding a weapon would have been a better choice for conveying such an intent (as would a different product name).

In rebuttal, Security Equipment might make much of the container label's direction "**AFTER SPRAYING THE ATTACKER, ESCAPE IMMEDIATELY AND CALL POLICE**". I feel that such instructions would be applicable if the "**ATTACKER**" were a bear or a human. The same could be said of the following statement which appears on the blister-pack label for "**Alaska's Best Defense *PEPPER SPRAY***":

> One shot to the face causes instant panic and physical agony.

Both emotions could be inferred by observation of bears or humans. On the blister pack, the "AFTER SPRAYING" direction is followed by "DO NOT TRY TO CAPTURE THE ATTACKER. That instruction seems to be more human-oriented than bear-oriented. However, the total thrust of the labeling suggests that the product could be used against bears or people. Bears probably were not mentioned directly because the product was not registered. Human attackers may not have been mentioned directly so as not to dissuade people from buying the product for use against bears.

3. Is the product registered?

No. Our "REFs" records did not show any pesticide registrations for Security Equipment Corporation when I checked on 2/3/00. 72265-R is the only pending application from Security of which I am aware.

In the efficacy review of 6/30/99, I reviewed labeling submitted for 72265-R on 6/3/99. The items included printed versions of a blister-pack label, a bag-tag label, and a container label. Security Equipment Corporation's letter of 6/3/99 was signed by David Nance. In the letter's first paragraph, D. Nance commented as follows on the printed items submitted:

> Enclosed you will find the marketing materials which we would like to package with our Frontiersman Bear Attack Deterrent spray once it is approved. I spoke with my father, Larry Nance, and he informed me that all marketing materials must obtain your approval before they can be circulated to consumers. Therefore, I kindly ask for you to review the enclosed materials. Please let us know if these materials are acceptable.

These comments suggest that Security Equipment Corporation was aware by or before 6/3/99 that we considered the bag tag, the blister pack, and the container label itself to be elements of product labeling. Comments on these documents from the efficacy review of 6/30/99 were relayed to Security Equipment Corporation via EPA's letter of 7/22/99.

The blister pack labeling submitted by D. Nance on 6/3/99 calls the product proposed for registration as 72265-R "***BEAR ATTACK DETERRENT***", "**FRONTIERSMAN** *BY SABRE*®", and "**SABRE FRONTIERSMAN**". The product is claimed to be "**22%** Oleoresin Capsicum (Red Pepper)" and to be

> For self-protection against violent attacks while **HUNTING, CAMPING, FISHING, HIKING, & BIKING,** or whenever enjoying the great outdoors.

These are the same use scenarios that are identified on the labeling for "**Alaska's Best Defense Pepper Spray**" that was collected in May of 1999.

In the efficacy review of 11/9/99, I discussed two incidents in which persons were attacked by bears despite having used products which bore the name "Frontiersman". From a composite of photographs of the container involved in one of the incidents, it can be determined that the product was called "FRONTIERSMAN by SABRE". Except for the product name and the reference to the company on "**Alaska's Best Defense**", the front panels of the "FRONTIERSMAN by SABRE"and "**Alaska's Best Defense**" labels are similar in content. Both claim "**15%** OLEORESIN CAPSICUM (RED PEPPER)" to be the "Active Ingredient".

The back panels of the two products' labels differ in some obvious ways. The "FRONTIERSMAN by SABRE" label contains the phrases and sentences listed below which do not appear on the "**Alaska's Best Defense**" label

1. "Plus an invisible dye for police suspect identification." (This text is replaced by "Two million Scoville Heat Units" at the end of the statement of ingredients on the label for "**Alaska's Best Defense**".

2. "**DO NOT TRY TO CAPTURE THE ATTACKER.**" (This text is missing from the container label for "**Alaska's Best Defense**" but does appear on its blister-pack label.)

Although the labels for both products seem to imply use against any type of attacker, the container label for "FRONTIERSMAN by SABRE" is, if anything, more oriented toward protection against attacks by humans than is the container label for "**Alaska's Best Defense**" that the ADEC collected in May of 1999. Nevertheless, the people who took "FRONTIERSMAN by SABRE" into bear country in 1998 and were injured by bears despite having used the product against the animals evidently were led to believe that they had purchased bear pepper spray. Whether the store display, other aspects of product labeling (such as a picture of a bear on a bag tag), or word-of-mouth led them to that conclusion might be determined by interviewing the victims and/or those who investigated the incidents. When those incidents occurred, there was only one "pepper spray" registered for use as a bear deterrent in the U.S. and that product was not "FRONTIERSMAN by SABRE".

With labeling that clearly indicated that the product was only to be used to deter would-be attacks by other people, this product could be labeled in a way to take it technically out of the realm of being considered a pesticide. However, a 300-g container seems very large for someone to carry to deter people. Police in riot control situations might find containers of such a size useful, but I suspect that those who want to deter an attacking human normally would not want a can so bulky and expensive. The only possible use a consumer might have for such a container would be against an attack by a gang of hostile folks. In such a case, using the product could be counterproductive as the user could be in the middle of the application zone and almost certainly affected (and perhaps temporarily disabled) by the product. Another possible outcome in the gang situation would be that the user would be overpowered and have the container taken by the attackers.

202.0 CONCLUSIONS

The answers to the questions posed in the e:mail of January 31, 2000, are as follows:

1. yes, the bag tag is considered to be labeling;

2. yes, the product is required to be registered due to implied claims of being an animal-attack deterrent; and

3. no, the product is not registered.

These answers are explained at length in the "DATA SUMMARY" section above.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
February 7, 2000

Bill Jacobs
02/24/2000 11:28 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Dan Peacock/DC/USEPA/US@EPA, Tina Levine/DC/USEPA/US@EPA
Subject: Re: Region 7's Alaska's Best Defense Pepper Spray File

If I give it high priority (which I try to do for enforcement cases), I could finish it in March, perhaps by March 16. I have difficulty estimating how long it will take because, until I get into reviewing it, I will not know how many of the items are new and unique (thus requiring individual discussion that cannot be imported from the earlier review). I also will be on travel from 3/5 through 3/10 and have a family obligation on 3/17. I have a number of half-completed work items that I would like to finish between now and 3/5, and one of them must be completed by then. If those items can be handled quickly, I might be able to start on Alaska's Best Defense before I leave. If so, completion by 3/16 would be more likely.

---------- Forwarded by Bill Jacobs/DC/USEPA/US on 02/24/2000 11:17 AM ----------

From: Maryjane Wingett on 02/24/2000 09:13 AM CST

To: Bill Jacobs/DC/USEPA/US@EPA
cc:
Subject: Re: Region 7's Alaska's Best Defense Pepper Spray File

Thanks for your quick response. I know the file was quite voluminous. Can you give me an estimate date for when the review will be complete?
Bill Jacobs

Bill Jacobs
02/24/00 08:40 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Dan Peacock/DC/USEPA/US@EPA, Tina Levine/DC/USEPA/US@EPA
Subject: Region 7's Alaska's Best Defense Pepper Spray File

We have it. Its review will take a while longer than the earlier one did. In now can see the bear depicted on the labeling. Do you want the whole file back now or just FAXes of certain elements of it?

---------- Forwarded by Bill Jacobs/DC/USEPA/US on 02/24/2000 09:34 AM ----------

From: Maryjane Wingett on 02/23/2000 03:13 PM CST

To: Bill Jacobs/DC/USEPA/US@EPA
cc: Dan Peacock/DC/USEPA/US@EPA, Tina Levine/DC/USEPA/US@EPA
Subject: Region 7's Alaska's Best Defense Pepper Spray File

Bill -- I thought I'd check in to see if you all ever received the complete file for this inspection. If not, then I need to do some backtracking with ORE to see where the file is. I was just trying to draft a Stop Sale, Use, or Removal Order to the company and found it impossible to do without the file. Let me know, please.

Thanks,

Mary Jane Wingett

Bill Jacobs

Bill Jacobs
02/07/00 11:08 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Tina Levine/DC/USEPA/US@EPA, Dan Peacock
Subject: Alaska's Best Defense Pepper Spray

Dan Peacock forwarded to me the materials that you FAXed last week as though they were a review item for Security Equipment Corporation's pending application for Frontiersman Bear Deterrent Spray, 72265-R. I have reviewed the materials and have provided answers to your three specific questions. I also have discussed some other relevant items from Security Equipment Corporation of which I have become aware. I understand that a larger package has been sent to OECA. I could not clearly discern pictures of bears on the FAXed copies of labeling that I received, but I indicated in the review what I thought such pictures would mean in terms of claims and pesticidal status. With or without pictures of bears, it is seems from the labeling that use against bears was an intended use for Alaska's Best Defense. There may have been other intended uses as well.

A copy of my review is attached. FRNTRSMN.005.

Save
put with Region stuff
ECR

Dan Peacock on 01/13/2000 12:35:12 PM

To: Lyn Frandsen/R10/USEPA/US@EPA
cc: Tim Osag/ENF/R8/USEPA/US@EPA, Bill Jacobs/DC/USEPA/US@EPA
Subject: Review of Pepper Plus Labeling

Lyn,

I received the labeling for Pepper Plus yesterday (1/12/2000). I have reviewed it to determine if it makes claims, actual or implied, to control bears.

Background:

One must review the labeling claims in the context of where the product was sold, the size of the product, and the intended users.

According to my limited understanding, law enforcement agencies typically buy the larger cans (8 ounces or more) of self-defense sprays directly from the manufacturers or distributors for crowd control where a single person would need a large amount of product to control many humans. They would not buy the product over-the-counter normally.

In contrast, individuals, who want to protect themselves against a single assailant in a dark alley, typically buy individual, small (1/2 to 2 ounces) cans self-defense sprays for use against a single assailant. They want a small size to put in a purse or pocket easily.

The large size of the Pepper Plus product, which is "for defense purposes", would suggest a product designed for crowd control by law enforcement personnel. Sale of such a large size over-the-counter at a commissary is absurd. Few if anyone is going to buy this product and carry it in a pocket or purse for defense against humans in a dark alley. The actual market for a product of such large size is for persons wanting to control bears.

The following text or absence of text implies use to deter bears.

1. Effective Range of Unit

The labeling claims an effective range of up to 25 feet. Registered bear deterrent products claim an effective range of 15 to 30 feet. The sale of "self-defense spray" with such a great effect range to the general public only makes sense if the individual is planning to use it against bears.

2. Weight of Unit

The labeling claims a net weight of one pound. Registered bear deterrent products weight from 8 to 9 oz. The sale of "self-defense spray" with so much product only makes sense if the individual is planning to use it against bears.

3. For Defense Purposes

The product is "for defense purposes". Because the label does not specify the type of site of application (humans or bears), it implies use against any organism (including bears) from which the person needs a "defense"

4. Product Name

The product name is "The Sportsman". According to Webster's New World Dictionary, a "sportsman" is "1. a man who is interested in or takes part in sports, especially hunting, fishing ..." Obviously the product is aimed at hunters and fishermen that need "defense" against bears, not assailants in dark alleys.

5. Use Directions

The use directions are very vague and could easily refer to attacks from humans and bears:

.. spray into the face and eyes of the attacker. Spray in a series of short bursts. Spray is most effective at short range... Common sense must be used in self-protecting situations.

The text does not refer to the organism from which defense is needed. The label does not use words like "assailant", "rapist", or "person", which would suggest that the target organisms were "humans" as the sites of application. In addition, there are no prohibitions against use on bears, like "Do not use on bears."

SUMMARY

"The Sportsman" is a pepper spray product pretending to target humans but actually targeting bears and avoiding the expense and time of FIFRA registration:

1. The product name suggests that users will be hunters and fishermen, persons likely to encounter bears in areas suitable for these animals, not in dark alleys.

2. The place of purchase, a commissary, is a place where military families, including sportsmen and hikers would be looking for a bear repellent, not a store or distributor specializing in purchases from law enforcement personnel.

3. The large container size (1 lb) is one suitable for a hunter, fisherman, or hiker to control an attacking bear. Few if anyone is going to purchase such a large product to carry in a purse or pocket for use on an urban street.

4. The extended distance of this product (25 feet) is suitable for a hunter, fisherman, or hiker to control an attacking bear. No one needs such a powerful product to carry with them on an urban street to spray a human attacker, which will be at very close range.

5. The vagueness of the product's use directions would permit its use against bears. In addition, the label does not prohibit its use against bears.

GENERAL COMMENT

Now that the EPA has registered several bear-deterrent products, the major problem in the current marketplace is the existence of human defense products (of all sizes) pretending to be "human self-defense sprays" but are really targeted against bears. Like "The Sportsman", they make no overt claims, but their names, size, power, and vague language imply use on bears. EPA needs to come up with a strategy to deal with such product before the initiation of another bear season. I am putting together a strategy for dealing with such products and would enlist your help in brain storming a solution. While not completed yet, I feel that some of the pieces in the

solution include:

1. separation of human and bear products at retail stores
2. clear identification of each type of product at retail stores
3. sting operations at selected sport shows and retailers to get the word out that such products will not be tolerated
4. press releases, print and video media explaining the need to buy registered EPA bear repellents and why such products are not available in small sizes.
5. labeling on self-defense products saying "not for use as a bear deterrent".

Dan - Here are the photos for the Sportsman. Maybe these are used for rat control in the National Parks.

Lyn

292546
S-573700
455/38
1/13/2000

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From Lyn Franner

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EA UNIT
Minimum Order 1 case
Shipping FOB Buffalo NY

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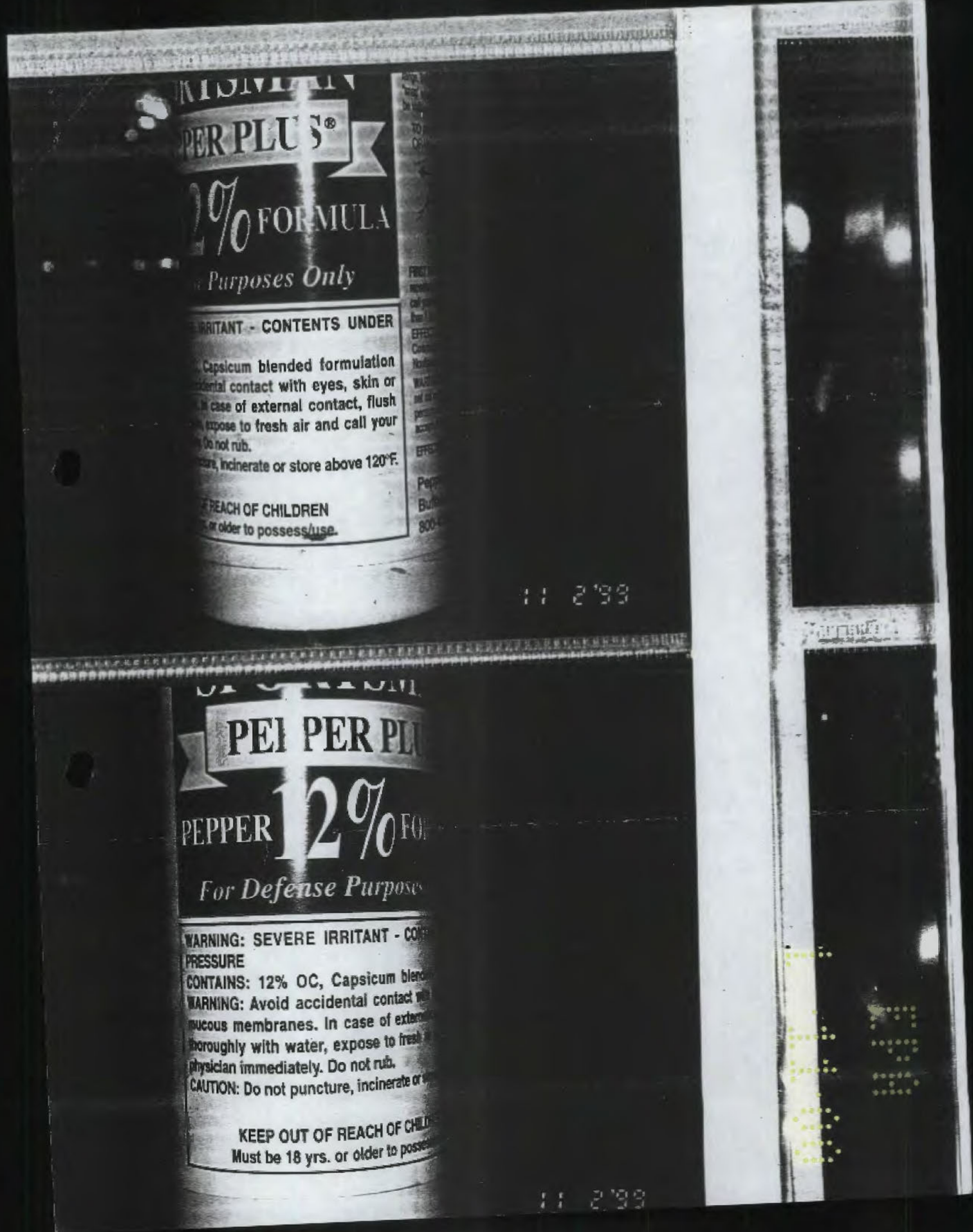
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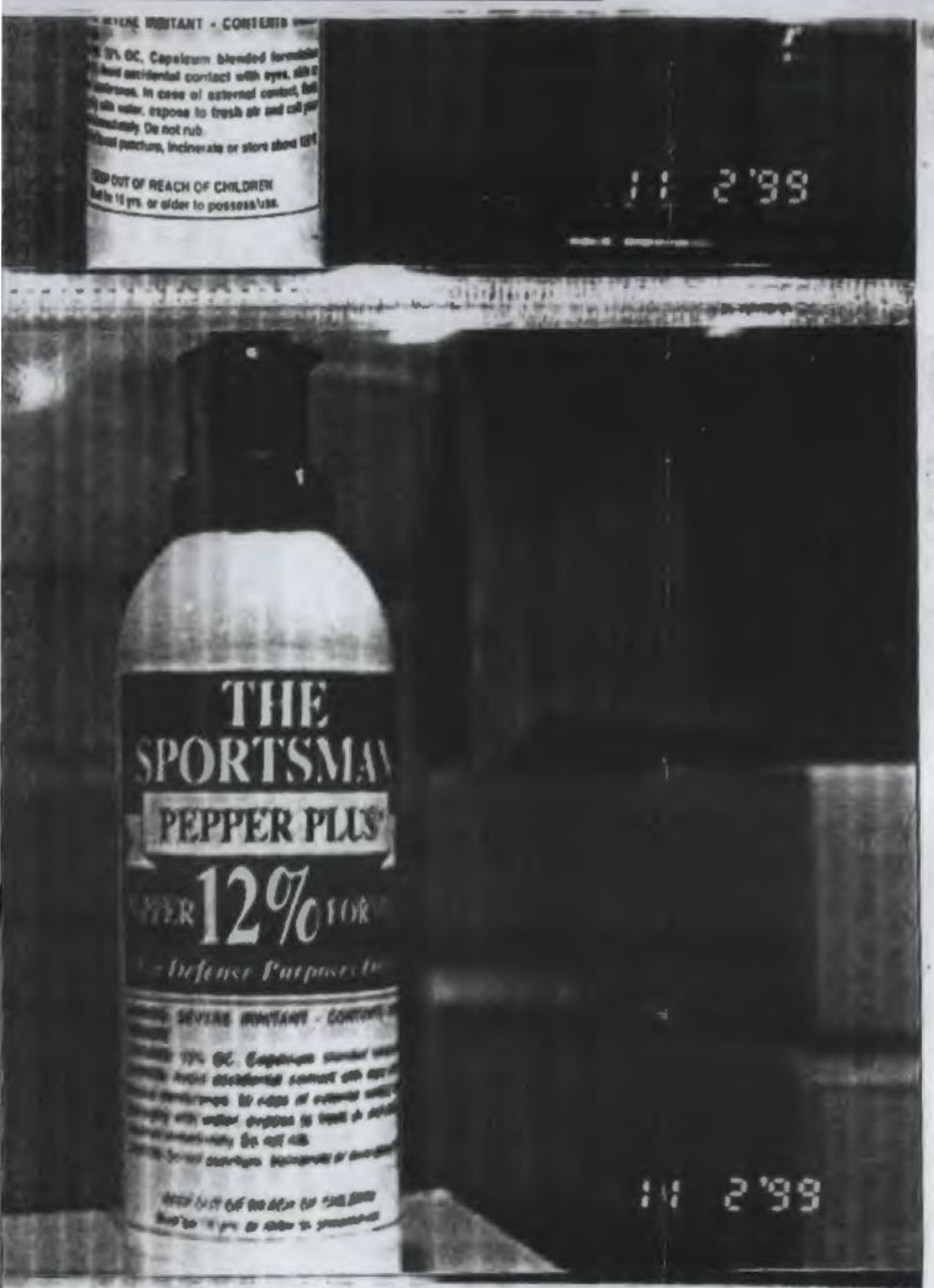
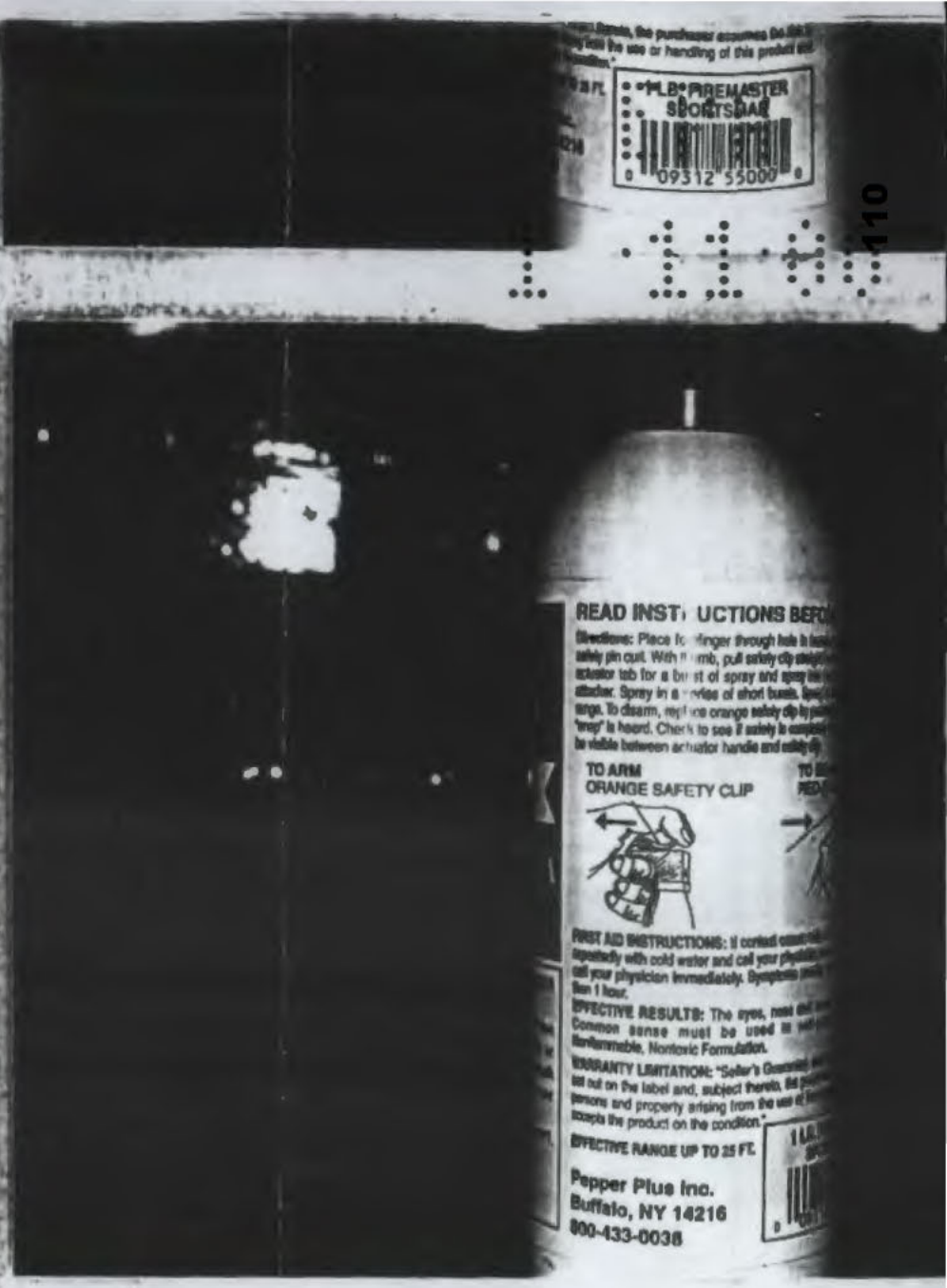
Purposes Only
RITANT - CONTENTS UNDER
Capsicum blended formulation
dental contact with eyes, skin or
case of external contact, flush
expose to fresh air and call your
Do not rub.
ure, incinerate or store above 120°F.
REACH OF CHILDREN
or older to possess/use.
PEPPER
12%
For Defense Purpose
WARNING: SEVERE IRRITANT - CO
PRESSURE
CONTAINS: 12% OC, Capsicum blen
WARNING: Avoid accidental contact
mucous membranes. In case of extern
thoroughly with water, expose to fresh
physician immediately. Do not rub.
CAUTION: Do not puncture, incinerate or
KEEP OUT OF REACH OF CHIL
Must be 18 yrs. or older to posse

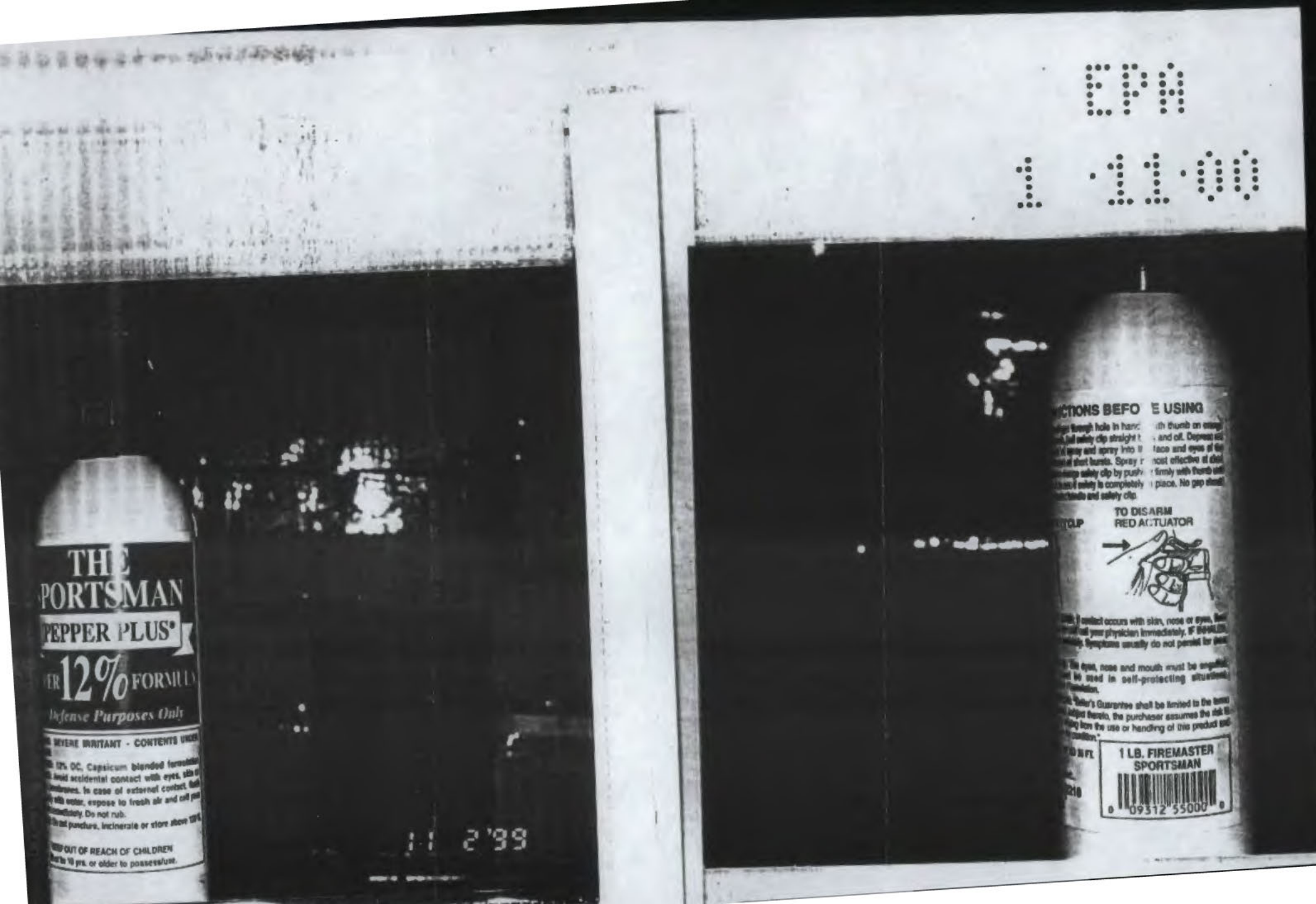




STOCK #PLV840-000

EPA

1 ·11·00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immediately. Do not rub.
Do not puncture, incinerate or store above 120°F.
KEEP OUT OF REACH OF CHILDREN
Must be 18 yrs. or older to possess/use.
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TO DISARM
RED ACTUATOR
1 LB. FIREMASTER
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

January 25,2000

Reply To
Attn Of: ECO-084

MEMORANDUM

SUBJECT: Enforcement Case Referral,
Security Equipment Corp.

FROM: Marie Jennings
Pesticides Unit Manager

TO: Luetta Flournoy
Chief, Pesticides Branch

Attached is an inspection report from the Alaska Department of Environmental Conservation (ADEC). The inspection was conducted at V.F. Grace in Anchorage Alaska on January 11, 2000. V.F.Grace is a wholesale distributor of outdoor products including animal repellents. A previous inspection was conducted at this facility on May 7, 1999 and was sent to you on May 28, 1999.

The inspection revealed two separate sales of Alaska Best Defense pepper spray product from Security Equipment Corporation on 5-6-99 and 6-24-99 to V.F.Grace. The products remaining in stock were placed under a state stop sale order. No photographs of the product were taken during the inspection. However, the inspector stated that the product labeling was identical as that found during the inspection on May 7, 1999. Please refer to our previous referral.

This inspection report is being sent to you for your follow up with the manufacturer and distributor, Security Equipment Corporation. Please contact Lyn Frandsen at 206-553-4768 if you have any questions.

cc: June Muniz, ADEC

Attachments

January 31, 2000

SUBJECT: Enforcement Case Review
Security Equipment Corporation
Fenton, Missouri
Alaska's Best Defense (Unregistered Pesticide)

FROM: Mary Jane Wingett
Enforcement Senior Leader
Pesticides Branch

TO: Mary McDonnell
TPED (2245-A)

Attached is a December 7, 1999, producer establishment report for an inspection conducted at Security Equipment Corporation, Fenton, Missouri. This inspection was conducted because the Agency has received complaints that Security Equipment Corporation is producing and distributing an unregistered pesticide, Alaska's Best Defense.

The file contains copies of the company's brochures, label and labeling for their products. Specifically, there is a specimen label entitled "Alaska's Best Defense Pepper Spray," a specimen bag tag entitled "Alaska's Best Defense Pepper Spray" which includes a picture of a bear on it and a specimen clamshell labeling entitled "Alaska's Best Defense Pepper Spray" which also includes a picture of a bear on it.

The company contends that the material with the bear on it is not labeling. It is my belief that the material with the bear on it is labeling and that the bear on the labeling is an implication that Alaska's Best Defense is for use on bears which brings the product under the purview of FIFRA. I also believe that the product is required to be registered under Section 3.

Please comment on the following:

1. Is the material with the picture of the bear considered labeling if distributed with the product?

2. Is the product required to be registered?

3. Is the product registered?

Any other information, such as any correspondence that the Registration Division may have had with the company concerning registration requirements would be helpful. I spoke with Dan Peacock this morning about this Enforcement Case Review request. He suggested that you send this request to either him or to Bill Jacobs. With Dan's verbal concurrence this morning, I am requesting an expedited review of this case. We continue to receive complaints from the industry about this product and calls from the producer inquiring about the status of the review of the inspection report.

If you have any questions, you may call me at (913)551-7389.

Attachment

bcc: Bill Jacobs, OPP (via email)
Dan Peacock, OPP (via email)
David Ramsey (via email)
Lyn Frandsen, Region 10 (via email)

U. S. ENVIRONMENTAL PROTECTION AGENCY
Region 10, Pesticide Unit, ECO-084
1200 Sixth Avenue
Seattle, WA 98101

FACSIMILE TRANSMITTAL FORM
FAX Number 206-553-1775

TO: Mary Jane Wright **FAX #:** 913 551-7165

FROM: Lyn Frandsen **Phone #:**

DATE: 10-14-99

TOTAL PAGES (including cover sheet): 3

MESSAGE:

the attached information was provided to me by the Grand Alaska Company - a competitor with a registered pepper repellent. this was taken off the internet. It shows their intent when dealing with the U.S. Patent Office that the product "Alaska's Best" was to be used as an animal repellent.

US PATENT & TRADEMARK OFFICE
TRADEMARK TEXT AND IMAGE DATABASE

(1 of 1)

Word Mark	***ALASKA'S BEST*** DEFENSE
Pseudo Mark	***Alaska's BEST*** DEFENSE
Owner Name	(APPLICANT) Security Equipment Corporation
Owner Address	330 Sun Valley Circle Fenton MISSOURI 63026 CORPORATION MISSOURI
Attorney of Record	Julianne B. Bochinski
Serial Number	75-655407
Filing Date	03/08/1999
Mark Drawing Code	(1) TYPED DRAWING
Register	PRINCIPAL
Type of Mark	TRADEMARK
International Cl	005
Goods and Services	OUTDOOR ANIMAL REPELLANT AEROSOL SPRAY CONTAINING RED PEPPER AS AN ACTIVE INGREDIENT; DATE OF FIRST USE: 1995.12.30; DATE OF FIRST USE IN COMMERCE: 1995.12.30

(1 of 1)

Maryjane Wingett
10/21/99 01:41 PM

To: jleslie@mail.state.mo.us
cc: David Ramsey/WWPD/R7/USEPA/US@EPA, Dan Peacock/DC/USEPA/US@EPA

Subject: Re: Update on Enforcement Actions Against Security Equipment Corporation, Company No. 72265

Joe -- following is the email message we received from Dan Peacock, OPP, concerning the Alaska's Best Defense product. In addition to this information, Luetta received a phone complaint this morning from a competitor and the competitor stated that Security Equipment Corp. continues to market this product at trade shows.

As we just discussed, in our initial request to you for an inspection at this facility, David Ramsey asked for documentation concerning "Alaska's Best Defense" and also the "status of their other pesticides." David's note states "Re: ABD (Alaska's Best Defense) we need documentary labels and labeling, sales records, collateral literature and statements."
The file which David Ramsey received from you on August 30, 1999, contains a narrative which states: "Production and sales records of the firm's products are maintained by the firm as required by FIFRA and are kept indefinitely." However, no production and/or sales records were collected as we requested. Additionally, when we sent the original inspection request to you we included background information. Included in that background information was a copy of an inspection conducted by the Alaska Dept. of Environmental Conservation. Included in that report was a xerox copy of a label which is on a container of Alaska's Best Defense. Although it is not clear by looking at the xerox copy of the label, the narrative inspection report states that the label has a picture of a bear on it. The copy of the label collected by Mr. Welch is only a portion of that label as shown on the Alaska 's Best Defense product collected by the Alaska Dept. of Environmental Conservation. It appears that the label collected by Mr. Welch is not the entire label. It appears that the portion of the label that states "For self-protection against violent attacks while HUNTING, CAMPING, FISHING, HIKING, AND BIKING Or Whenever enjoying the great outdoors" is missing from the label collected by Mr. Welch. I can't be sure from the xerox copy of the label received from the Alaska Dept. of Environmental Conservation, but it may be this portion of the label that actually pictures the bear.

I am requesting that Mr. Welch return to the facility and:

1. Review and collect production and sales records for both of the two Security Equipment Corporation bear repellents (Frontiersman Bear Attack and Alaska's Best Defense). The company states that they have not distributed the Frontiersman product, but their records need to be reviewed to confirm that.

2. Verify that the Alaska's Best Defense label collected on July 9, 1999, is the ***complete*** label/labeling for this product. If the label collected on July 9, 1999, is not the complete label/labeling, such label/labeling needs to be collected and reference to it included in a statement collected from the facility owner, operator, or agent-in-charge. If collateral literature exists, copies should be collected. If no such literature exists, such information should be included in the statement collected. Any information which documents marketing of this product at trade shows should also be collected.

3. If production and sales records are collected, ascertain exactly what label was placed on the product(s) when the product(s) were distributed.

Statements should be collected to support any documentation collected. Of course, federal credentials and federal forms should be used for this inspection and the Notice of Inspection needs to state that this is a For Cause Inspection and the violation suspected is distribution of unregistered pesticide(s).

Since the Agency has received reports of adverse effects from the use of this product, there is some urgency for a return inspection. If you could let me know when you think Mr. Welch can do a return inspection, I'd appreciate it. As always, if you have any questions, please call.

Thanks.

---------- Forwarded by Maryjane Wingett/WWPD/R7/USEPA/US on 10/21/99 12:53 PM ----------

Dan Peacock on 10/14/99 06:07:56 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Lyn Frandsen/R10/USEPA/US@EPA, Tim Osag/ENF/R8/USEPA/US@EPA, tatum.tyres@epa.gov, Bill Lee/R9/USEPA/US, Bill Jacobs/DC/USEPA/US@EPA

Subject: Re: Update on Enforcement Actions Against Security Equipment Corporation, Company No. 72265

Mary Jane Wingett (EPA Region 7),

Could you give me a status of any enforcement action against Security Equipment Corp's (located in Fenton, Missouri) unregistered bear attack products. In contrast to the company's claims, their products have been implemented in at least two bear maulings over the last 14 months. Therefore, we are very concerned about Security's products.

Competitors say that the company continues to sell product after the 1/15/99 deadline.

Perhaps the best way to settle the issue is to inspect their establishment and check their records to determine shipment dates of their Frontiersman and Alaska's Best Defense products that have been sold and used for attacking bears, sometimes with tragic results.

We have a pending registration for a product called "Frontiersman Bear Attack Deterrent", EPA File Symbol 72265-R, but as yet it is not registered. Before we register it, we want to make sure that problems with earlier unregistered versions of the product do not extend to the pending product.

Please let me know as soon as possible the status of any previous enforcement actions. Also, could you arrange to inspect their establishment(s) where they formulate frontiersman and Alaska's Best Defense product and where they keep shipping records. In the past the company has tried to skirt registration by showing a picture of a huge bear outdoors and a term such as "self-defense spray", which we consider to be a implied bear claim.

We are very anxious to insure that no company is selling unregistered product as these are a clear threat to the public's safety.

If you or others have questions, please let me know.

dan peacock
703-305-5407

---------- Forwarded by Dan Peacock/DC/USEPA/US on 10/14/99 06:43 AM ----------

From: Lyn Frandsen on 10/13/99 02:47 PM PDT

To: Dan Peacock/DC/USEPA/US@EPA
cc: Luetta Flournoy/WWPD/R7/USEPA/US@EPA
Subject: Re: Update on Enforcement Actions Against Security Equipment Corporation

Hi bear fans. Alaska Dept. Of Environmental Conservation collected a purchase order from a wholesale distributor in Anchorage showing distribution of Security Equipment Corp's product Alaska's Best Defense pepper spray after the 1-15-99 cut off date. This inspection file was referred to Region 7 May 1999. I am not aware of any other sales. I just received from Mr. Prater a copy of the US Patent & Trademark Office listing from their internet site. I t states that the Alaska's Best Defense product is an outdoor animal repellant aerosol spray containing red pepper as an active ingredient. I will fax this to Region 7(Mary Jane Wingett).

Dan Peacock

Dan Peacock
10/13/1999 10:42 AM

To: Lyn Frandsen/R10/USEPA/US@EPA
cc: FLOURNOY.LUETTA
Subject: Update on Enforcement Actions Against Security Equipment Corporation

Lyn,

Do you have any information? We should be doing after them if they sold product after 1/15/99.

Dan

---------- Forwarded by Dan Peacock/DC/USEPA/US on 10/13/99 01:42 PM ----------

Dan Peacock on 10/13/99 01:40:33 PM

To: FLOURNOY.LUETTA
cc:
Subject: Update on Enforcement Actions Against Security Equipment Corporation

Luetta,

Can you update me on enforcement action against Security Equipment Corporation's selling of unregistered products (Frontiersman and Alaska's Best)? I understand that they were selling unregistered product after 1/15/99.

Thank you,

Dan Peacock
703-305-5407

US PATENT & TRADEMARK OFFICE
TRADEMARK TEXT AND IMAGE DATABASE

(1 of 2)

Word Mark	***FRONTIERSMAN***
Pseudo Mark	FRONTIERS MAN
Owner Name	(REGISTRANT) Security Equipment Corporation
Owner Address	330 Sun Valley Circle Sun Valley Industrial Park Fenton MISSOURI 63026 CORPORATION MISSOURI
Attorney of Record	LAWRENCE E. EVANS, JR.
Serial Number	75-014075
Registration Number	2008385
Filing Date	11/02/1995
Registration Date	10/15/1996
Mark Drawing Code	(1) TYPED DRAWING
Register	PRINCIPAL
Published for Opposition	07/23/1996
Type of Mark	TRADEMARK
International Class	001
Goods and Services	red pepper personal defense spray; DATE OF FIRST USE: 1995.01.00; DATE OF FIRST USE IN COMMERCE: 1995.01.00

(1 of 2)

David Ramsey
10/04/99 08:53 AM

To: jleslie@services.state.mo.us, Maryjane Wingett/WWPD/R7/USEPA/US@EPA, Michael Beringer/WWPD/R7/USEPA/US@EPA

cc:

Subject: Personal Safety Corp Inspection Request

Mike Welch, MDA, conducted a PEI @ Security Equipment re. a possible pepper spray product that had pesticidal claims. He reported the firm's management gave him tips on two other companies that packaged their products like his, and therefore should be inspected. I sent out the referrals. This response concerns the one in Iowa. Dave Ramsey

---------- Forwarded by David Ramsey/WWPD/R7/USEPA/US on 10/04/99 08:47 AM ----------

David Wilcox
09/30/99 08:59 AM

To: David Ramsey/WWPD/R7/USEPA/US@EPA

cc:

Subject: Personal Safety Corp Inspection Request

I have included information about Iowa's previous October 1995 inspection at this firm in the attached memo. If you have questions or concerns, give me a call.

Secure.wp

10/21/99 Mr. Prater called ZF to complain

Dan Peacock on 10/14/99 06:07:56 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Lyn Frandsen/R10/USEPA/US@EPA, Tim Osag/ENF/R8/USEPA/US@EPA, tatum.tyres@epa.gov, Bill Lee/R9/USEPA/US, Bill Jacobs/DC/USEPA/US@EPA

Subject: Re: Update on Enforcement Actions Against Security Equipment Corporation, Company No. 72265

Mary Jane Wingett (EPA Region 7),

Could you give me a status of any enforcement action against Security Equipment Corp's (located in Fenton, Missouri) unregistered bear attack products. In contrast to the company's claims, their products have been implemented in at least two bear maulings over the last 14 months. Therefore, we are very concerned about Security's products.

Competitors say that the company continues to sell product after the 1/15/99 deadline.

Perhaps the best way to settle the issue is to inspect their establishment and check their records to determine shipment dates of their Frontiersman and Alaska's Best Defense products that have been sold and used for attacking bears, sometimes with tragic results.

We have a pending registration for a product called "Frontiersman Bear Attack Deterrent", EPA File Symbol 72265-R, but as yet it is not registered. Before we register it, we want to make sure that problems with earlier unregistered versions of the product do not extend to the pending product.

Please let me know as soon as possible the status of any previous enforcement actions. Also, could you arrange to inspect their establishment(s) where they formulate frontiersman and Alaska's Best Defense product and where they keep shipping records. In the past the company has tried to skirt registration by showing a picture of a huge bear outdoors and a term such as "self-defense spray", which we consider to be a implied bear claim.

We are very anxious to insure that no company is selling unregistered product as these are a clear threat to the public's safety.

If you or others have questions, please let me know.

dan peacock
703-305-5407

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703-305-5407

ROUTING AND TRANSMITTAL SLIP

Date 083099

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. ~~[illegible]~~ GLENN KRAMER		
2. MARY JANE		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

PEI re. "bear repellent."

SECURITY EQUIPMENT, FENTON, MO

(Referral ex. R10)

Inspector does not further document picture of bear on ~~[illegible]~~ labeling. No inventory, so no sample. No records

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
DAVE RAMSEY	Phone No.

5041-102
☆ U.S.G.P.O.: 1992 312-070/60004

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

Dan Peacock on 10/14/99 06:07:56 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
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Thank you,

Dan Peacock
703-305-5407

2/10/00

Please send to

Dan Peacock,

IRB.

Thanx.

WWJ

DP BARCODE: D262753

CASE: 064803 DATA PACKAGE RECORD DATE: 02/01/00
SUBMISSION: S574389 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 455 ENFORCEMENT CASE REVIEWS
RANKING : 0 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 02/01/00 DUE OUT DATE: 04/01/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 262753 EXPEDITE: N DATE SENT: 02/01/00 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 04/01/00
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR : [illegible]	2/1/00	2/7/00 ~~[illegible]~~ /OBJ	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Please review labeling material for an unregistered product called "Alaska's Best Defense". Mary Jane Wingett from Region 7 sent it to us. 913-551-7389

A hard copy of this material and perhaps some more material. I encouraged her to send this material by E-Mail. Based on my conversation alone, they were going to stop sale product. However, I said that if we could at least look at the labeling, we could give them a fairly complete list of actual and implied claims for bear deterrence, including product size. Once they get our review, they want to stop sale product.

Dan peacock

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

5-574389
72265-R

FAX TRANSMISSION

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION VII
901 N. 5TH STREET
KANSAS CITY, KS 66101
913-551-7389
FAX: 913-551-7165

To:	Dan Peacock/Bill Jacobs	**Date:**	1/31/2000
Fax #:	703-305-~~6406~~ 6596	**Pages:**	5 (including this cover sheet)
From:	Mary Jane Wingett WWPD/PEST		

Subject: Alaska's Best Defense Labeling

COMMENTS: Dan/Bill: Following is a copy of the labeling I discussed with you and that I referenced in my email of today Thanks.

ACTIVE INGREDIENTS: 15% Oleoresin Capsicum (Red Pepper). Two million Scoville Heat Units.

DIRECTIONS: Remove orange safety tab. Point the unit at the attacker's face and press the actuator. A heavy spray of powerful protection will discharge from the actuator in a range of 6 to 20 feet. Maximum effective range is 10 feet. Canister empties in approximately 10 seconds. To stop firing, release thumb pressure from actuator. **AFTER SPRAYING THE ATTACKER, ESCAPE IMMEDIATELY AND CALL POLICE.** Test spray periodically to assure performance. Alaska's Best Defense Pepper Spray is a practical, positive protection. It is recommended that the Alaska's Best Defense Pepper Spray is carried in the hand when hunting, camping, fishing, hiking, biking, or whenever enjoying the great outdoors. It is the consumer's responsibility to keep unit from accidentally firing. Do not spray into the wind. Do not puncture or incinerate can. Do not expose to heat or store can above 120°F. Each canister states an expiration date. **AVOID CONTACT WITH SKIN AND EYES.** In case of skin contact, remove contaminated clothing immediately. Wash skin with soap and cold water, repeat if necessary. Do not rub, or use creams, salves or oils. In case of eye contact, remove contact lenses. Flush eyes with cold water for 15 minutes or longer. Expose to fresh air. Get medical attention. **KEEP OUT OF REACH OF CHILDREN.** For self-defense only. Not for sale where prohibited by law.

TO ARM: Remove orange safety tab by sliding backwards.

TO DISARM: Reinstall the orange safety tab. Slide completely forward until it snaps into place.

AB-454 300 grams

SECURITY EQUIPMENT CORPORATION 330 Sun Valley Circle Fenton, MO 63026

Chemical Emergency: 1-800-535-5053

Alaska's Best Defense

BY SECURITY EQUIPMENT CORPORATION

Your edge against personal attack!

Active Ingredient:

15%

OLEORESIN CAPSICUM (RED PEPPER)

CAUTION:
SEVERE SKIN AND EYE IRRITANT
CONTENTS UNDER PRESSURE
SEE OTHER WARNINGS ON BACK LABEL

AB-454 MADE IN USA 300 GRAMS

(1)

Alaska's Best Defense

AB-454

15%
Oleoresin
Capsicum
(Red Pepper)

2 000 000 SHOTS

SEVERE SKIN AND EYE IRRITANT

Made in USA

Alaska's Best Defense
PEPPER SPRAY

WHAT DOES ALASKA'S BEST DEFENSE PEPPER SPRAY D...

Alaska's Best Defense Pepper Spray incapacitates the attacker from 10 to 15 minutes or longer. The effects are immediate-severe burning sensation in the eyes with copious tears, coughing, and difficulty in breathing. The eyes close involuntarily, the nose runs, and moist skin stings. One shot to the face causes instant panic and physical agony.

WHEN TO USE ALASKA'S BEST DEFENSE PEPPER SPRAY

It is recommended that the Alaska's Best Defense Pepper Spray be carried in hand when hunting, camping, fishing, hiking, biking, or whenever enjoying the great outdoors.

AFTER SPRAYING THE ATTACKER, ESCAPE IMMEDIATELY AND CALL POLICE. DO NOT TRY TO CAPTURE ATTACKER.

HOW TO USE ALASKA'S BEST DEFENSE PEPPER SPRAY

Remove orange safety tab. Point the unit at the attacker's face and press the actuator. A heavy spray of powerful protection will discharge from the actuator in a range of 6 to 20 feet. To stop firing release thumb pressure. It's practical, positive protection. Test fire periodically to check performance of your weapon. It is the consumer's responsibility to keep unit from accidentally firing. Do not spray into the wind. Contains 15% Oleoresin Capsicum (Red Pepper). Do not puncture or incinerate can. Do not expose to heat or store above 120°F. Each canister states expiration date. AVOID CONTACT WITH SKIN AND EYES. In case of skin contact, wash skin with soap and cold water, repeat as necessary. Do not rub, or use creams, salves, or oils. In case of eye contact, flush with cold water for 15 minutes or longer. Expose to fresh air. Get prompt medical attention. Keep out of reach of children. For self-defense only. Not for sale where prohibited by law.

SECURITY

[illegible] Sun Valley Circle
Fenton, MO 63026

0 23063 90454 2

AB-454

MADE AND PRINTED IN USA

BACKSIDE OF THE BAG TAG LABEL

WHAT DOES ALASKA'S BEST DEFENSE DO?

Alaska's Best Defense Pepper Spray incapacitates the attacker from 10 to 15 minutes or longer. The effects are immediate: severe burning sensation in the eyes with copious tears, coughing, and difficulty in breathing. The eyes close involuntarily, the nose runs, and moist skin stings. One shot to the face causes instant panic and physical agony.

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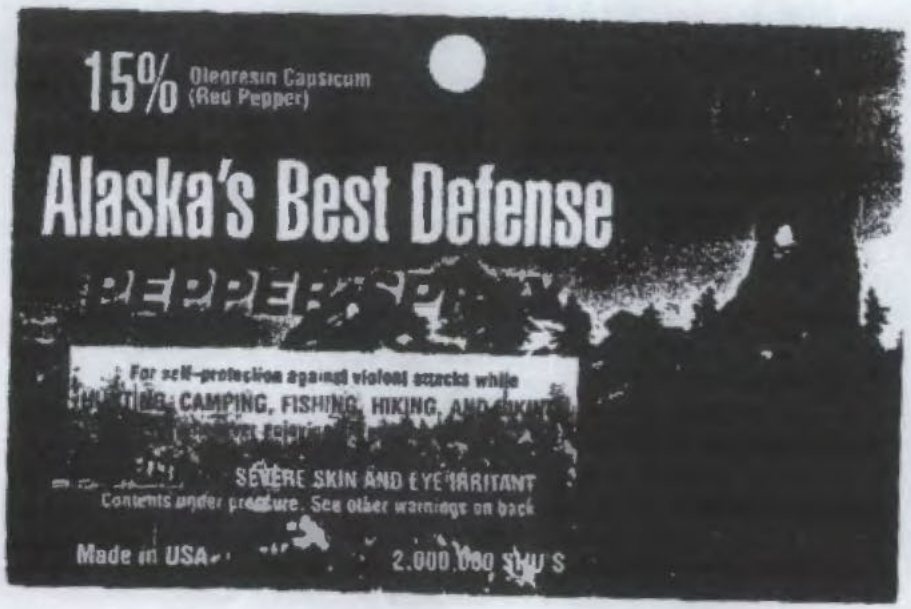
HOW TO USE ALASKA'S BEST DEFENSE

Remove orange safety tab. Point the unit at the attacker's face and press the actuator. A heavy spray of powerful protection will discharge from the actuator in a range of 5 to 20 feet. To stop firing release thumb pressure. It's practical, possible protection. Test for periodicity to check performance of your weapon. It is the consumer's responsibility to keep unit from accidentally firing. Do not spray into the wind.

Contains 15% Oleoresin Capsicum (Red Pepper). Do not puncture or incinerate can. Do not expose to heat or store above 120°F. Cash variable states expiration date. **AVOID CONTACT WITH SKIN AND EYES.** In case of skin contact, wash skin with soap and cold water, repeat as necessary. Do not rub, or use creams, ashes, or oils. In case of eye contact, flush with cold water for 15 minutes or longer. Expose to fresh air. Get prompt medical attention. Keep out of reach of children. For self-defense only. Not for sale where prohibited by law.



DP BARCODE: D263376

CASE: 064803 DATA PACKAGE RECORD DATE: 02/17/00
SUBMISSION: S575446 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 455 ENFORCEMENT CASE REVIEWS
RANKING : 0 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 02/10/00 DUE OUT DATE: 03/26/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 263376 EXPEDITE: Y DATE SENT: 02/17/00 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	
DIV : RD	/ /	/ /	ADMIN DUE DATE: 04/02/00
BRAN: IRB	/ /	/ /	NEGOT DATE: / /
SECT: PM04	/ /	/ /	PROJ DATE: / /
REVR : [illegible]	2/17/00	3/15/00 OBJ	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Earlier I had sent you a preliminary ECR from Region 7. This is the formal one, complete with color pictures. Please return and return to me. I will let Rita know.

thanks,

dan

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

FEB 24 2000

ROUTING AND TRANSMITTAL SLIP

Date
February 10, 2000

TO: *(Name, office symbol, room number, building, Agency/Post)*		
1. Tina Levine		
2. Rita Kumar		
3. Dan Peacock		
4. Bill Jacobs		
5.		

	Action		File		Note and Return
	For Concurrence		For Clearance		Per Conversation
	As Requested		For Correction	XX	Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

FY00-VII-004 Agency is receiving complaints that Security Equipment Corporation is producing and distributing an unregistered pesticide, Alaska Best Defense.

Please prepare your response for this ECR and forward the response to me so it can be pass on to OECA. Also make sure that this entire folder is returned with your response. Thanks.

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions.

FROM: *(Name, org. symbol, Agency/Post)*	Room No.– Bldg.
Joyce Edwards Registration Support Branch Office of Pesticide Programs	713F Phone No. 308-5479

Joyce

DP BARCODE: D263376

CASE: 064803 DATA PACKAGE RECORD DATE: 02/17/00
SUBMISSION: S575446 BEAN SHEET Page 1 of 1

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ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 04/02/00
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR :	/ /	/ /	
CONTR:	/ /	/ /	

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DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

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February 10, 2000

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5.		

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FROM: *(Name, org. symbol, Agency/Post)*	Room No.– Bldg.
Joyce Edwards Registration Support Branch Office of Pesticide Programs	713F Phone No. 308-5479

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

TRANSMITTAL

SUBJECT: Enforcement Case Review (ECR) Request
ORE/TPED ECR Log Number: 400 VII -004

FROM: Toxics and Pesticides Enforcement Division (2245A)
Office of Regulatory Enforcement

TO:

REGISTRATION DIVISION

- [x] Linda Arrington, Ombudsman (7505C) SEE NOTE from REGION
- [ ] Other Peacock/Jacobs expecting this.

ANTIMICROBIAL DIVISION

- [ ] Yvette Hopkins, Ombudsman (7510W)
- [ ] Other

BIOPESTICIDES AND POLLUTION PREVENTION DIVISION

- [ ] William Schneider (cc: Janet Andersen), (7511W)
- [ ] Other

Please review the attachment(s) and provide technical evaluation and appropriate documentation of the following elements pertaining to the product(s) in question:

- [x] Registration
- [ ] Efficacy
- [x] Labeling
- [ ] Device Determination
- [ ] Claims/Advertising
- [ ] Toxicity Category
- [ ] Packaging
- [ ] Other

Specific Request: SEE REGIONAL QUESTIONS, Please specify claims also

PLEASE RETURN THE COMPLETED ECR TO: Josie Fayson (2245-A)
FOR ADDITIONAL INFORMATION, CONTACT CASE OFFICER McDonnell
PHONE #: 202/564-4173

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 N. 5TH STREET
KANSAS CITY, KANSAS 66101

January 31, 2000

SUBJECT: Enforcement Case Review
Security Equipment Corporation
Fenton, Missouri
Alaska's Best Defense (Unregistered Pesticide)

FROM: Mary Jane Wingett
Enforcement Senior Leader
Pesticides Branch

TO: Mary McDonnell
TPED (2245-A)

Attached is a December 7, 1999, producer establishment report for an inspection conducted at Security Equipment Corporation, Fenton, Missouri. This inspection was conducted because the Agency has received complaints that Security Equipment Corporation is producing and distributing an unregistered pesticide, Alaska's Best Defense.

The file contains copies of the company's brochures, label and labeling for their products. Specifically, there is a specimen label entitled "Alaska's Best Defense Pepper Spray," a specimen bag tag entitled "Alaska's Best Defense Pepper Spray" which includes a picture of a bear on it and a specimen clamshell labeling entitled "Alaska's Best Defense Pepper Spray" which also includes a picture of a bear on it.

The company contends that the material with the bear on it is not labeling. It is my belief that the material with the bear on it is labeling and that the bear on the labeling is an implication that Alaska's Best Defense is for use on bears which brings the product under the purview of FIFRA. I also believe that the product is required to be registered under Section 3.

Please comment on the following:

1. Is the material with the picture of the bear considered labeling if distributed with the product?

2. Is the product required to be registered?

3. Is the product registered?

RECYCLE

Any other information, such as any correspondence that the Registration Division may have had with the company concerning registration requirements would be helpful. I spoke with Dan Peacock this morning about this Enforcement Case Review request. He suggested that you send this request to either him or to Bill Jacobs. With Dan's verbal concurrence this morning, I am requesting an expedited review of this case. We continue to receive complaints from the industry about this product and calls from the producer inquiring about the status of the review of the inspection report.

If you have any questions, you may call me at (913)551-7389.

Attachment

Also attached is the 7/9/99 inspection as background.

February 1, 2000

166 5-573490
13

Security Equipment Corp.
c/o RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

Attention: Ms. Kim Davis

Subject: Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R
Your letter of January 1, 2000

Thank you for pointing out the sentence concerning [redacted] on the Confidential Statement of Formula (CSF) dated February 19, 1999. That resolves the perceived discrepancy between the number of propellents claimed in the CSF and the spray pattern test report. We apologize for having overlooked the sentence earlier.

In your letter of January 1, 2000, you indicate that the "*OLD FORMULATION*" designation refers to "Frontiersman", which you claim only to have marketed as a anti-personnel product, while the "*NEW FORMULATION*" describes the composition proposed for "Frontiersman Bear Attack Deterrent". You further indicate that, despite its label's indicating that the product should be carried "whenever enjoying the great outdoors", "Frontiersman" product was not designed to be used against bears and that its labeling is consistent with use for protection from other people. **Regardless of what your intent might have been, we find that the name "Frontiersman" itself and other text on that product's label imply use in situations in which encounters with dangerous animals could occur (and might be far more likely to occur than encounters with dangerous people). Thus, "Frontiersman" itself implies a pesticidal claim.**

If granted, the proposed registration of a "Frontiersman Bear Attack Deterrent" would make the situation more confusing. We feel that "Frontiersman" would be a better brand name for a bear deterrent than for an anti-personnel spray. Names like "Night Walk", "Alley Ally" or "Mug Off" would make more sense than "Frontiersman" for an anti-personnel spray. (Our efficacy reviewer conceived of the other names suggested on the spur of the moment. We have not researched whether any of them is trade-marked and/or used for another product.)

We have concluded that the information that you have submitted relative to the spray pattern delivered by the product that you propose for registration is adequate at

Manufacturing process information may be entitled to confidential treatment

the present time. Should we have any questions about spray patterns in the future, we may require additional information on spray pattern.

We suggested that the spray pattern trials be videotaped so that there would be visual documentation of the test methods and results. Because the tape does not show deposit patterns from all distances with adequate resolution and does not show measurements being taken, we were not able to make as much use of the tape as we had hoped and, consequently, asked some additional questions about how the tests were run.

Although product quality control and uniformity in firing position are important factors in a spray pattern test, it seems to us that other factors probably were mainly responsible for the high degree of uniformity in results that you reported.

You must supply test data on the number of approximately one-second bursts that a container can deliver. The relationship between that number and the time to evacuation of the container's useful contents in a continuous firing has not proven to be as direct as one might expect. We feel that it is very useful to know and indicate how many one-second bursts a canister can deliver because that is an index to the number of "shots" they can take at deterring bears. People familiar with other types of aerosol-spray products (e.g., insecticides, hair spray, spray paint, etc.) probably would expect more "shots" and firing duration from bear spray canisters than such containers deliver. Users probably would not take into account relative orifice dimensions or the fact that a can literally loaded for bear must put out a lot of product in a hurry.

We note your intention to use only the 53-mm by 185-mm container for this product. If the container corresponding to those dimensions holds at least 8 ounces of product, that container size would be acceptable to us.

The several accounts of product-specific efficacy information provided for FRONTIERSMAN BEAR ATTACK DETERRENT include reports of witnessed or speculated successful uses. It seems that the suspected hits by grizzly bears on a pepper-spray set in Montana were not witnessed, although there apparently was circumstantial evidence consistent with hits by grizzlies and subsequent departure of the animals from the site. Their departure might have been coincidental to the deployment of pepper spray because officials had taken other steps which should have made the site less attractive to bears. In any event, the exposure arrangement seems to have been more like an ambush-type test and less like the use pattern described on the proposed label.

The reports by Rainer and Bassett of successful uses in Alaska also pertain to situations in which the bears apparently were not attacking but merely were in places where some people preferred them not to be. In one case, it took two shots from close

range to move the bear. The product used in that instance is not identified by the author of the account. (He indicated "your product" in a "To Whom It May Concern" letter.)

Based on information available on the effectiveness of bear deterrents made from Oleoresin of Capsicum (OC), we have inferred that a product comprised as yours is claimed to be and exhibiting spray patterns like those you report should have value as a bear deterrent. No additional efficacy data will be required for registration. However, we strongly suggest that you explore available avenues for obtaining credible information on the effectiveness of your product as the issue of whether all OC bear deterrents are equally effective probably will be raised in the future. We remind you that all results, positive and negative, should be compiled and reported if additional product performance data are requested.

Once registered, you are also reminded of your responsibility under 6(a)(2) to submit any reports of adverse data or incidents involving your product.

We note your intention to follow our instructions regarding labeling. You must submit revised proposed labeling (including all printed material except for shipping documents and sales receipts that is to accompany the product in commerce) revised as we have indicated in our prior letters.

All labeling which refers to firing range and time to empty containers should bear the text shown below.

This product has an effective range of up to 25 feet. The canister empties in approximately 5 seconds.

If you have any questions about this letter, please contact me by phone (703-305-5407), fax (703-305-6596), or E-Mail (peacock.dan@epa.gov).

Sincerely,

DBP

Daniel B. Peacock, Biologist
Insecticide-Rodenticide Branch
Registration Division (7504C)

A:\Capsaicin\72265-R Feb2000.wpdFebruary 1, 2000

IRB BRANCH REVIEW - TSS

Record Number(s)
D262234

IN 1/19/00 OUT 1/21/00

EFFICACY

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 1/4/00

DATE OF SUBMISSION 1/1/00

DATE SUBMISSION ACCEPTED 1/19/00

TYPE PRODUCTS(S): I, D, H, F, N, & S

DATA ACCESSION NO(S). no new MRID ##

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN BEAR ATTACK DETERRENT

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE registration

CHEMICAL & FORMULATION 1.388% Capsaicin and other capsaicinoids aerosol

1/21/00
Please Route
to Dom Peacock.

Thanx.

WJ

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy reviews of 6/30/99, 11/9/99, and 11/30/99. The first of those reviews discussed the initial application for Federal registration of Frontiersman. The second discussed follow-up submissions and accounts of incidents in which people who used products called "Frontiersman" were mauled by bears nevertheless. The third review for 72265-R discussed whether reported differences between the "*OLD FORMULATION*" and the "*NEW FORMULATION*" shown on a "***CONFIDENTIAL FORMULATION COMPARISON***" included in Security's agent's submission of 10/22/99 might account for two Frontiersman incidents of which we had been made aware and show that the formulation had been improved. In one reported mauling incident, the product used appeared to have neither the range nor the efficacy to be called a "BEAR DETERRENT". In the other incident, the bear eventually was driven off, but the product may have lacked sufficient range or may have been fired too late in the approach. I was not sure whether there was an independent way to verify the accuracy of the formulations described on that sheet of paper.

See also general efficacy review of 6/17/93 for Capsaicin bear repellents and the 1997-2000 efficacy reviews for similar products.

On 5/12/98, Counter Assault Bear Deterrent (55541-2) was accepted as the first Federally registered Capsaicin-based bear repellent in the U.S. Prior to that time there had been a dozen or more years of illegal sale of that and similar products (including at least one "Frontiersman" product for some of that time) as unregistered pesticides. Four aerosol attack deterrents are now registered: Counter Assault, Guard Alaska (71545-1), BearGuard (71920-1), and Bear Pause (71768-1). On 11/23/99, a Stop Sale and Removal Order (SSURO) was issued against 71768-1 because EPA learned that product did not contain the substance (Capsaicin) claimed to be its active ingredient. Recently, a Frontiersman product was being sold illegally under ("backpacker spray") labeling contrived so as to make the product appear (to some) not to be a pesticide. There also was an "Alaska's Best Defence Pepper Spray" version produced by Security. Enforcement actions may have stopped those practices.

This review discusses a submission dated 1/1/00 from Larry Nance of Security to Dan Peacock of IRB. Received as a FAX on 1/4/00, Nance's letter responds to EPA's letter of 12/22/99 to Security's agent Kim Davis of RegWest Company, Greeley, CO. That letter included comments from the "CONCLUSIONS" sections of the efficacy reviews of 11/9/99 and 11/30/99. Nance's letter of 1/1/00 discusses spray pattern testing, efficacy data, the "alleged" mauling incidents, the

formulation situation, and briefly mentions labeling. No revised proposed label was included in the package routed to me on 1/10/00.

201.0 DATA SUMMARY

My questions regarding product formulations were of two types. I was concerned about an apparent discrepancy between the formulation proposed for registration, as described by the Confidential Statement of Formula (CSF) dated 2/19/99, which appeared to claim only one propellent, and the comment in the spray pattern report to the effect that there are two propellents for the product. I also was concerned about the aforementioned differences between the old and new formulations and whether such differences might have a bearing upon product efficacy.

Regarding the first of these concerns, Nance notes that, below its listing of ingredients for which nominal concentrations and certified limits are declared, the CSF of 2/19/99 bears the sentence

[redacted]

Clearly [redacted] also would function as a propellent and, as Nance notes, "there is no discrepancy" between the CSF of 2/19/99 and the spray pattern report in terms of number of propellents claimed. When working on the review of 11/30/99, I apparently overlooked the sentence about [redacted] I am not sure what the correct procedure is for indicating a gas in a formulation otherwise comprised of liquids, but it is sufficient for my immediate purposes to know that the same [redacted] propellents are associated with the product tested and that proposed for registration.

Regarding the "*OLD FORMULATION*" and the "*NEW FORMULATION*" situation, Nance notes that the "Frontiersman" product currently marketed does not have the same formulation as "Frontiersman Bear Attack Deterrent". Referring to an earlier submission, Nance states

> The correct headings for these tables should be Frontiersman in place of OLD FORMULATION and Frontiersman Bear Attack Deterrent in place of NEW FORMULATION. These products are NOT interchangeable. We will not market the Frontiersman Bear Attack Deterrent in the same manner we market Frontiersman. In response to your request in October of 1999, I explained that our Frontiersman Bear Attack Deterrent formula for EPA registration is twice as strong as the Frontiersman formula.

These comments seem to answer some questions and raise others. If, as Nance states in his letter, the Frontiersman product is for personal defense against other humans, it should not be used against bears. Why then, was it given a name that implies use against threatening wildlife. Names like "Night Walk", "Alley Ally" or "Mug Off" would make more sense, and be less misleading, than "Frontiersman" for an anti-personnel spray. That there was a picture of a bear on "Frontiersman" labels and that "Frontiersman" was recommended on the internet in 1997 as a bear spray would only have added to such "confusion". (It is pretty clear that Security's bear sprays were sold illegally prior to 1999 and after.) If someone were asking a park ranger what spray to use and the ranger said "Frontiersman", would the questioner know from the reply to use "Frontiersman Bear Attack Deterrent" and not "Frontiersman" the anti-personnel spray?

Manufacturing process information may be entitled to confidential treatment

Although he seems to be guilty of revisionist history in his comments, Nance at least appears to be describing planned future policy. I feel that we should recommend (with whatever regulatory "teeth" we can muster) that names and graphics which imply use against nonhuman animals not be used on anti-personnel products. While we do not regulate anti-personnel products, we could make it clear to affected parties that any label graphics or statements, including product names, which imply use against animals constitute pesticide claims. Therefore, any product bearing such claims would have to be labeled and registered as a pesticide or be subject to enforcement actions under FIFRA, Making such a policy statement publicly (e.g., via a press release or PR Notice) really would not be a change in policy but a statement of traditional policy as applied to a particular class of pesticides. Taking such an action might reduce the amount of enforcement activity needed to rid the market of pesticides masquerading as anti-personnel products and would make ignorance an even less valid excuse.

Nance points out that the percent of Capsaicin (0.857%) proposed to be used in 72265-2 (FRONTIERSMAN BEAR ATTACK DETERRENT) exceeds that (0.71%) claimed for the registered bear repellent (55541-2) sold under the trade name COUNTER ASSAULT. The composition claimed for the "Frontiersman" anti-personnel product, as described by the "*OLD FORMULATION*" on the "***CONFIDENTIAL FORMULATION COMPARISON***". is 15% Oleoresin Capsicum, [redacted] with the Oleoresin Capsicum component claimed to supply the formulation with "Total Capsaicinoids" at 0.694%, including Capsaicin at 0.4285% of the product. The "*NEW FORMULATION*" also differs from the "*OLD FORMULATION*" by having a different alcohol component (at a much lower concentration) and two additional ingredients: [redacted]

In a letter of 10/22/99, Ms. Davis stated that neither "Mr. Nance", presumably Security's President Larry Nance, nor his "primary distributor in Alaska ... had heard **anything** from **anyone** about" the Frontiersman incidents involving human injury. She added that any failings in the product involved with the incidents are likely to have been addressed by the "numerous improvements to both" the packaging and the formulation now being proposed for registration as a bear deterrent.

Such differences in composition and packaging between "Frontiersman" the anti-personnel product and 72265-R (FRONTIERSMAN BEAR ATTACK DETERRENT) might indeed have had a bearing on the human injury incidents discussed in the efficacy review of 11/30/99. In prior communications, Nance has claimed no knowledge of the incidents. Of them, Nance writes the following in his letter of 1/1/00:

> Your reference to two alleged incidents using our larger size personal protection product is extremely disturbing. The Frontiersman product does not claim in any way to be a bear deterrent, and the instructions are virtually the same as on all of our personal protection products. The instructions state not to capture the attacker, to escape and inform the police. This language is not used on bear deterrent products. I am referring to these incidents as alleged because I have received no verification of an actual occurrence. Where are the written affidavits of the victims, the hospital reports and the police reports? Where are the statements from witnesses? You have not even indicated the date, time or place of alleged events. You have brought forth these incidents without *any* proof that they actually occurred. Please fax me the substantiating evidence immediately so that I may begin my own investigation. Please include: names of the victims, names of anyone who aided the victims, incident reports from the park service, hospital reports and insurance company records. I will also need

> proof that it was Frontiersman used in these cases. Upon receipt of this information and my own thorough investigation, I will respond to the accusation of these alleged events. Until such time, my only response can be that I do not know of any information about the alleged incidents and I do not believe they occurred.

The materials that I reviewed on the 2 incidents were provided through the cooperation of Domenic Domenici of Wyoming and the EPA Region 8 office. The items indicated that the product involved was "**FRONTIERSMAN**™ by **SABRE**", which was claimed to be "**15%** OLEORESIN CAPSICUM (RED PEPPER)", to be "***Your edge against personal attack!***", and to be "recommended" to be

> "carried in the hand when hunting, camping, fishing, hiking, biking, or whenever enjoying the great outdoors."

To me, the product in question was a pesticide masquerading as an anti-personnel spray. Although there can be stream-side disputes among fishermen, for example, it seems far more likely that a pepper spray would be needed against a bear in that context than against another person. Nance supposedly knew nothing of the incidents but knew that the "Frontiersman" anti-personnel product – the one labeled for use in "the great outdoors" – was used.

I do not know whether anyone from Wyoming or the EPA Region 8 office ever contacted Security about the incidents or to provide any documentation concerning them.

Nance's comments about the incidents could reflect a genuine desire to learn all that he can about them for purposes of understanding them, a desire to explain them away, abject denial, retaliatory motivations, or something else. I believe that some of the people involved with the incidents or investigations of them were reluctant to contact the company. It was known that "Frontiersman" was involved, I am not sure why the company was not contacted (if such was the case).

Much of Nance's letter of 1/1/00 addresses our comments on the spray pattern information previously submitted for 72265-R. One of those comments (efficacy review of 11/9/99) was

> The new report of "SPRAY PATTERN DATA" (MRID No. 449067-01) suggests that many units were fired at fixed distances from a vertical cloth target and that the spray pattern information recorded was remarkably uniform. How were the dimensions of patterns determined?.

To that text, Nance replies

> The Spray Pattern Study conducted in August of 1999 measured the spray patterns with a tape measure. We measured both height and width of the spray patterns. Every time we shot a unit, we measured the pattern of droplets on the white sheet used for that shot. We measured the markings on the sheet from the farthest two points both vertically and horizontally. We assumed this was understood from the raw data that we submitted to you. Over the seven day period of the study we sprayed fifty-three canisters.

Although likely procedures might be inferred for certain types of studies, there is no substitute for having the actual procedures followed reported by those who did the work. When I reviewed the

report, I was surprised that many of the pattern measurements reported were similar to one another. For example, the patterns reported for the outdoor firing of 8 different hand-held units at a distance of 15' from a vertical target on 5 different days all were 120" wide. Seven of these patterns were reported to be 125" high. The other was reported to be 132" high. Except for the 125" measurements reported at the 15' distance, all other reported pattern dimensions produced an integer when divided by 6, and most did so when divided by 12. The data suggested to me that the dimensions might often have been estimated by eye or, for convenience, rounded to the nearest foot or half foot. Data fabrication could not be ruled out, although the videotape documents that at least some testing was done.

To EPA's comments about such results, Nance replies

> You remark about the spray pattern information being remarkably uniform, I only interpret as a compliment. All canisters were shot by the same person and were held at shoulder height. The reason the patterns were similar is because all of the test canisters were manufactured on the same equipment with the same settings. They were supposed to be similar. If each canister had a large variance in performance standards, how could the public rely on our product?

At this point, it is clear that whatever spray pattern testing was done was reported by someone who does not do testing for a living and was more interested in showing the product in a favorable light than in absolute accuracy. From the videotape, it appeared that containers delivered spray with adequate oomph and dispersal. Could this have produced the reported consistency in patterns of deposits on vertical targets as far as 25' away when the product was sprayed outdoors of 5 different days? Not likely, no matter how good the quality control in manufacturing and the consistency in hand position by the sprayer might have been.

My comments on the quality of the videotaping (efficacy review of 11/9/99) were relayed to Nance. He responds that videotaping the tests was a suggestion on our part and voluntary on Security's. The taping that was conducted was rather rudimentary and did not show the procedures used to measure patterns nor did it show close-ups of patterns after units were fired at targets from relatively long range that were adequate to show spots of product on the paper. Nance notes that EPA gave Security "very little in the way of instructions" on taping the tests. Nance reports that the tests actually were shot with an 8-mm camera and transferred to videotape, suggesting that some resolution might have been lost in the process.

What the videotape showed me is that there was a test set-up and that at least some testing was done. In light of what we have accepted for other bear deterrents in the way of spray pattern testing, I suppose it would be fair to accept what Security has submitted, despite the aforementioned misgivings about it. The biggest question about spray patterns is whether they are appropriate for diverting bear attacks at a safe distance from the user. There would seem to be some question in that regard about the "Frontiersman" product(s) linked to the reported mauling incidents, but the claimed differences between that product and 72265-R might take care of such problems with the product proposed for registration.

I feel that we should indicate that we still are skeptical of the uniformity of reported results and indicate that additional testing might be required at a later time should we have any reason to question the adequacy of the units spray output.

In his letter of 1/1/00, Nance questions why we wanted information on the number of one-second bursts of spray that a container could produce when we already had data on time to evacuate the container:

> Would it not be logical that a canister that empties in seven seconds contains seven, one-second bursts?

Yes, it would be "logical", but it might not be correct. The data reported for other bear deterrents suggest that the relationship is not as simple as Nance expects. In the taped trials that I have seen in which bears were driven off through use of pepper sprays, the firing times were less than a second, and were shorter when timed than viewers tended to estimate. The number of "shots" in a container is an index to the maximum number of effective usages in the container. People who are familiar with other types of aerosol-spray products (e.g., paints, deodorants, hair spray, insecticides, etc.) probably would expect more "shots" and usage time from an 8-oz container of bear pepper spray than any of these products can deliver. I feel that it is important to know the product's use-relevant capacities and that it is important to bring such information to the attention of users through labeling.

Among the items appended to Nance's letter of 1/1/00 are 7 pages of material related to reported actual uses of "Frontiersman Bear Attack Deterrent". Nance claims to have sent product samples to

> Jamie J. Jonkel of the Montana Fish, Wildlife & Parks Department

and to

> Master Sargent [sic] Robert Bassett ... a reliable, independent, professional source.

Nance adds,

> I would hope these four written reports by respected professionals would more than satisfy your request for efficacy data.

When it comes to efficacy data for bear pepper sprays, I have had to rely on information from various sources that is of lesser quality than typically is provided to support claims for vertebrate pesticides for which submission of efficacy data is required. Actual use accounts border on being testimonials -- which we do not accept -- but professionals using products for their desired purposes can provide useful information, at times, and would be expected to be more reliable in observation and recording of relevant information than would the typical surprised hiker. Various other factors also must be considered. It has become clear to me that business or social relationships might cloud an expert's appraisal of a particular product, and bear deterrents do not seem to be immune to that sort of thing. However, the types of bear repellent tests that are easiest for setting up and testing relatively large numbers of animals are "ambush" type tests in which bears, attracted to a particular place for reasons (foraging, typically) having nothing to do with a desire to attack humans or defend young, are suddenly surprised by a blast of spray delivered by a person lying in wait or remotely from a sort of spray station. As professionals' experiences may be more relevant to labeled use of bear deterrents than are ambush tests, I feel that I should assess each account of product use by a biologist.

The accounts attributed to Bassett include a "FAX" cover sheet dated 6/28/99 on which he describes himself as "Msgt Robert Bassett" of Elmendorf Air Force Base, located near

Anchorage, AK. That sheet refers to an incident involving "Black Bear #729" in which someone else used a product to ward off a bear. Bassett himself "had not had a chance to try the product myself." Bassett's cover sheet of 6/28/99 mainly serves to introduce a one-page "To Whom It May Concern:" letter attributed to a Roy Rainer. In his letter, Rainer states

> I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with black and brown bears. I responded to a black bear in a residential area. Upon arrival I was able to use your product. The first shot was from about ten feet. The bear's first response was a snort, then shook its head, and then went up a tree. I was then able to shoot it again, from about four to five feet. The bear's response this time was a snort in which she had saliva hanging down from her snout. After this shot she proceeded down the tree very rapidly and ran off into the woods.
>
> (Handwritten)
> Bear 727 3yr. old about 110 pds"

Taken at face value, this account indicates that it took two sprayings of the product used at close range to drive away a relatively small bear which likely was outweighed by the human wielding the pepper spray. While not a glowing account of product efficacy, Rainer's item is consistent with the notion that this product functions as a bear deterrent, except that Rainer does not fully identify the product that he used ("your product" in a "To Whom It May Concern" letter). Bassett does not identify the product either, but did address his FAX of 6/28/99 to Larry Nance. Rainer does not indicate whether the bear had behaved aggressively toward him any other humans.

Someone sent a FAX from Elmendorf to Larry Nance on 7/23/99. Following that item is a document which reads as follows.

> 22 July 99
>
> To Whom it may Concern:
> I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with wildlife here on the base this includes foxes, black bears, brown bears and moose. I have responded to two calls on foxes that were getting friendly with people used your pepper stray [sic] (Frontiersman) the three foxes moved off and started rolling around in the grass trying to remove the stray [sic]. It helped in getting them away from the people and keeping them away. On the 22 of July I used your stray [sic] to move a trouble black bear, the bear was about six feet in a tree, I strayed [sic] the bear from about seven feet right in the face, it jumped out of the tree and headed away from me for about 50 feet and started rubbing it's [sic] face in the grass. We followed the bear for about a mile and watched it move from water hole to water hole, trying to remove the stray [sic].
>
> Bear was a visitor to the base. And was about 2-3 years old and about 70 pounds.
>
> Robert Bassett

This item resembles Rainer's quite a bit at its beginning. Perhaps Rainer's disk file was used as a template. Whatever the case, the item goes downhill, grammatically, quickly as the details of the usages depart from those reported by Rainer. (Bassett's note might have been one of those "dictated but not read" things.) The account does mention "Frontiersman" (but not "Frontiersman Bear Attack Deterrent").

At face value, Bassett's account suggests successful use of a "Frontiersman" product against a black bear and some type(s) of foxes.

The material from Jamie Jonkel includes a FAX cover page dated "12/30" and two pages of "GAME DAMAGE WORKSHEET" forms. All 3 pages bear the name and logo of the Montana Department of Fish & Parks (MDFP). In the "**Message:**" section of the "***FAX TRANSMITTAL***" page, the following hand-written entry appears

> LARRY – THANKS FOR THE EXPERIMENTAL SAMPLES OF "FRONTIERSMAN" BEAR SPRAY. I'll TRY THE BEAR SPRAY SETS AGAIN IN THE SPRING. IF YOU WANT ME TO USE THE "FRONTIERSMAN" BEAR SPRAY AGAIN I WOULD BE GLAD TO DO SO.
>
> THANks JAMIE

The first "GAME DAMAGE WORKSHEET" was complete by a "Bill K——" [illegible, possibly "Koppen"] on 10/25/99, with additional notes added on 10/26/99, 10/27/99, and perhaps other times. Apparently, MDFP investigators visited a property where a mother grizzly bear and her two cubs had been feeding on an elk carcass among other things ("ATE ELK, Got into Garbage, Lots of roaming around compound by bears"). The remedial steps reported on the form included removing the elk and cleaning up garbage, "Set trap (Culvert)", "Gave _____ [male proprietor] (Bean BAG rounds + M-80's)", setting snares, "Pepper Spray Set", and disabling and removing the trap. It appears that Jonkel disabled and removed the trap and may have done the "Pepper Spray Set"

The second "GAME DAMAGE WORKSHEET" was completed by "James J. Jonkel on 11/18/99, with a notations that the site – the same one discussed on the other sheet – had been visited "5-6" times by Jonkel or the other fellow between 10/25/99 and 11/18/99. This sheet indicates that the bears also fed on seed from bird feeders in addition to the elk carcass and garbage. This sheet implies that the MDFP personnel "ISSUED CRACKER SHELLS & CHERRY BOMBS" to the proprietors. Regarding the attempted remedy of most immediate concern to this review, the sheet bears the following notations:

> SET UP RED PEPPER SET AFTER GETTING [proprietor's] PERMISSION 10/27-11/18. BEARS LEFT ON 27th. I HAD HITS ON RED PEPPER SPRAY SET. ONE WAS [proprietors'] DOG + TWO I BELIEVE WERE GRIZZLY. THE RED PEPPER SPRAY MAY HAVE HELPED. FURTHER TESTING IS NEEDED.
>
> NOTE: I USED 3 CANS OF THE EXPERIMENTAL "FRONTIERSMAN" SABRE BEAR SPRAY.

While not providing conclusive evidence or a ringing endorsement, this account is not inconsistent with the notion that the product tested works as a bear deterrent. Jamie Jonkel was more positive about the hit by the proprietors' dog (perhaps they provided additional information)

than he was about the hits by grizzlies. He did report that the bears departed on the day that the pepper spray set was established, but the MDFP people had done a number of things that might have made the property less attractive to bears. He did not describe the set. Presumably, it was been rigged to be activated by the actions of the foraging animals. Such a set would be analogous to the "ambush" situation and not like the use pattern covered by the proposed label.

The little bit of product-specific efficacy information provided for this product includes reports of witnessed or speculated successful uses. Unless we are prepared to required product-by-product efficacy testing (which we might have done under a different start-up scenario), we will have to continue to speculate somewhat about the relative efficacies of bear pepper sprays. Capsaicin from OC is being claimed for Frontiersman. There is some publicly available information which is consistent with the notion that OC sprays deter attacking bears. There also is one published account suggesting that residues from OC sprays may attract bears. Those items were discussed in the efficacy review of 6/30/99 for 72265-R.

202.0 CONCLUSIONS

1. Thank you for pointing out the sentence concerning [redacted] on the Confidential Statement of Formula (CSF) dated February 19, 1999. That resolves the perceived discrepancy between the number of propellents claimed in the CSF and the spray pattern test report. We apologize for having overlooked the sentence earlier. [NOTE TO DAN PEACOCK: Should Security be required to change the way in which they claim [redacted] on their CSF?]

2. In your letter of January 1, 2000, you indicate that the "*OLD FORMULATION*" designation refers to "Frontiersman", which you claim only to have marketed as a anti-personnel product, while the "*NEW FORMULATION*" describes the composition proposed for "Frontiersman Bear Attack Deterrent". You further indicate that, despite its label's indicating that the product should be carried "whenever enjoying the great outdoors", "Frontiersman" product was not designed to be used against bears and that its labeling is consistent with use for protection from other people. Regardless of what your intent might have been, we find that the name "Frontiersman" itself and other text on that product's label imply use in situations in which encounters with dangerous animals could occur (and might be far more likely to occur than encounters with dangerous people). Thus, "Frontiersman" itself implies a pesticidal claim.

   If granted, the proposed registration of a "Frontiersman Bear Attack Deterrent" would make the situation more confusing. We feel that "Frontiersman" would be a better brand name for a bear deterrent than for an anti-personnel spray. Names like "Night Walk", "Alley Ally" or "Mug Off" would make more sense than "Frontiersman" for an anti-personnel spray. (Our efficacy reviewer conceived of the other names suggested on the spur of the moment. We have not researched whether any of them is trade-marked and/or used for another product.)

3. We are supplying you with all of the information that we have on the two human injury incidents involving "Frontiersman" products. [NOTE TO DAN PEACOCK: Use the preceding version only if you are certain that releasing the information would not create any new problems, such as violation of privacy or instigation of retaliation. If you are not so convinced, you might say something like

Manufacturing process information may be entitled to confidential treatment

Our information on human injury incidents involving "Frontiersman" products was provided by Domenic Domenici of Wyoming and the EPA Region 8 office and accounts in {identify any news sources}. You may contact these parties for more information about the incidents.]

4. We have concluded that the information that you have submitted relative to the spray pattern delivered by the product that you propose for registration is adequate at the present time. Should we have any questions about spray patterns in the future, we may require additional information on spray pattern.

   We suggested that the spray pattern trials be videotaped so that there would be visual documentation of the test methods and results. Because the tape does not show deposit patterns from all distances with adequate resolution and does not show measurements being taken, we were not able to make as much use of the tape as we had hoped and, consequently, asked some additional questions about how the tests were run.

   Although product quality control and uniformity in firing position are important factors in a spray pattern test, it seems to us that other factors probably were mainly responsible for the high degree of uniformity in results that you reported.

5. You must supply test data on the number of approximately one-second bursts that a container can deliver. The relationship between that number and the time to evacuation of the container's useful contents in a continuous firing has not proven to be as direct as one might expect. We feel that it is very useful to know and indicate how many one-second bursts a canister can deliver because that is an index to the number of "shots" they can take at deterring bears. People familiar with other types of aerosol-spray products (e.g., insecticides, hair spray, spray paint, etc.) probably would expect more "shots" and firing duration from bear spray canisters than such containers deliver. Users probably would not take into account relative orifice dimensions or the fact that a can literally loaded for bear must put out a lot of product in a hurry.

6. We note your intention to use only the 53-mm by 185-mm container for this product. If the container corresponding to those dimensions holds at least 8 ounces of product, that container size would be acceptable to us.

7. The several accounts of product-specific efficacy information provided for FRONTIERSMAN BEAR ATTACK DETERRENT include reports of witnessed or speculated successful uses. It seems that the suspected hits by grizzly bears on a pepper-spray set in Montana were not witnessed, although there apparently was circumstantial evidence consistent with hits by grizzlies and subsequent departure of the animals from the site. Their departure might have been coincidental to the deployment of pepper spray because officials had taken other steps which should have made the site less attractive to bears. In any event, the exposure arrangement seems to have been more like an ambush-type test and less like the use pattern described on the proposed label.

   The reports by Rainer and Bassett of successful uses in Alaska also pertain to situations in which the bears apparently were not attacking but merely were in places where some people preferred them not to be. In one case, it took two shots from close range to move the bear. The product used in that instance is not identified by the author of the account. (He indicated "your product" in a "To Whom It May Concern" letter.)

Based on information available on the effectiveness of bear deterrents made from Oleoresin of Capsicum (OC), we have inferred that a product comprised as yours is claimed to be and exhibiting spray patterns like those you report should have value as a bear deterrent. No additional efficacy data will be required for registration. However, we strongly suggest that you explore available avenues for obtaining credible information on the effectiveness of your product as the issue of whether all OC bear deterrents are equally effective probably will be raised in the future. We remind you that all results, positive and negative, should be compiled and reported if additional product performance data are requested.

8. We note your intention to follow our instructions regarding labeling. You must submit revised proposed labeling (including all printed material except for shipping documents and sales receipts that is to accompany the product in commerce) revised as we have indicated in our prior letters.

   All labeling which refers to firing range and time to empty containers should bear the text shown below.

   This product has an effective range of up to 25 feet. The canister empties in approximately 5 seconds.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
January 21, 2000

ENVIRONMENTAL PROTECTION AGENCY
PENDING ACTIONS BY REVIEWER
FOR RD /IRB /PM04
AS OF 01/21/00
REVIEWER=GTOMPKIN

01/21/00

SUBMISSION INFORMATION							DATA PACKAGE INFORMATION				
Action	EPA Reg Number	Sub Barcode	EPA Receive Date	Response Due Date	Days in House	Total Actions	DP Barcode	Science Review Div/Branch	Date Sent to Science	Adj Due Date from Science	Date Ret to PM
115	000400-00481	S538658	12/29/97	07/07/98	753	1	D243879	RD /TRB	03/04/98		03/13/98
							D244861	HED /RAB1	04/02/98		06/23/99
							D244863	EFED/ERB3	04/02/98		12/16/98
							D246156	EFED/ERB3	05/19/98		01/08/99
116	000400-00481	S558995	03/11/99	09/17/99	316	1	D254442	EFED/ERB3	03/23/99		06/23/99
345	011656-00021	S570332	09/27/99	12/26/99	116	1					
575	000400-00481	S565865	06/25/99	10/13/99	210	1	D258045	EFED/ERB3	07/27/99		08/10/99
575	000400-00481	S565860	07/14/99	11/01/99	191	1	D258043	EFED/ERB3	07/27/99		
*** Total ***						5					

ELAPSED REPORT TIME: 00:00:05

TRANSER
TO
BILL

B, N

DP BARCODE: D262234

CASE: 064803 DATA PACKAGE RECORD DATE: 01/10/00
SUBMISSION: S573490 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY:
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 01/01/00 DUE OUT DATE: 07/09/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 262234 EXPEDITE: N DATE SENT: 01/10/00 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	
DIV : RD	/ /	/ /	ADMIN DUE DATE: 06/08/00
BRAN: IRB	/ /	/ /	NEGOT DATE: / /
SECT: PM04	/ /	/ /	PROJ DATE: / /
REVR : ivy	1/19/00	1/21/00 OBJ	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Larry Nance has now responded to our last letter (in December 1999). Please review and comment appropriately.

Thanks,

Dan Peacock

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

SECURITY
EQUIPMENT CORPORATION

January 1, 2000

U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

ATTN: Dan Peacock, Insecticide / Rodenticide Branch

Dear Mr. Peacock:

Subject: Security Equipment Corporation
Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R

I just received a copy of the letter that you sent to Ms. Kim Davis at RegWest Company. I am answering your questions as precisely as possible.

A. Spray Pattern Test and Video

1. The Spray Pattern Study conducted in August of 1999 measured the spray patterns with a tape measure. We measured both height and width of the spray patterns. Every time we shot a unit, we measured the pattern of droplets visible on the white sheet used for that shot. We measured the markings on the sheet from the farthest two points both vertically and horizontally. We assumed this was understood from the raw data that we submitted to you. Over the seven day period of the study we sprayed fifty-three canisters.

   Your remark about the spray pattern information being remarkably uniform, I can only interpret as a compliment. All canisters were shot by the same person and were held at shoulder height. The reason the patterns were similar is because all of the test canisters were manufactured on the same equipment with the same settings. They were supposed to be similar. If each canister had a large variance in performance standards, how could the public rely on our product? The equipment we use to manufacture Frontiersman Bear Attack Deterrent is a Model 16 RS Rotary Indexing Aerosol Line. This piece of equipment has a liquid fill pump and two propellant chargers that can measure accurately to within one tenth of a gram. John R. Nalbach Engineering in Chicago, Illinois manufactures this equipment. If you would like to verify this, please call (708) 579-9100 and speak to Larry Weston or Jim Petrezelka.

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stinet.com
http://www.sabredefensesprays.com

Manufacturing process information may be entitled to confidential treatment

2. You originally indicated that a video was not necessary, but we *could* film the study. This study was not limited and we are sorry the video did not meet your expectations. Unfortunately, we had very little in the way of instructions on how you wished the filming to proceed. The reason you could not see a definite pattern at the greater distance is because the further the droplets travel, the more they disperse. This causes the concentration of color to appear lighter. This is because we use [redacted] as our propellant. [redacted] This turns the concentrate into microscopic droplets which are harder to see, especially on video. The video was shot with an eight-millimeter camera and then transferred to VHS videocassette, which may be why you cannot see the spray as well as you would like. I am aware that other registered companies used a red dye in their spray pattern studies. However, I thought using a foreign substance not in the submitted study was not allowed.

3. If indeed the video is of little or no use to you in determining the validity of our test data, we respectfully request you do not rely on it to limit any data or results we obtained and verified at the time of our testing.

4. The copy of the Confidential Statement of Formulation (CSF) dated February 19, 1999 states that, [redacted] I have included this copy as Document One. Please note the underlined sentence below the [redacted] description. I believe there is no discrepancy.

5. In your directive dated October 15, 1998, you stated spray patterns should be determined over time so that users may be informed how many seconds of effective spraying a given canister would afford them. You did not ask for the number of one-second bursts a canister could fire. I am sending you a copy of Counter Assault's label, which carries EPA registration number 44441-2. This label was sent to me in your registration kit and plainly states, "The canister empties in approximately 7 seconds." Nothing is stated with regard to the number of one-second bursts. Would it not be logical that a canister that empties in seven seconds contains seven, one-second bursts? It is my opinion that the statement about the canister emptying in approximately seven seconds is a more accurate statement because no two people have the same reflex action, and their personal idea of how long a second is may differ in the field. However, if you feel it is necessary for Security Equipment to state the same information in two separate statements, even when currently registered products do not, we will be more than happy to comply.

6. We only have one size canister which we intend to use for the Frontiersman Bear Attack Deterrent product. It is 53mm x 185mm. We have no plans for using any other size canister and have taken into account the repeated emphasis of this warning.

7. As I said in answering number six, we only have ONE SIZE CANISTER and we have submitted two Spray Pattern Studies to you. Therefore, we assume you will not need another study of the same size can. We have not changed the size of design of our container.

B. Review of Two Incident Reports

Your reference to two alleged incidents using our larger size personal protection product is extremely disturbing. The Frontiersman product does not claim in any way to be a bear deterrent, and the instructions are virtually the same as on all of our personal protection products. The instructions state not to capture the attacker, to escape and inform the police. This language is not used on bear deterrent products. I am referring to these incidents as alleged because I have received no verification of an actual occurrence. Where are the written affidavits of the victims, the hospital reports and the police reports? Where are the statements from witnesses? You have not even indicated the date, time or place of the alleged events. You have brought forth these two incidents without producing *any* proof they actually occurred. Please fax me the substantiating evidence immediately so I may begin my own investigation. Please include: names of the victims, names of anyone who aided the victims, incident reports from the park service, hospital reports and insurance company records. I will also need proof that it was Frontiersman used in these cases. Upon receipt of this information and my own thorough investigation, I will respond to the accusation of these alleged events. Until such time, my only response can be that I do not know any information about the alleged incidents and I do not believe they occurred.

With regards to the formulation used in the manufacture of Frontiersman, this was included in the letter sent to you by Kim Davis of RegWest Company dated October 22, 1999. Please see page three for the formulation. The correct headings for these tables should be Frontiersman in place of OLD FORMULATION and Frontiersman Bear Attack Deterrent in place of NEW FORMULATION. These products are NOT interchangeable. We will not market the Frontiersman Bear Attack Deterrent in the same manner we market the Frontiersman. In response to your request in October of 1999, I explained that our Frontiersman Bear Attack Deterrent formula submitted to the EPA for registration is twice as strong as the Frontiersman formula.

Our Frontiersman Bear Attack Deterrent Formula has 1.388% major capsaicinoids of which 0.857% is Capsaicin. Capsaicin is the hottest and most potent of the major caspsaicinoids. By comparison, Counter Assault's label has only 0.71% Capsaicin stated

on it. The comparison of the Frontiersman formula and Frontiersman Bear Attack Deterrent formula was stated in greater detail in my letter to you dated October 16, 1999. I am also sending you a copy of that document, which was originally sent to you by Kim Davis on October 22, 1999.

NRN You questioned the accuracy of the two different formulas. I could have Marlin Bensinger of Chromtec run High Pressure Liquid Chromatograph tests to verify the difference in strength of the two formulas if that would satisfy your need for independent verification.

NRN The two effectiveness reports previously sent to you both used Frontiersman Bear Attack Deterrent formulation. To refresh your memory, they were from Elmendorf Air Force Base, and I am sending them to you again. I just received two more effectiveness reports from Jamie Jonkel, Director of Montana Fish Wildlife & Parks. I am also sending those, and any question may be addressed to Mr. Jonkel at (406) 542-5529.

C. As for the label, I will follow your instructions.

D. Comparison of Two Formulations

As I have stated several times in the above paragraphs, the FRONTIERSMAN FORMULATION IS ***NOT*** THE SAME AS THE FRONTIERSMAN BEAR ATTACK DETERRENT FORMULATION. As we have no solid information regarding the alleged incidents, how would it be possible for us to have a batch sample to analyze? The Frontiersman Bear Attack Formulation has already been analyzed by both Celsis Laboratories and Marlin Bensinger of Chromtec. These reports were both sent to you with our original submission.

As I also stated previously, I am including reports of four incidents of successful us of the Frontiersman Bear Attack Deterrent by independent sources. The first report is from the Base Natural Resource Office of Elmendorf Air Force Base and was written by Mr. Roy Rainer, a Wildlife Conservation agent in the state of Alaska. The second report, also from Elmendorf Air Force Base was written by Master Sargent Robert Bassett. The product referred to in both reports is Frontiersman Bear Attack Deterrent. The product was sent to Master Sargent Bassett earlier this year to be field tested by a reliable, independent, professional source.

The next two reports were sent to us on December 30, 1999 by Mr. Jamie J. Jonkel of the Montana Fish, Wildlife & Parks Department. The product referred to is also Frontiersman Bear Attack Deterrent and was supplied to Mr. Jonkel also for independent testing purposes. I would hope these four written reports by respected professionals would more than satisfy your request for efficacy data.

It is my sincere hope that I have addressed your questions and concerns to your complete satisfaction. Many times over the past six months you have stated your desire to, "get us finished up and registered." Clearly, we both have the same goal in mind. I hope this response will aid you in drawing our situation to a close. If I may be of any further assistance in aiding this process, please let me know as soon as possible. I await your prompt response.

Sincerely,

Larry D. Nance

Larry D. Nance
President

FAX TRANSMITTAL COVER SHEET
FOR
BASE NATURAL RESOURCES OFFICE

TO: LARRY NANCE
FAX: 1-636-343-1318
PHONE: 1-800-325-9568

3CES/CEVNR **Fax: 552-0799** **Tele: 552-2436**
4803 8th St
Elmendorf AFB AK

SUBJECT: Bear spray

DATE: 28 June 99

 # OF PAGES (including cover sheet): 2.

REMARKS:
This is the only Bear that has been sprayed. I have not had the chance to try it myself but I do carry a can with me at all times. [Black Bear #729 3yr old female 110 pds]

If I could can I get the M.D.S. for the spray Thank You

MSGT Robert BASSETT

DO NOT TRANSMIT CLASSIFIED INFORMATION OVER UNSECURED TELECOMMUNICATIONS SYSTEMS. OFFICIAL DOD TELECOMUNICATIONS SYSTEMS ARE SUBJECT TO MONITORING AND USE OF DOD TELECOMMUNICATIONS SYSTEMS CONSTITUTES CONSENT TO MONITORING.

06/14/99

To Whom It May Concern:

I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with black and brown bears. I responded to a black bear in a residential area. Upon arrival I was able to use your product. The first shot was from about ten feet. The bear's first response was a snort, then shook its head, and then went up a tree. I was then able to shoot it again, from about four to five feet. The bear's response this time was a snort in which she had saliva hanging down from her snout. After this shot she proceeded down the tree very rapidly and ran off into the woods.

Bear 727 3yr. old about 110 pds

Roy Rainer

FAX TRANSMITTAL COVER SHEET
FOR
BASE NATURAL RESOURCES OFFICE

TO: Larry Nance
FAX: 1-636-343-1318
PHONE: 1-800-325-9568

3CES/CEVNR Fax: 552-0799 Tele: 552-2436
4803 8th St
Elmendorf AFB AK

SUBJECT: Bear Spray

DATE: 23 July 99

OF PAGES (including cover sheet):

REMARKS:

DO NOT TRANSMIT CLASSIFIED INFORMATION OVER UNSECURED TELECOMMUNICATIONS SYSTEMS. OFFICIAL DOD TELECOMUNICATIONS SYSTRMS ARE SUBJECT TO MONITORING AND USE OF DOD TELECOMMUNICATIONS SYSTEMS CONSTITUTES CONSENT TO MONITORING.

22 July 99

To Whom it may Concern:

I am a Wildlife Conservation Agent in the state of Alaska. Part of my duties are working with wildlife here on the base this includes foxes, black bears, brown bears and moose. I have responded to two calls on foxes that were getting to friendly with people used your pepper stray (Frontiersman) the three foxes moved off and started rolling around in the grass trying to remove the stray. It helped in getting them away from the people and keeping them away. On the 22 of July I used your stray to move a trouble black bear, the bear was about six feet in a tree, I strayed the bear from about seven feet right in the face, it jumped out of the tree and headed away from me for about 50 feet and started rubbing it's face in the grass. We followed the bear for about a mile and watched it move from water hole to water hole, trying to remove the stray.

Bear was a visitor to the base. And was about 2-3 years old and about 70 pounds.

Robert Bassett

Montana Fish, Wildlife & Parks

FAX TRANSMITTAL

Region Two
3201 Spurgin Road
Missoula, MT 59804
(406) 542-5529 (FAX number)

Date: 12/30 Time: 11am

To: LARRY NANCE

FAX No.: 636-343-1318 Telephone No.:

Total no. pages: 3
(including transmittal sheet)

If you do not receive all pages, please call (406) 542-5500. Thank you.

From: JAMES J JONKEL

Telephone No.: 406-542-5508

Message: LARRY - THANKS FOR THE EXPERIMENTAL SAMPLES OF "FRONTIERSMAN" BEAR SPRAY. I'LL TRY THE THE BEAR SPRAY SETS AGAIN IN THE SPRING. IF YOU WANT ME TO USE THE "FRONTIERSMAN" BEAR SPRAY AGAIN I WOULD BE GLAD TO DO SO.

THANKS JAMIE

Jamie's Copy

07

Region 2
Hunting District 285 ELK
Species Grizzly B.
Kill Permit No. 99-123

Montana Fish, Wildlife & Parks

GAME DAMAGE WORKSHEET

Complainant: [redacted] Phone: [redacted]
Address: [redacted] City: Cozy Corner County: Mslla
Date Complaint Received: 10/25/99 Date of Response: 10/25/99
Location of Damage: Drainage: Bitter GPS Location: _____

1. Does complainant allow public hunting to aid in the management of game populations? *Circle One:* Yes/No
2. Does adjacent property allow public hunting? *Circle One:* Yes/No
3. Is the property leased or are fees being charged for hunting? *Circle One:* Yes/No

Nature of Damage: *Circle One:* Haystack Grazing Livestock Fence Crop _____ (specify)
Building Garbage Physical Safety Nuisance
Other ELK CARCASS ate by bears (3)

Estimate Number of Animals Causing Damage: 3 If Human Attack: Victim Name: None
Victim Age: _____ Injury: None
Description of Damage: ATE ELK, Got into Garbage, Lots of ROAMING around compounds by bears (3) (Grizzlies)

Complete if black bear/grizzly or if animal is captured:

1. Culvert trap: Yes/No Snare trap: Yes/No
2. Trap set for how many nights: 0
3. Animal captured: Yes/No Number Captured: ____
4. Relocation site: Drainage _____
5. GPS location: _____
6. Sex: M/F Weight: _____
7. Age Class *Circle One:*
YOY Yearling Sub-adult Adult

Trap not set. Paper Sorry Set up

Complete if the animal is tranquilized: 2 cubs

1. Ear tag: Yes/No
2. Ear Tag Color: _____ Ear Tag Number: _____
3. Drug Type: _____
4. Drug Dose (mg): _____ Volume (ml): _____
5. Vial # _____
6. Induction Time: _____
7. Complications: Yes/No
If yes, what? _____

Actions taken or Recommendations: (Special seasons, repellents, herding, fencing, live traps and transplanting, direct control by killing, tranquilizer gun, steel trap, scare-away gun, etc.)

* Calls: 10/25/99, 10/26/99
I Removed Elk from area and they cleaned up all garbage on 10/26/99
Set trap (culvert) on 10/26/99
Gave Dan (Bear Bag Inside + M-80's) on 10/25/99
Met Jamie 10/26/99 - To get Sheriff (2:00pm)
Bears Back - TRAP was disabled by Jamie.

Complete if Lion Response - *Circle One:*

Sighting: A visual observation of a lion
Encounter: Unexpected direct meeting without incident or recurrent sighting in close proximity to homes, stables, corrals, etc.
Incident: A conflict with serious results (killing dog, or forcing lion to back down.
Attack: Human is killed or injured.

What action did lion take: *Circle All Applicable*
Watched person Growled Hissed Showed Teeth
Lip Curl Fled Crouched Attacked
What action did human take: *Circle All Applicable*
Backed Away Waved Arms Talked Threw Rocks
Other _____

All materials will be used for intended purposes or will be returned to Montana Fish, Wildlife and Parks.

Signature of Landowner or Designated Representative for Materials

10/25/99 Date

Bill Kopp
Signature of Investigator

Cc: Field Services - Helena, Region, Landowner

Picked up trap 10/27/99

Personal privacy information

Region 2
Hunting District 285
Species GRIZZLY BEAR
Kill Permit No. _____

Montana Fish, Wildlife & Parks

GAME DAMAGE WORKSHEET

Complainant [redacted] Phone: [redacted]
Address: [redacted] City: COZY CORNER County: MISSOULA
Date Complaint Received: 10/25 & 10/26 Date of Response: 10/25 - 11/18 (5-6 VISITS BY KOPPEN + JENKEL)
Location of Damage: Drainage: HOUSE on Hoop-the-Road GPS Location: _____

1. Does complainant allow public hunting to aid in the management of game populations? *Circle One:* Yes/No
2. Does adjacent property allow public hunting? *Circle One:* Yes/No
3. Is the property leased or are fees being charged for hunting? *Circle One:* Yes/No

Nature of Damage: *Circle One:* Haystack Grazing Livestock Fence Crop _____(specify)
Building Garbage Physical Safety Nuisance
Other: ELK CARCASS PULLED OFF GAME POLE / BIRD FEEDERS

Estimate Number of Animals Causing Damage: _____ If Human Attack: Victim Name: NA
Victim Age: N/A Injury: _____
Description of Damage: BEAR W/ TWO YEARLING CONSUMED ELK ON ONE NIGHT & CAME BACK THE NEXT THREE NIGHTS FOR GARBAGE & BIRD SEED

Complete if black bear/grizzly or if animal is captured:

1. Culvert trap: Yes/No Snare trap: Yes/No
2. Trap set for how many nights: 6 NIGHTS ON 10/26
3. Animal captured: Yes/No Number Captured: _____
4. Relocation site: Drainage _____
5. GPS location: _____
6. Sex: M/F Weight: _____
7. Age Class *Circle One:*
   YOY Yearling 2 Sub-adult Adult FEMALE

Complete if the animal is tranquilized:

1. Ear tag: Yes/No
2. Ear Tag Color: _____ Ear Tag Number: _____
3. Drug Type: _____
4. Drug Dose (mg): _____ Volume (ml): _____
5. Vial # _____
6. Induction Time: _____
7. Complications: Yes/No
   If yes, what? _____

Actions taken or Recommendations: (Special seasons, repellents, herding, fencing, live traps and transplanting, direct control by killing, tranquilizer gun, steel trap, scare-away gun, etc.)

10/26 KOPPEN REMOVED ELK & ISSUED BACKER SHELLS & CHERRY BOMBS
'26 BEARS BACK GOT INTO GARBAGE & BIRD FEEDERS. NO REAL RESPONSE TO CRACKER SHELLS. KOPPEN SET TRAP @ NOON. I CLOSED TRAP & SET UP RED PEPPER ET AFTER GETTING SENIORS PERMISSION
'27 - 11/18 BEARS LEFT ON 28TH. I HAD HITS ON RED PEPPER SPRAY SET. ONE IS SENIORS DOG & TWO I BELIEVE WERE GRIZZLY. THE RED PEPPER SPRAY MAY HAVE HELPED. FURTHER TESTING IS NECESSARY.

Complete if Lion Response - *Circle One:*

Sighting: A visual observation of a lion
Encounter: Unexpected direct meeting without incident or recurrent sighting in close proximity to homes, stables, corrals, etc.
Incident: A conflict with serious results (killing dog, or forcing lion to back down.
Attack: Human is killed or injured.

What action did lion take: *Circle All Applicable*
Watched person Growled Hissed Showed Teeth
Lip Curl Fled Crouched Attacked

What action did human take: *Circle All Applicable*
Backed Away Waved Arms Talked Threw Rocks
Other _____

All materials will be used for intended purposes or will be returned to Montana Fish, Wildlife and Parks.

NOTE: I USED 3 CANS OF THE EXPERIMENTAL "FRONTIERSMAN" SABRE BEAR SPRAY.

N/A
Signature of Landowner or Designated Representative for Materials

11/18/99
Date

Signature of Investigator

Cc: Field Services - Helena, Region, Landowner

Personal privacy information

file

72265-R

Dan Peacock on 01/11/2000 09:14:20 AM

To: Maryjane Wingett/WWPD/R7/USEPA/US@EPA
cc: Lyn Frandsen/R10/USEPA/US@EPA, David Ramsey/WWPD/R7/USEPA/US@EPA, Luetta Flournoy/WWPD/R7/USEPA/US@EPA, Britta Campbell/WWPD/R7/USEPA/US@EPA, Bill Jacobs/DC/USEPA/US@EPA
Subject: Re: Security Equipment Corp.

Maryjane,

Thank you for the notification that the Missouri Department of Agriculture had inspected Security Equipment Corp's facility on December 7 and 13, 1999, and that EPA Region 7 had received the file for these inspections on January 7, 2000. The Office of Pesticide Programs is particularly interested in your inspection for the following reasons:

1. Record of Human-Bear Encounters

As you may know, this company has filed an application to register a bear-deterrent product, Frontiersman Bear Attack Deterrent, EPA File Symbol 72265-R in February 1999. We still have some outstanding issues with the registration of these product, including alleged incidents involving the pending product or a forerunner of the pending product. If the inspection revealed any records of human-bear incidents or records of product failures or successes, this would be of great interest to us at this time.

2. Follow-Up on Enforcement Tips

In addition, we have fielded many complaints from manufacturers of registered bear deterrents, such as ChemArmor, Bushwacker, and McNeil River Enterprises, who claim that Security Equipment Corp has been illegally marketing bear-deterrent product with registration. Since many of these complaints were originally funneled through the HQ's office, we are always pleased that they are being acted upon. In addition, when registrants and other entities claim (falsely) that there is no EPA enforcement, we can counter with specific examples of inspections (such as Region 8's 11/23/1999 Stop Sale of Bear Pause for switching active ingredients), where the EPA was following up on outside leads.

3. Evaluating Direct and Implied Labeling Claims

Evaluating labeling claims can be difficult because the claims for bear control can be implied rather than direct. We have received several reports that Security is guilty of this behavior. For example, we have received copies of labeling on cans where the only claims were pictures of grizzly bears and brief text saying something like "outdoor defense spray" on large cans that could only be for bear control. **If you need help in reviewing label claims, let us know.**

4. Summary of Inspection

Is it possible to get a summary of the type of information gathered so that we would have a better idea if there was something that might impact the registration?

5. Estimated Completion Date

Please provide us with an estimate when you would complete Region 7's review of the file.

As you get closer to possible registration, we may have to request that the review be expedited because of the possible important impacts that the inspection could have on the registration.

Thank you,

Dan Peacock,
703-305-5407

From: Maryjane Wingett on 01/10/2000 12:57 PM CST

To: Dan Peacock/DC/USEPA/US@EPA, Lyn Frandsen/R10/USEPA/US@EPA
cc: David Ramsey/WWPD/R7/USEPA/US@EPA, Luetta Flournoy/WWPD/R7/USEPA/US@EPA, Britta Campbell/WWPD/R7/USEPA/US@EPA
Subject: Security Equipment Corp.

Just wanted you to know that an inspection was conducted on December 7 and 13, 1999, at Security Equipment Corp., Fenton, Missouri concerning the products: Alaska's Best Defense and Frontiersman Bear Attack. The file was received in the regional office from the Missouri Department of Agriculture on January 7, 2000. As we have a significant case backlog, I cannot tell you when the file will be reviewed, but at least I wanted to let you know the inspection has been conducted.

5-567578 164/13
5-569580
5-569581
5-571264

December 22, 1999

Security Equipment Corp.
c/o RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

Attention: Ms. Kim Davis

Subject: Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R
Your two submissions of August 26, 1999
Reports of Two Incident
Your submission of October 22, 1999

We have reviewed the above four submissions and have the following comments.

A. Spray Pattern Test and Video

1. The new report of "SPRAY PATTERN DATA" (MRID No. 449067-01) suggests that many units were fired at fixed distances from a vertical cloth target and that the spray pattern information recorded was remarkably uniform. How were the dimensions of patterns determined?.

2. The videotape showing some test firings of the product was too limited in scope and description to be very useful to us. The tape did show visible clouds of product and the remotely visible pattern resulting from the firing of one unit at the cloth target from a reported distance of 10 feet.

3. From timing the spray durations from the videotape, we infer that the durations that you report were from onset to cessation of hiss rather than from onset to last appearance discharge that might be sufficient to function as a bear deterrent. Based on the limited observations possible from the tape and a desire to err on the conservative side, if at all, we conclude that the spray duration claim should be limited to 5 seconds.

4. The spray pattern report states that [redacted] propellents are used in

Manufacturing process information may be entitled to confidential treatment

Frontiersman, but the Confidential Statement of Formula (CSF) dated February 19, 1999, identifies only one propellent. Explain this discrepancy and submit a new CSF if the one originally submitted does not accurately describe the intended composition of this product.

5. The report did not indicate how many bursts of approximately one second can be fired from a single canister before its usable contents are exhausted. This information must be supplied for the intended container and formulation.

6. **If and when this product is registered, you may not add or change container sizes via "notification" because the amount of product is crucial to the degree of protection provided and would also affect label claims regarding spray duration, numbers of one-second bursts per container, and perhaps even spray range.**

7. New spray pattern data must be submitted for each proposed size and design of container. Note that this product is disqualified from the provisions, in 40 CFR and PR Notice 98-10, for altering containers by "notification" or non-notification, because the product is a rodenticide (i.e., vertebrate pesticide) and the change in net contents could affect whether a useful dosage of product can be delivered.

B. Review of Two Incident Reports

1. We have become aware of two incidents in which people who used containers of one or more unregistered Frontiersman products were mauled by bears. In both cases, the containers reportedly delivered spray only short distances. One victim ultimately was able to drive the bear off using the spray, but this occurred while the bear was biting him and after use of the product at fairly close range had failed to halt the animal. The other victim reportedly was failed completely by the product and survived only because there were two other people with him. What were the compositions of all Frontiersman products sold in Wyoming during and shortly before 1998? Do know the formulation(s) involved or any other specific information about the 1998 incidents?

C. Review of Labeling

1. The "**DIRECTIONS FOR USE**" section on the typed canister label proposed for this product submitted by Kim Davis of RegWest Company, on behalf of Security Equipment Corporation, on August 26, 1999, is nearly acceptable. However, the sentence under '**USE RESTRICTIONS:**"

which pertains to the amount of spraying time it takes to exhaust the product of its useful contents must be change to read

The canister empties in approximately 5 seconds.

Whether the "**effective range**" sentence should be changed will depend on the answers to our questions concerning the conduct of the spray pattern study run in August of 1999.

2. The "**DIRECTIONS FOR USE**" section on the printed canister label submitted on August 26, 1999, by Security Equipment Corporation differs from that submitted by RegWest on the same date. The wording on the RegWest version is acceptable, subject to the comment above.

   To be acceptable, the "**DIRECTIONS FOR USE**" section on the printed canister label must be modified slightly. Delete the sentences:

   This product fires 25 feet.
   The canister empties in approximately 7.8 seconds.

   In place of those sentences insert the following sentences:

   This product has an effective range of up to 18 feet. The canister empties in approximately 7.8 seconds. 5.0?

   Note that while the distance indicated in the first of these sentences could change if the additional information requested on your second spray pattern test is obtained, the "**effective range**" rather than how far the "**product fires**" is what customers should be told.

   The first sentence of the "**USE RESTRICTIONS**" subsection should be placed in **bold type** as is the case on the version of the canister label submitted by RegWest on August 26, 1999.

3. The canister labels submitted by Security and RegWest on August 26, 1999, differ in the format of the main panel (the one bearing the name of the product and the statement of ingredients). We prefer Security's version.

4. From the standpoint of efficacy, there are no objections to the blister-pack and hang-tag labels submitted by Security Equipment Corporation on August 26, 1999.

D. Comparison of Two Formulations

If accurate, the differences between the "*OLD FORMULATION*" and the "*NEW FORMULATION*" shown on the "***CONFIDENTIAL FORMULATION COMPARISON***" might account for Frontiersman incidents of which we have been made aware and indicate that the formulation has been improved. We are not sure, however, that there is an independent way to verify the accuracy of the formulations described on that sheet of paper.

In one reported mauling incident, the product used appeared to have neither the range nor the deterrent effect to be called a "BEAR DETERRENT". In the other incident, the bear eventually was driven off, but the product may have lacked sufficient range. Possibly, it was fired too late in the approach.

If samples of old and new formulation prepared prior to our recent discussions were available for chemical analysis, it might be possible to analyze for differences in concentrations of key ingredients. It would be especially useful if examples from the batch(es) associated with the reported incidents were available.

The claimed differences in propellent and active ingredient concentrations are consistent with claims of improved potency and range. We would need efficacy data on the specific formulation proposed for registration to determine conclusively whether its composition is adequate.

If you have any questions about this letter, please contact me by phone (703-305-5407), fax (703-305-6596), or E-Mail (peacock.dan@epa.gov).

Sincerely,

Daniel B. Peacock, Biologist
Insecticide-Rodenticide Branch
Registration Division (7504C)

C:\capsaici\72265-R Dec.wpdDecember 22, 1999

Case: 064803 | PRAT - SUBMISSION SUBSYSTEM | Date: 12/21/99
PRIMARY REGISTRATION CASE | Time: 2 24 pm

=] CASE INFORMATION [=

CASE TYPE: REGISTRATION ORIG ACT CD: 165 NEW PROD-OC-MINOR CHG
072265-R Frontiersman Bear Attack Deterrent
COMPANY NAME: 072265 SECURITY EQUIPMENT CORPORATION
PRIME CHEM: 070701 Capsaicin (in oleoresin of capsicum) MIX? N
STATUS: Pending REGIST: / / RU: N CRP: N EU: N FORM: TYPE:
PM/RM:04 TINA LEVINE SAFER:

=] SUBMISSION INFORMATION [=

SUB BC	ACTION	RESPONSE	APPLIED	RECEIVED	RESPONSE
S564625	166 RESB NEW PRO-OC-MIN	13 OBJ-DATA+LAB	06/29/99	06/29/99	07/22/99
S566558	166 RESB NEW PRO-OC-MIN	38 GEN RESP TO	08/10/99	08/10/99	08/11/99
S567578	166 RESB NEW PRO-OC-MIN		08/26/99	08/30/99	/ /
S569580	166 RESB NEW PRO-OC-MIN		08/26/99	08/27/99	/ /
S569581	166 RESB NEW PRO-OC-MIN		07/07/99	07/14/99	/ /
S571264	166 RESB NEW PRO-OC-MIN		10/22/99	10/27/99	/ /

DESC:
COMM:
RANKING: 0
(F2)

F1 Help | Select Submission with light bar and presENTERER for
F10 Error | Submission/Data Package listESC press ESC for more choices |≡|↑|↓|

Case: 064803 | PRAT - SUBMISSION SUBSYSTEM | Date: 12/21/99
PRIMARY REGISTRATION CASE | Time: 2:24 pm

=] CASE INFORMATION [=

CASE TYPE: REGISTRATION ORIG ACT CD: 165 NEW PROD-OC-MINOR CHG
072265-R Frontiersman Bear Attack Deterrent
COMPANY NAME: 072265 SECURITY EQUIPMENT CORPORATION
PRIME CHEM: 070701 Capsaicin (in oleoresin of capsicum) MIX? N
STATUS: Pending REGIST: / / RU: N CRP: N EU: N FORM: TYPE:
PM/RM:04 TINA LEVINE SAFER:

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S567578	166 RESB NEW PRO-OC-MIN		08/26/99	08/30/99	/ /
S569580	166 RESB NEW PRO-OC-MIN		08/26/99	08/27/99	/ /
S569581	166 RESB NEW PRO-OC-MIN		07/07/99	07/14/99	/ /
S571264	166 RESB NEW PRO-OC-MIN		10/22/99	10/27/99	/ /

DESC:
COMM:
RANKING: 0
(F2)

F1 Help | Select Submission with light bar and presENTERER for
F10 Error | Submission/Data Package listESC press ES

IRB BRANCH REVIEW - TSS

Record Number(s)

D259112
D260124
D260127

IN 10/12/99 9/17/99 OUT 11/9/99

EFFICACY

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 8/30/99, 8/27/99, 7/14/99

DATE OF SUBMISSION 8/26/99, 8/26/99, 8/?/99

DATE SUBMISSION ACCEPTED 10/12/99, 10/12/99, 9/1/99

TYPE PRODUCTS(S): I, D, H, F, N, R,X S

DATA ACCESSION NO(S). 449067-01

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN BEAR ATTACK DETERRENT

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE registration

CHEMICAL & FORMULATION 1.388% Capsaicin and related capsaicinoids aerosol

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy review of 6/30/99. That review discussed the initial application submission for Federal registration of Frontiersman. See general efficacy review of 6/17/93 for Capsaicin bear repellents and the 1997-1999 efficacy reviews for similar products.

On 5/12/98, Counter Assault Bear Deterrent (55541-2) was accepted as the first Federally registered Capsaicin-based bear repellent in the U.S. Prior to that time there had been perhaps 20 years of illegal sale of that and similar products (including at least one Frontiersman product for some of that time) as unregistered pesticides. Four aerosol attack deterrents are now registered: Counter Assault, Guard Alaska (71545-1), BearGuard (71768-1), and Bear Pause (71920-1). Recently, a Frontiersman product was being sold illegally under labeling contrived so as to make the product appear (to some) not to be a pesticide. Enforcement actions possibly have stopped that practice.

This review discusses Security's submission dated 8/26/99, another submission dated 8/26/99 that was prepared by Kim Davis of RegWest Company, Greeley, CO, on behalf of Security, and a collection of materials forwarded by Tim Osag of EPA's Region 8 office in Denver, CO.

Security's submission of 8/26/99 includes a cover letter from Larry Nance, the company's President, and printed revised proposed labeling including: a label for the product canister, a label for the blister pack that holds one canister, and a label apparently for a the fiber portion of a fiber-and-plastic bag package. The materials routed to me with that submission also include a memorandum from Daniel B. Peacock of IRB and summaries of exchanges of

information involving Peacock, Dominic Domenici of the Wyoming Department of Fish and Game, and others concerning alleged incidents of product failure involving unregistered Frontiersman

Davis's submission of 8/26/99 includes a new spray-pattern report, a videotape of some spray-pattern testing, a resubmission form, and several copies of a typed revised proposed label for the canister.

The materials forwarded by Osag apparently originated with Domenici and are marked "**RECEIVED** JUL 14 1999". These materials also pertain to alleged incidents of product failure.

201.0 DATA SUMMARY

As noted in the efficacy review of 6/30/99, the proposed CSF (dated 2/19/99) claims the source of active ingredients to be [redacted] In the report of the new spray pattern study (MRID# 449067-01, discussed below), Nance claims that [redacted] propellants" [sic] area used in Frontiersman: the [redacted] (listed on the CSF of 2/19/99) and [redacted] (not listed on the CSF of 2/19/99).

In the efficacy review of 6/30/99, I rejected the report of "SPRAY PATTERN DATA" that Davis had submitted on 2/19/99. The procedures used for the study were not described in sufficient detail and some of the results reported were questionable. I suggested that they run a new study in which vertical spray patterns were determined at several fixed distances (e.g., 10', 15', 20', 25, and 30') from the container and times to spray evacuation were determined by use of an accurate stopwatch. I also gave Security the option of rehabilitating the original study if the company could provide a complete description of the procedures followed and copies of raw data-collection sheets. I also suggested that they document the results of any new trials run by use of videotape.

With her letter of 8/26/99, Davis submitted a report of a new spray-pattern test. This test is cited and discussed immediately below.

Product ingredient source information may be entitled to confidential treatment
Manufacturing process information may be entitled to confidential treatment

Manufacturing process information may be entitled to confidential treatment

Nance, L.D. (1999) Spray pattern data for Frontiersman® Bear Attack Deterrent. Unpublished Report, Security Equipment Corporation, Fenton, MO. 20 pp.

MRID# 449067-01

Nance claims a mass of 49 g for the empty canister and valve and a mass of 306 g for the fully loaded canister. With only repellent in the can, it has a mass of 233 g, meaning that the repellent formulation accounts for 184 g. The [redacted] propellents claimed by Nance in the report evidently add [redacted] on the CSF of 2/19/99). The net contents are 257 g, which Nance calls 9.17 oz (using 28.3 g/oz, I get 9.08 oz). About 6.5 oz of repellent formulation would be in a canister.

Test firings of canisters reported to contain the formulation proposed for registration or that formulation plus a Fluorescent ultraviolet dye (C-206, Shannon Luminous Materials) were conducted from 8/2/99 through 8/9/99 (with no testing on 8/8/99, a Sunday). Most trials were conducted outdoors, but the tests of the formulation containing the fluorescent dye were run indoors. Nance and 2 assistants performed the study, which was "not conducted according to 40 CFR Part 160."

Canisters were fired toward a 16'-X-16' vertical target of "White cotton cloth material" hung over "a cardboard structure of boxes taped together. Firings were made at fixed horizontal distances of 10', 15', 20', 25', or 30' from the target. Containers evidently were fired until their contents were exhausted. Durations of firings were timed for all containers.

Test results for the outdoor trials are summarized in Table 1. Take at face value, the results imply generally circular or slightly oval patterns which expand between 15' and 20' from the source. A 10', the patterns tend to be wider than they are high, but this trend changes at the 15' distance. That most of the dimensions were reported as whole numbers of feet (e.g., 10', 12') suggests rather quick and crude measuring. No measuring is evident from the videotape, which shows the firing of unit "204" and some others, occasionally accompanied by the words "That's a nice pattern." Significant airborne streams are evident from the tape but there is no verification of the pattern dimensions reported by Nance. Unit #204, fired 10' from the target, produced a dark red central blob that was visible on the target; but any broader range of small impingements on the target were not shown in a close-up nor were they measured on camera.

Firing times appear to represent the onset to the end of the hiss rather than the shorter period of time representing the period of useful discharging of contents. I say this because the times tend to be longer than those reported by others for containers of similar size and because of observations made while watching Security's videotape. When I timed from onset to visual disappearance of a stream likely to be useful, I got times that were shorter (5.23-7.24 sec) than any reported by Nance. For unit #204 (the only one specifically identified on the videotape), my time was 6.92 sec. Due to the nebulous nature of "loss of a useful stream", I probably would get different times if I reran and retimed the tape often; but I probably would never get as high as the 7.76 seconds that Nance reports for #204. When I retimed other units off the tape, my replicated timings fell within a range of 0.3 sec. Because Security continued timing beyond the period of useful discharge of contents, I feel that the duration claim should be shortened to 5 seconds.

The test container previously provided by Security looks much like those used for other bear-attack repellents. The spray pattern from it appears to be similar to the spray patterns that I have observed on tapes of other bear-repellent products. On that basis, I might consider the spray-pattern requirement to have been met for this product if the discrepancy on propellents were resolved. I also would like a written description of how the height and width data were collected due to the remarkable consistency of the results reported.

Security did not include information on the number of bursts of approximately one-second that the Frontiersman canister delivers. This number might not be the same as he number of seconds that the product fires continuously.

Over the past year or two, manufacturers of bear repellents and other interested parties have told various EPA employees (and others) that the sprays available do not work equally well, that certain ingredients or ingredient sources affect efficacy, and that product failures (and subsequent maulings) have been linked to product compositions. It has been specifically alleged that Frontiersman by Sabre has failed to deliver as its users hoped on more than one occasion.

Clearly, EPA should do what it can to determine the validity of various accounts and charges. We should not unduly penalize Security by delaying registration based upon little more than rumor, but we also should not penalize people who put their trust in a product about which there are performance questions. In this context,

Personal privacy information

Daniel Peacock of IRB has sought accounts and documentation of alleged failures of bear repellents. Below, I discuss the material of this sort that Peacock has assembled regarding Frontiersman.

Along with the labels submitted by Nance on 8/26/99, I was sent information concerning incidents of failure of Frontiersman to protect people from bears. The first of these occurred on 9/27/98 and involved a [redacted] and 2 other men. While elk hunting, they found themselves between an adult female bear (species not indicated) and her 2 cups. When he used the Frontiersman product, it reportedly produced spray for an estimated 5-6 seconds but the spray only went about 6-7 feet. This performance was worse than the 15' distance claimed for a 1/2-second test firing conducted "some time earlier" (quoting Peacock's summary of the incident related to him by [redacted]. [redacted] was mauled badly but survived because another member of the party, [redacted] father, summoned help (a medivac helicopter) by using a cell phone.

Unless [redacted] was facing into a fairly stiff wind, it appears that the product he used lacked sufficient oomph to reach a charging bear in an effective manner. Whether he had a container that was typical of the product, a rare "dud" can, or an aged product is not clear. If the performance was typical, the product would be a bad thing to take along for protection. If atypical for one reason or another, it would be useful to know how atypical; but I suspect that the information would be hard to come by.

In an e:mail apparently dated 7/8/99, Tim Osag of EPA region 8 indicated that there were 2 incidents associated with Frontiersman in Wyoming in 1998. The [redacted] incident was one of them.

The second incident apparently was the one which occurred on 8/30/98 and involved a [redacted] and what the victim took for an adult grizzly bear. This incident is described in the materials that were received on 7/14/99.

The bear charged [redacted] and attacked him after [redacted] had sprayed repellent at the bear from an estimated distance of 10'. According to the notes prepared by Brady Vandeberg of the Wyoming Department of Fish and Game (WDFG),

> At 10 ft. [redacted] sprayed the bear in the face with pepper spray but the bear continued and knocked him down and began biting him on the right leg. The bear swatter at [redacted] chest and broke his binoculars in half which he later dropped 25 yds. north of the attack site. [redacted]

> [redacted] sprayed the bear again in the mouth and eyes and the bear released him and ran about 25 ft. The bear looked back at him and trotted off. [redacted] then walked as quickly as he could to his truck at the trail head and drove to Highway 89 where he was able to flag somebody down and get help.

Depending upon one's point of view, this incident either was an unsuccessful use of the product (because [redacted] initial use of the product failed to avert an attack) or a successful use (because [redacted] continued use of the product evidently saved his life). If the container lacked sufficient oomph to reach the bear at a distance of 10' or greater, the ensuing attack would have been one that a more powerful spray delivery might have prevented. The eventual success of the spray at very (too) close range would be consistent with an hypothesis of insufficient oomph.

However, the results might also be explained by prevailing wind direction, or by the bear's being too close when the initial spraying occurred such that the spray hit mainly fur or went past the bear before the material had aerosolized sufficiently. While the bear was attacking [redacted] the man's persistence eventually got an effective dose to the animal. If either of these scenarios were correct, the same outcome might have been obtained using registered bear deterrent products as well as Frontiersman.

It is noteworthy that both [redacted] and [redacted] reportedly fired the repellent at the bears that attacked them from estimated distances of 6-10'. WDFG's report includes composite photographs of the container recovered after the [redacted] incident was investigated. The **"DIRECTIONS:"** section of label for that unregistered product includes the following sentences:

> .... Point the unit at the attacker's face and press the actuator. A heavy spray of powerful protection will discharge from the actuator in a range of 6 to 20 feet. Maximum effective range is 10 feet.... **AFTER SPRAYING THE ATTACKER, ESCAPE IMMEDIATELY AND CALL THE POLICE. DO NOT TRY TO CAPTURE THE ATTACKER.** Test spray periodically to assure performance [last word unclear, identity inferred from visible letters and context]. The Frontiersman is a [unclear word skipped] positive protection. It is recommended that the Frontiersman is carried in hand when hunting, camping, fishing, hiking, biking, or enjoying the great outdoors. It is

> the consumer's responsibility to keep unit from accidentally firing. Do not spray into the wind ....

If it were not for the business about "hunting, camping, fishing, hiking, biking, or enjoying the great outdoors", one could argue that [redacted] was using a product created solely for the protection of one human from violence that another human might intend to perpetrate. If such were the case, an argument that the container should not have been "loaded for bear" would be more believable. While it is true that ornery people can be encountered while "hunting, camping, fishing, hiking, etc.", I infer a wildlife protection claim from these statements (see discussions of proposed labeling for 72265-R), and collateral literature seen or obtained by [redacted] but not taken to the field by him might have reinforced such an inference in words or via a picture of a bear. No such picture is evident on the composite copies of the canister label. The container is claimed to hold 300 g of product -- more than the 257 g that Nance now claims for 72265-R -- so it seems as likely as not that it was intended to be "loaded for bear" as well as for humans.

The '**CALL THE POLICE**" text implies protection from humans, but the human activities mentioned on the label do not include situations such as "walking alone at night", "visiting cities", etc. where one might expect human-on-human attacks to be relatively likely.

The direction to test fire the container "periodically" would seem to invite premature exhaustion of its few seconds of usable contents.

It is not clear whether the formulation that Security proposes to register is identical to what was in the cans used by [redacted] and [redacted] Therefore, it will be difficult to determine whether Security has made any modifications to address any formulation-related problems that might have limited the ranges of their cans. It also is possible that their cans were relatively old and had lost some oomph.

I do not feel that anything would be gained by being overly cagey with Security about these two incidents. Rather, I feel that we should tell them what we have learned and see what they tell us about their knowledge of the incidents, the formulation(s) then used in the product(s), and anything else that is potentially relevant. We have asked them a lot of questions about spray patterns and formulations and, as Frontiersman is not registered at this

time, there seems to be little to be gained toward a FIFRA case by being too circumspect. Conversely, there might be something very useful to know that Security would share with us if encouraged to do so.

The typed proposed label for the canister that Davis submitted on 8/26/99 was revised following her receipt of EPA's letter of 7/22/99, which included comments from the efficacy review of 6/30/99. The "**DIRECTIONS FOR USE**" section has been modified in the ways indicated in the efficacy review of 6/30/99 and in EPA's letter of 7/22/99. The container-evacuation claim must be shortened. I feel that 5 seconds is something that users could expect, based on my observations of the limited videotaped trials. I am not sure what to do about the "**effective range**" claim because I am puzzled by the spray-pattern measurements reported.

The printed proposed canister label submitted by Nance on 8/26/99 differs from that supplied by Davis in a number of substantive and organizational ways. Unlike the printed example of a canister label discussed in the efficacy review of 6/30/99 (submitted on or about 6/3/99) this printed version has reasonable contrast between background and text colors. The primary background color is a tannish gray. The product name, the signal word and other front-panel precautionary labeling, and the captions for major label sections ("**PRECAUTIONARY STATEMENTS**", "**DIRECTIONS FOR USE**", and "**STORAGE AND DISPOSAL**") all appear in red type, while nearly all other information appears in black ink. Black ink on a white background is used for the label's four graphics, 3 of which deal with how to arm, apply, and disarm the product. The fourth graphic is a bust of a menacing bear which appears on the front panel. I find the overall appearance of the label to be acceptable.

The differences between the canister label proposed by Nance and the one proposed by Davis must be resolved. Except for the need for modifying the claims related to spray characteristics, I find the efficacy-related text proposed by Davis to be acceptable. I prefer Nance's version of the front panel text to Davis's because of superior precautionary statements and greater emphasis of the "**DO NOT SEEK OUT ENCOUNTERS WITH BEARS**" paragraph, which Davis presents mainly in lower-case letters and positions below the signal word. Nance has the text below the bear bust and above the KOOROC statement.

In the "**DIRECTIONS FOR USE**", I prefer Nance's left-justification of the "It is a violation ... labeling"

sentence, which Nance also has italicized, to Davis' centering of the statement. I prefer Davis' placing of the first sentence of "**USE RESTRICTIONS:**" in bold type to Nance's use of regular type.

Nance proposes to change the range and duration sentences from

> **This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds.**

to

> **This product fires 25 feet.**
> **The canister empties in approximately 7.8 seconds.**

As noted above, I feel that the duration claim should be changed to 5 seconds and that the "**effective range**" claim cannot be resolved until we receive more information on how Nance conducted the spray pattern study and the actual number of propellents proposed for inclusion in the product. I prefer Davis' style for the range sentence because it presents the material more as use-and-safety information and less as a bold promotional claim. I also wonder whether [redacted] or [redacted] would have been helped if they had fired their Frontiersman containers (for 3 seconds) when the bears they faced were 25 feet away.

On the blister-pack label submitted by Security on 8/26/99, the product is called by the same name that appears on the canister label: "**FRONTIERSMAN® BEAR ATTACK DETERRENT**". In two places, the blister pack label indicates that the product is to be used when "hunting, camping, fishing, hiking, biking or whenever enjoying the great outdoors." The blister pack has a "**DIRECTIONS FOR USE**" section which consists of a command telling readers to read the use directions on the canister label. I have no objections on grounds of efficacy to the blister-pack label.

The hang-tag label submitted on 8/26/99 is similar in efficacy-related contents to the blister-pack label submitted on that date. I have no objections to the hang-tag label.

202.0 CONCLUSIONS

1. The new report of "SPRAY PATTERN DATA" (MRID No. 449067-01) suggests that many units were fired at fixed

distances from a vertical cloth target and that the spray pattern information recorded was remarkably uniform. How were the dimensions of patterns determined?.

The videotape showing some test firings of the product was too limited in scope and description to be very useful to us. The tape did show visible clouds of product and the remotely visible pattern resulting from the firing of one unit at the cloth target from a reported distance of 10 feet.

From timing the spray durations from the videotape, we infer that the durations that you report were from onset to cessation of hiss rather than from onset to last appearance discharge that might be sufficient to function as a bear deterrent. Based on the limited observations possible from the tape and a desire to err on the conservative side, if at all, we conclude that the spray duration claim should be limited to 5 seconds.

The spray pattern report states that [redacted] propellents are used in Frontiersman, but the Confidential Statement of Formula (CSF) dated February 19, 1999, identifies only one propellent. Explain this discrepancy and submit a new CSF if the one originally submitted does not accurately describe the intended composition of this product.

The report did not indicate how many bursts of approximately one second can be fired from a single canister before its usable contents are exhausted. This information must be supplied for the intended container and formulation.

If and when this product is registered, you may **not** add or change container sizes via "notification" because the amount of product is crucial to the degree of protection provided and would also affect label claims regarding spray duration, numbers of one-second bursts per container, and perhaps even spray range. New spray pattern data must be submitted for each proposed size and design of container. Note that this product is disqualified from the provisions, in 40 CFR and PR Notice 98-10, for altering containers by "notification" or non-notification, because the product is a rodenticide (i.e., vertebrate pesticide) and the change in net contents could affect whether a useful dosage of product can be delivered.

Manufacturing process information may be entitled to confidential treatment

2. We have become aware of two incidents in which people who used containers of one or more unregistered Frontiersman products were mauled by bears. In both cases, the containers reportedly delivered spray only short distances. One victim ultimately was able to drive the bear off using the spray, but this occurred while the bear was biting him and after use of the product at fairly close range had failed to halt the animal. The other victim reportedly was failed completely by the product and survived only because there were two other people with him. What were the compositions of all Frontiersman products sold in Wyoming during and shortly before 1998? Do know the formulation(s) involved or any other specific information about the 1998 incidents?

3. The "**DIRECTIONS FOR USE**" section on the typed canister label proposed for this product submitted by Kim Davis of RegWest Company, on behalf of Security Equipment Corporation, on August 26, 1999, is nearly acceptable. However, the sentence under '**USE RESTRICTIONS:**" which pertains to the amount of spraying time it takes to exhaust the product of its useful contents must be change to read

   The canister empties in approximately 5 seconds.

   Whether the "**effective range**" sentence should be changed will depend on the answers to our questions concerning the conduct of the spray pattern study run in August of 1999.

4. The "**DIRECTIONS FOR USE**" section on the printed canister label submitted on August 26, 1999, by Security Equipment Corporation differs from that submitted by RegWest on the same date. The wording on the RegWest version is acceptable, subject to the comment above.

   To be acceptable, the "**DIRECTIONS FOR USE**" section on the printed canister label must be modified slightly. Delete the sentences:

   This product fires 25 feet.
   The canister empties in approximately 7.8 seconds.

In place of those sentences insert the following sentences:

> **This product has an effective range of up to 18 feet. The canister empties in approximately 7.8 seconds.**

Note that while the distance indicated in the first of these sentences could change if the additional information requested on your second spray pattern test is obtained, the "**effective range**" rather than how far the "**product fires**" is what customers should be told.

The first sentence of the "**USE RESTRICTIONS**" subsection should be placed in **bold type** as is the case on the version of the canister label submitted by RegWest on August 26, 1999.

5. The canister labels submitted by Security and RegWest on August 26, 1999, differ in the format of the main panel (the one bearing the name of the product and the statement of ingredients). We prefer Security's version.

6. From the standpoint of efficacy, there are no objections to the blister-pack and hang-tag labels submitted by Security Equipment Corporation on August 26, 1999.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
November 9, 1999

Table 1. Results of outdoor spray-pattern tests of Frontiersman Bear Attack Deterrent, 72265-R (MRID# 449067-01).

DATE	TEMP. (F)	% RH	WIND SPEED (mph)	WIND DIR.	UNIT NO.	SPRAY TIME (sec.)	SPRAY PATTERN DIMENSIONS (in inches) 10' Width	10' Height	15' Width	15' Height	20' Width	20' Height	25' Width	25' Height	30' Width	30' Height
8/2/99	92	69	8	SW	111	7.80	120	100								
					112	7.75			120	125						
					113	7.90					144	144				
					114	8.00							144	144		
					115	8.00							144	144		
					116	7.80							144	144		
					117	7.80					144	144				
					118				120	125						
					119						144	144				
8/5/99	88	51	9	W	501	8.00	120	120								
					502	7.80			120	125						
					503	7.93					168	186				
					504	8.00					168	180				
					505	7.91							150	144		
					506	7.91							144	144		
8/6/99	91	51	9	W	301	7.59	120	120								
					302	7.66			120	125						
					303	7.98					144	144				
					304	7.75							156	144		
					305	7.75							144	144		
8/7/99	85	71	10	W	401	7.90	120	100								
					402	7.95			120	132						
					403	7.85					144	144				
					404	7.95							144	144		
8/9/99	86	67	9	?	204	7.76	120	100								
					205	7.61			120	125						
					206	7.67					150	144				
					207	7.54					144	144				
					208	7.79							144	144		
					209	7.75	120	100								
					210	7.73	120	101								
					211	7.86			120	125						
					212	7.75					150	144				
					213	7.70							144	144		
					214	7.75							144	144		
					215	7.80							144	144		
					216	8.00					144	144				
					217	7.80					144	144				
					218	7.75					144	144				
					219	8.00	120	102								
					220	7.90	125	102								
					221	8.00			120	125						
					222	7.80					144	144				
					223	7.90					144	144				
Averages						7.83	121	105	120	126	148	149	146	144	No	Data

Table 2. Results of indoor spray-pattern tests of Frontiersman + fluorescent dye (MRID# 449067-01).

DATE	TEMP. (F)	% RH	WIND SPEED (mph)	WIND DIR.	UNIT NO.	SPRAY TIME (sec.)	SPRAY PATTERN DIMENSIONS (In inches)									
							10' Width	10' Height	15' Width	15' Height	20' Width	20' Height	25' Width	25' Height	30' Width	30' Height
8/3/99	89	60	—	—	D-1	7.76	120	120								
					D-2	7.71			144	132						
					D-3	7.76					168	180				
					D-4	7.59							144	168		
					D-5	7.80									108	108
					D-6	8.00									108	108
8/4/99	89	61	—	—	D-7	7.90	120	120								
					D-8	7.95			144	132						
					D-9	7.90					168	180				
					D-10	7.95							144	144		
					D-11	7.85	120	120								
					D-12	7.90							144	144		
Averages						7.84	120	120	144	132	168	180	144	152	108	108

IRB BRANCH REVIEW - TSS

Record Number(s)

D261129

IN -1/17/99 OUT 11/30/-99

EFFICACY

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 10/27/99

DATE OF SUBMISSION 10/22/99

DATE SUBMISSION ACCEPTED 11/17/99

TYPE PRODUCTS(S): I, D, H, F, N, R_K S

DATA ACCESSION NO(S). none

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN BEAR ATTACK DETERRENT

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE registration discussion

CHEMICAL & FORMULATION 1.388 Capsaicih and related capsaicinoids aerosol

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

Proposed labels declare this product to be nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See efficacy reviews of 6/30/99 and 11/9/99. The first of those reviews discussed the initial application for Federal registration of Frontiersman. The second discussed follow-up submissions and accounts of incidents in which people who used products called "Frontiersman" were mauled by bears nevertheless. See also general efficacy review of 6/17/93 for Capsaicin bear repellents and the 1997-1999 efficacy reviews for similar products.

On 5/12/98, Counter Assault Bear Deterrent (55541-2) was accepted as the first Federally registered Capsaicin-based bear repellent in the U.S. Prior to that time there had been perhaps 20 years of illegal sale of that and similar products (including at least one Frontiersman product for some of that time) as unregistered pesticides. Four aerosol attack deterrents are now registered: Counter Assault, Guard Alaska (71545-1), BearGuard (71768-1), and Bear Pause (71920-1). Recently, a Frontiersman product was being sold illegally under labeling contrived so as to make the product appear (to some) not to be a pesticide. Enforcement actions possibly have stopped that practice.

This review discusses a submission dated 10/22/99 that was prepared by Kim Davis of RegWest Company, Greeley, CO, on behalf of Security. Ms. Davis addresses comments to the mauling incidents and the formulation of Frontiersman prior to application for Federal registration.

201.0 DATA SUMMARY

In her letter of 10/22/99, Ms. Davis states that neither "Mr. Nance", presumably Security's President Larry Nance, nor his "primary distributor in Alaska ... had heard

anything from **anyone** about" the Frontiersman incidents that I discussed in the efficacy review of 11/9/99. She adds that any failings in the product involved with the incidents are likely to have been addressed by the "numerous improvements to both" the packaging and the formulation now being proposed for registration as FRONTIERSMAN® BEAR ATTACK DETERRENT.

As an attachment to her letter, Ms. Davis includes a table captioned "***CONFIDENTIAL FORMULATION COMPARISON***". That table identifies the "*OLD FORMULATION*" as having been 15% Oleoresin Capsicum, [redacted] The "*NEW FORMULATION*" differs further from the "*OLD FORMULATION*" by having a different [redacted] Neither the "*NEW FORMULATION*" nor the "*OLD FORMULATION*" has the [redacted] propellent [redacted] that was mentioned in the report of the new spray pattern study (MRID# 449067-01) discussed in the efficacy review of 11/9/99.

By allegedly containing more Capsaicin and more propellent than the "*OLD FORMULATION*", the "*NEW FORMULATION*" could be claimed to pack more heat delivered with greater oomph. If the representations made on the "***CONFIDENTIAL FORMULATION COMPARISON***" are accurate, we would have reason to expect the formulation proposed for registration to be more likely to be effective than that previously sold as an unregistered pesticide. We also would have another reason to conclude that our efforts to get bear pepper sprays registered were important as well as being long overdue. If there is false information on the "***CONFIDENTIAL FORMULATION COMPARISON***", we might be thrown of the trail of finding an actual problem with Frontiersman.

Ms. Davis is caught in the middle between EPA and Security. She probably has no independent way of knowing whether the representations on the "***CONFIDENTIAL FORMULATION COMPARISON***" are correct or whether Mr. Nance had ever heard anything about the mauling incidents.

Manufacturing process information may be entitled to confidential treatment

The accounts of the maulings were provided through the cooperation of Dominic Domenici of Wyoming and the EPA Region 8 office. For purposes of discussion, I have imported and edited my analyses of the incidents that appeared in the efficacy review of 11/9/99.

The first incident reportedly occurred on 9/27/98 and involved a [redacted] and 2 other men. While elk hunting, they found themselves between an adult female bear (species not indicated) and her 2 cubs. When he used the Frontiersman product, it reportedly produced spray for an estimated 5-6 seconds but the spray only went about 6-7 feet. This performance was worse than the 15' distance claimed for a 1/2-second test firing conducted "some time earlier" (quoting Peacock's summary of the incident related to him by [redacted]. [redacted] was mauled badly but survived because another member of the party, Pat [redacted] father, summoned help (a medivac helicopter) by using a cell phone.

Unless [redacted] was facing into a fairly stiff wind, it appears that the product he used lacked sufficient oomph to reach a charging bear in an effective manner. Whether he had a container that was typical of the product, a rare "dud" can, or an aged product is not clear. If the performance was typical, the product would be a bad thing to take along for protection. If atypical for one reason or another, it would be useful to know how atypical.

Ms. Davis reportedly described this incident, perhaps as relayed to her by Daniel Peacock of IRB, to "Mr. Nance". Ms. Davis referred to the incident as one

> where the product performed perfectly on the test firing but failed to fire when the product was actually needed.

She said that "Mr. Nance" had never heard of such a complaint. Ms. Davis suggested that "the test firing depleted the product", perhaps because

> Some people might think they issued a one-second test blast when, in actuality it was closer to five or six seconds, leaving the can virtually empty.

From the little bit of timing of videotaped sprayings that I have done, I suspect that people are more likely to think that a burst of less than a second was a second or more. Nevertheless, it is possible that the test firing was made for an unusually long period of time or that multiple test-firings of the can occurred at various times. It also was

possible that the container was a "dud" due to improper filling or loss of propellent over time. I also wonder whether a container that had been emptied of useful contents by test firing(s) could have made noise for an estimated 5-6 seconds (admittedly estimated by a person under attack and/or his cohorts).

The second incident, which apparently occurred on 8/30/98, involved a [redacted] and what the victim took for an adult grizzly bear.

The bear charged [redacted] and attacked him after [redacted] had sprayed repellent at the bear from an estimated distance of 10'. According to the notes prepared by Brady Vandeberg of the Wyoming Department of Fish and Game (WDFG),

> At 10 ft. [redacted] sprayed the bear in the face with pepper spray but the bear continued and knocked him down and began biting him on the right leg. The bear swatter at [redacted] chest and broke his binoculars in half which he later dropped 25 yds. north of the attack site. [redacted] sprayed the bear again in the mouth and eyes and the bear released him and ran about 25 ft. The bear looked back at him and trotted off. [redacted] then walked as quickly as he could to his truck at the trail head and drove to Highway 89 where he was able to flag somebody down and get help.

Depending upon one's point of view, this incident either was an unsuccessful use of the product (because [redacted] initial use of the product failed to avert an attack) or a successful use (because [redacted] continued use of the product evidently saved his life). If the container lacked sufficient oomph to reach the bear at a distance of 10' or greater, the ensuing attack would have been one that a more powerful spray delivery might have prevented. The eventual success of the spray at very (too) close range would be consistent with an hypothesis of insufficient oomph.

However, the results might also be explained by prevailing wind direction, or by the bear's being too close when the initial spraying occurred such that the spray hit mainly fur or went past the bear before the material had aerosolized sufficiently. While the bear was attacking [redacted] the man's persistence eventually got an effective dose to the animal. If either of these scenarios were correct, the same outcome might have been obtained using registered bear deterrent products as well as Frontiersman.

It is noteworthy that both [redacted] and [redacted] reportedly fired the repellent at the bears that attacked them from estimated distances of 6-10'. In the [redacted] incident, the product apparently had sufficient heat but possibly not enough oomph. In the [redacted] incident, the product may have had to little of both.

I am not sure that we can treat the information and comments in Ms. Davis's submission of 10/22/99 as anything more than "potentially explanatory". It could be nothing more than words on paper, and Ms. Davis has relayed formulation information supplied to her by someone who had sold a pesticide illegally. It also is not clear to me whether she received the same level of detail on the alleged Frontiersman incidents as I did for the efficacy review of 11/9/99.

We possibly could verify the compositions attributed to the "*OLD FORMULATION*" and the "*NEW FORMULATION*" if containers packed with both formulations had been loaded prior to the current discussions. Perhaps analyses were conducted of the residual contents of the containers involved in the [redacted] and [redacted] incidents. It seems that it would be impossible to determine from spent containers the concentrations of any components at the time of filling.

On paper, the Frontiersman formulation has less than half as much propellent component and about twice as much Oleoresin Capsicum (OC) as two registered OC bear repellents. Another registered OC product is similar to Frontiersman in propellent and OC compositions. Once the propellents go away, the materials delivered by containers of all of these products might be similar in Capsaicin composition. It is noteworthy, however, that longer ranges were demonstrated for the products that are higher in claimed propellent composition.

Unless we are prepared to required product-by-product efficacy testing (which we might have done under a different start-up scenario), we will have to continue to speculate somewhat about the relative efficacies of bear pepper sprays. At least Capsaicin from OC is being claimed for Frontiersman.

202.0 CONCLUSIONS

If accurate, the differences between the "*OLD FORMULATION*" and the "*NEW FORMULATION*" shown on the "***CONFIDENTIAL FORMULATION COMPARISON***" might account for Frontiersman incidents of which we have been made aware and indicate that the formulation has been improved. We are not sure,

however, that there is an independent way to verify the accuracy of the formulations described on that sheet of paper.

In one reported mauling incident, the product used appeared to have neither the range nor the deterrent effect to be called a "BEAR DETERRENT". In the other incident, the bear eventually was driven off, but the product may have lacked sufficient range. Possibly, it was fired too late in the approach.

If samples of old and new formulation prepared prior to our recent discussions were available for chemical analysis, it might be possible to analyze for differences in concentrations of key ingredients. It would be especially useful if examples from the batch(es) associated with the reported incidents were available.

The claimed differences in propellent and active ingredient concentrations are consistent with claims of improved potency and range. We would need efficacy data on the specific formulation proposed for registration to determine conclusively whether its composition is adequate.

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
November 30, 1999

DP BARCODE: D261129

(4) of (4) B.11

CASE: 064803 DATA PACKAGE RECORD DATE: 11/17/99
SUBMISSION: S571264 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 10/27/99 DUE OUT DATE: 05/04/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 261129 EXPEDITE: N DATE SENT: 11/17/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	
DIV : RD	/ /	/ /	ADMIN DUE DATE: 04/15/00
BRAN: IRB	/ /	/ /	NEGOT DATE: / /
SECT: PM04	/ /	/ /	PROJ DATE: / /
REVR : [illegible]	11/17/99	11/30/99 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Do you have any comments about the attached letter, in reply to my telephone conversation with Kim Davis on 10/14/1999.

Dan Peacock

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

RegWest Company

P.O. Box 2220 Greeley, CO 80632-2220 970/353-0611 FAX 970/353-0613

414

Certified Mail RRR
Z 162 801 016

October 22, 1999

5-571264

Document Processing Desk
Office of Pesticide Programs - *7505C*
U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Washington, DC 20460-0001

ATTN: Dan Peacock, Insecticide/Rodenticide Branch

Dear Mr. Peacock:

SUBJECT: Security Equipment Corporation
Frontiersman® Bear Attack Deterrent
EPA File Symbol: 72265-R

On behalf of its client ***Security Equipment Corporation***, RegWest Company is responding to our telephone conversation of October 14, 1999 in continuing support of subject product's FIFRA Section 3(c) pesticide product registration. RegWest Company will act as sole agent in this endeavor.

During our conversation you mentioned that the Agency had been made aware of two bear mauling incidents that allegedly occurred due to some type of failure with a Security Equipment Corporation product. I talked with Mr. Nance of Security Equipment Corporation and with their primary distributor in Alaska and neither had heard **anything** from **anyone** about these alleged incidents. Mr. Nance is most concerned and requested I obtain a copy of any and all information from the Agency concerning these incidents. Actually, I'm surprised this information has not already been shared with Security Equipment Corporation.

When I discussed the once incident with Mr. Nance, where the product performed perfectly on the test firing but failed to fire when the product was actually needed, Mr. Nance indicated this type of complaint had never been reported to Security Equipment Corporation. Could it have been possible the test firing depleted the product? Some people might think they issued a one-second test blast when, in actuality it was closer to five or six seconds, leaving the can virtually empty.

Regardless, as you well know if a Security Equipment Corporation product was involved in an incident, it was the product formulated and packaged prior to initiating Federal registration. You asked if any "problems" had been remedied with the new formula and/or packaging. In fact, there have been numerous improvements to both.

Attached is a formulation comparison. As you can readily see, the new formula has double the amount of total capsaicinoids. The Capsaicin content, 0.857%, is a higher percentage than many of the bear deterrents currently registered with the EPA. The new carriers and propellant in the new formula provide many additional benefits:

[redacted]

202

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Manufacturing process information may be entitled to confidential treatment

4. The formulation is very homogeneous and will not separate. Therefore, shaking the unit before spraying is not necessary.
5. [redacted] maintains a consistent internal pressure in the unit regardless of the environmental temperature.

In addition, the following improvements have been made to the new unit itself:

1. The hardware used has improvements to ensure stability, integrity and dependability.
2. The extruded aluminum tube is stronger due to the walls' ironing process. This is a new step to prevent leakage and enable the unit to withstand much higher internal pressure. For example, if the product were placed on the dashboard of a closed vehicle, with the sun shining through the glass, the tube would not leak or explode as a result of the increased internal pressure due to extreme temperatures.
3. The tube has an epoxy phenolic inner lining to prevent any potential chemical reaction with the walls of the tube.
4. The valve has a neoprene gasket in both the mounting cup and stem orifice. Neoprene is compatible with the formula.
5. The valve has an epoxy coating to prevent chemical reactions with the valve metal.

Finally, the product will be sold with a holster making it readily accessible in the field.

The improvements were made to the formulation and unit to maintain Security Equipment Corporation's standards of safety and excellence, as well as knowledge of regulatory issues such as Volatile Organic Compound (VOC) content.

We hope this information will satisfy the Agency's concerns discussed during our conversation of October 14th. If you have any additional questions, please do not hesitate to contact me at (970) 353-0611.

I will look forward to receiving the incident information in the very near future.

Regards,

REGWEST COMPANY

Kim Davis, CC, APC
Consultant/Agent

pc: SEC - Nance, L.

Manufacturing process information may be entitled to confidential treatment

DP BARCODE: D260127

CASE: 064803
SUBMISSION: S569581

DATA PACKAGE RECORD
BEAN SHEET

(3)(3) Bill

DATE: 10/13/99
Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 15 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 07/14/99 DUE OUT DATE: 01/20/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 260127 EXPEDITE: N DATE SENT: 10/12/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 03/10/00
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR :	10/12/99	11/9/99 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Please consider this incident report including video sent to us by Tim Osag. It was a Frontiersman's product. We have 4 items to consider: label, new spray pattern data, this incident, other incident (It should be in jacket.)

Thanks,

dan Peacock

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

WILDLIFE/HUMAN INTERACTION FORM

This form is to accompany a completed Trophy Game Incident Report form. S- 569581

Complete this form only in the event of: recurring sightings or encounters near human development, or an aggressive encounter or attack

needs to be printed out

LARGE CARNIVORE: Mt. Lion; Black Bear; Grizzly Bear; Other: _____

RECORD TYPE: Mark the correct choice after reading definitions:

Recurring Sighting: repeated sightings of a particular animal or group of animals in close proximity to human developed areas (e.g., homes and campgrounds).

Encounter: an unexpected direct meeting between a human and a large carnivore without incident near human developed areas.

Aggressive Encounter: an incident where a large carnivore displays aggressive behavior toward a human, but does not cause physical injury.

Attack: When a human is physically injured or killed from contact with a large carnivore.

Recurring Sighting:_____ Encounter:_____ Aggressive Encounter:_____ Attack: X

Age Class: Enter # and Sex of: Adults: 1 Subadults:_____ Yrlg:_____ Young:_____ UNK

[redacted]ck: Victims Name: [redacted] Age: 40 Fatal? Yes No

Interview Section

Call received by: Doug Crawford Date: 8/30/98 Time (military): 1230 hrs

Vandeberg interviewed victim in E.R. at hospital

A. Activity of involved party prior to incident:

1. Hiking X 2. Fishing _____ 3. Hunting _____ 4. Retrieving game _____ Other: _____

B. What action did the person involved exhibit? (check all applicable)

1. Waved arms _____ 2. Backed away X 3. Ran _____ 4. Talked X 5. Shouted X

5. Threw objects _____ 6. Fired warning shot _____ 7. Fought _____ Other: _____

C. [redacted]hat action did the animal exhibit? (check all applicable)

1. Watched person _____ 2. Pop jaws _____ 3. Show teeth _____ 4. Growled _____ 5. Fled _____

6. Crouched _____ 7. Bluff charged _____ 8. Attacked X Other: _____

D. Which of following best describe the incident? (check all applicable)

1. Surprise encounter X 2. Food guarding _____ 3. Defense of young X

4. Inquisitive/habituated _____ 5. Human predation _____ Other: Behavior of bear would tend to lead investigators toward assumption that young were involved.

NO young were seen by victim - NO evidence WAS found at the scene.

I&E Brochure(s) Mailed: Yes No List Title(s): _____

Follow-up: Public Meeting _____ Other: _____

(Narrative Report On Back)

Send original with completed Large Carnivore Incident Report to Regional Office. Regional Office will forward to Trophy Game Section.

5/15/97

RECEIVED

JUL 14 1999

Personal privacy information

WILDLIFE/HUMAN INTERACTION FORM (PAGE 2)
NARRATIVE REPORT

Required for recurring sightings and encounters near human development for trophy game species and all aggressive encounters and attacks for all species.

Date: 8/31/98 Investigators: CRAWFORD, BRUCINO, VANDEBERG, QUEEN.

Reporting Party: attached Address: _____

Phone: _____ Incident/Capture Site Information: Section: 12 Rng: 115W Tn: 46N (SW 1/4)

UTM Coordinates: _____ (East) _____ (North) Zone: _____ WGFD Region: _____

Management Unit (DAR): _____ Hunt Area: _____ Landowner: _____

Location (drainage, etc.): Arizona Lake (300 yds. east) Habitat Type: Timber (lodgepole pine)

ID Marks: Type: _____ Color: _____ Number: _____ Location: _____

Action Taken: Searched area - no evidence found

Release Information: UTM: _____ East _____ North Zone: _____ WGFD Region: _____

Management Unit (DAR): _____ Hunt Area: _____ Location: _____

Comments:

interview attached

Camp was removed by CRAWFORD - very clean with small amount of food hung in the tree - attack occured approximately 3/4 of a mile south of the camp

Photos of victims wounds attached.

Memo of Interview.

Interview conducted by: Brady VANDEBERG Game warden WY. Game and Fish

Date: 8/30/98
Time: 14:20
Place: St. John's Hospital (ER)

[redacted] DOB 4/22/58 Hgt. 6' 4" Wgt. 225 lb.
Eyes BR Hair BR

Address: 9325 Red cr. road
Casper, WY.
Phone: 235-5263

At approximately 14:40 hr. officer VANDEBERG arrived at St. John's Hospital to interview a [redacted] regarding his attack by a bear. [redacted] was on I.V. pain killers but was awake and coherent.

At approximately 11:00 hr. [redacted] was hiking along the east side of Arizona lake. He had been hiking along a trail about 300 yds. east of the lake going from north to south. Some time after the trail ended he climbed the middle of three parallel ridges about 25 yds. in height. About 50 yds. away on the ridge to his right he began to here the sounds of a bear breathing and running towards him. [redacted] began making noise and tried to get to a location were he could see the bear and the bear could see him in hopes that the bear would turn and leave him alone. About 25 yds. away the bear came out of the brush running at [redacted] At 10 ft. [redacted] sprayed the bear in the face with pepper spray but the bear continued and knocked him down and began biting him on the right leg. The bear swatted at [redacted] chest and broke his binoculars in half which he later dropped 25 yds. north of the attack site [redacted] sprayed the bear again in the mouth and eyes and the bear released him and ran about 25 ft. The bear looked back at him and then trotted off. [redacted] then walked as quickly as he could to his truck at the trail head and drove to Highway 89 where he was able to flag somebody down and get help.

[redacted] had eaten only oatmeal for breakfast and was carrying only some granola in his backpack. He did not smell a rotting carcass and also did not see any cubs.

[redacted] is familiar with Black bears and he believes this bear was a Grizzly due to its size and a noticeable shoulder hump when it was running at him.

Personal privacy information

ACTIVE INGREDIENTS: Active Ingredients: 15% Oleoresin Capsicum (Red Pepper). Plus an invisible ultraviolet light sensitive dye for police suspect identification.

DIRECTIONS: Remove orange safety tab. Point the unit at the attacker's face and press the actuator. A heavy spray of powerful protection will discharge from the actuator in a range of 6 to 20 feet. Maximum effective range is 10 feet. To stop firing, release thumb pressure from actuator. **AFTER SPRAYING THE ATTACKER, ESCAPE IMMEDIATELY AND CALL POLICE. DO NOT TRY TO CAPTURE THE ATTACKER.** Test spray periodically to assure proper performance. The Frontiersman is a protective, positive protection. It is recommended that the Frontiersman is carried in the hand when hunting, camping, fishing, hiking, biking, or whenever enjoying the great outdoors. It is the consumer's responsibility to keep unit from accidentally firing. Do not spray into the wind. Do not puncture or incinerate can. Do not expose to heat or store above 120°F. Each canister states an expiration date. **AVOID CONTACT WITH EYES AND SKIN.** In case of skin contact, wash skin with soap and cold water, repeat if necessary. Do not rub, or use creams, salves or oils. In case of eye contact, flush with cold water for 15 minutes or longer. Expose to fresh air. Get medical attention. **KEEP OUT OF REACH OF CHILDREN.** For self-defense only. Not for sale where prohibited by law.

FM-454
300 grams

SECURITY
330 Sun Ve
Fenton, MO

FRONTIERSMAN
SABRE

Your edge against personal attack!

Active Ingredients
15%
OLEORESIN CAPSICUM
(RED PEPPER)

CAUTION:
SEVERE SKIN
AND EYE IRRITANT
CONTENTS UNDER
PRESSURE
SEE OTHER WARNINGS
ON BACK LABEL

FM-454 MADE IN USA 300 grams

209

ACTIVE INGREDIENTS: Active Ingredients: 15% Oleoresin Capsicum (Red Pepper). Plus an invisible ultraviolet light sensitive dye for police suspect identification.

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300 grams

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Fenton, MO

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Your edge against personal attacker

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(RED PEPPER)

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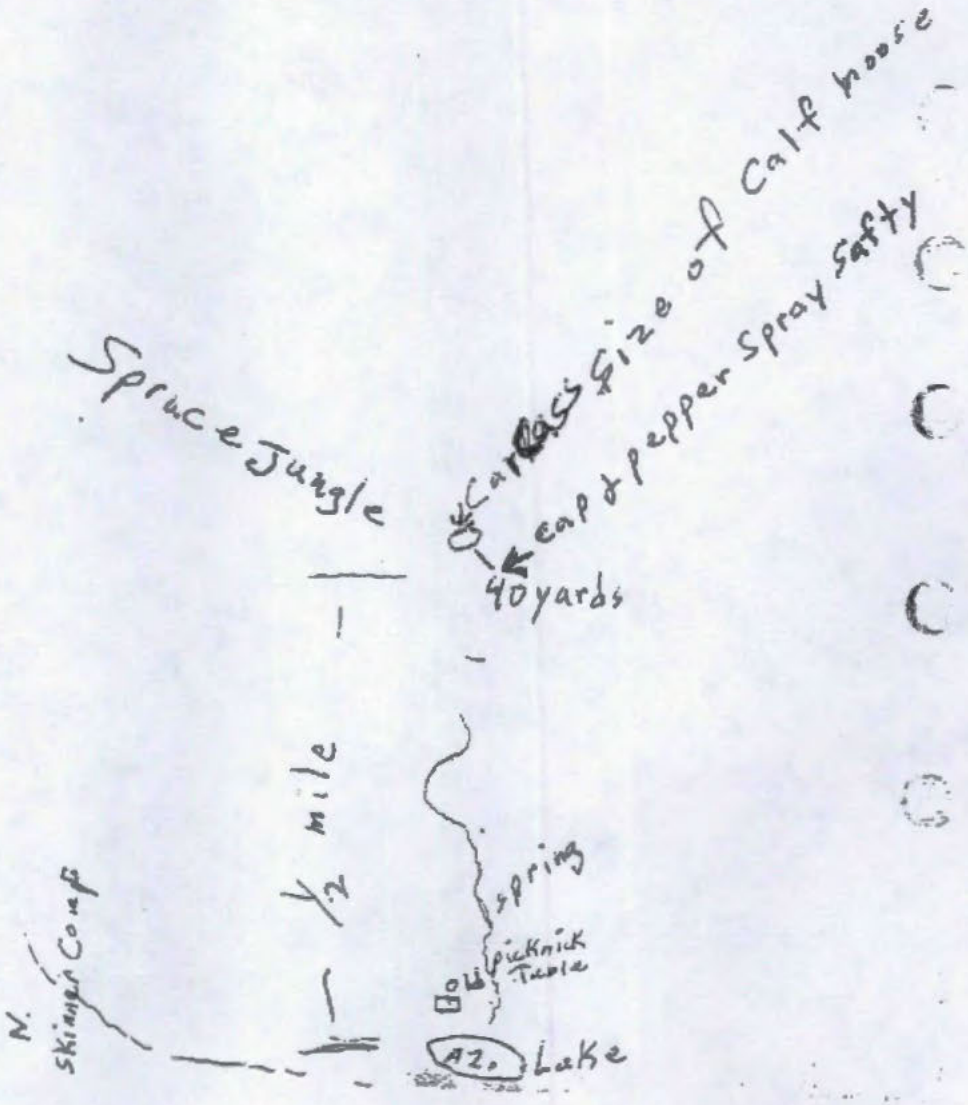
SEVERE SKIN AND EYE IRRITANT.
CONTENTS UNDER PRESSURE.
SEE OTHER WARNINGS ON BACK LABEL

FM-454 MADE IN USA 300 grams

211

Bruce Moyer
9/11/98



file 72265-R

Dan Peacock on 10/13/99 01:42:39 PM

To: Lyn Frandsen/R10/USEPA/US@EPA
cc: FLOURNOY.LUETTA
Subject: Update on Enforcement Actions Against Security Equipment Corporation

Lyn,

Do you have any information? We should be doing after them if they sold product after 1/15/99.

Dan

---------- Forwarded by Dan Peacock/DC/USEPA/US on 10/13/99 01:42 PM ----------

Dan Peacock on 10/13/99 01:40:33 PM

To: FLOURNOY.LUETTA
cc:
Subject: Update on Enforcement Actions Against Security Equipment Corporation

Luetta,

Can you update me on enforcement action against Security Equipment Corporation's selling of unregistered products (Frontiersman and Alaska's Best)? I understand that they were selling unregistered product after 1/15/99.

Thank you,

Dan Peacock
703-305-5407

Dan Peacock on 10/13/99 01:40:33 PM

To: FLOURNOY.LUETTA
cc:
Subject: Update on Enforcement Actions Against Security Equipment Corporation

Luetta,

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Thank you,

Dan Peacock
703-305-5407

Corporate Headquarters
McNeil River Enterprises, Inc.
P.O. Box 233002
Anchorage, Alaska 99523

Oct. 12, 1999
Alaska Magnum Marketing
750 W. Dimond, Suite 203
Anchorage, AK. 99515

Steve,

Please find enclosed information for: Coast Guard Exchange System, P.O. Box 195024, Kodiak AK. , 99619. Buyer's Name, Doug Heyes, Phone # (907) 487-5772.

Mr. Heyes is the buyer for on base Sporting Goods. There stores are currently buying from All Sports in Oregon. The Pepper Spray they currently carry is Pepper Plus, being purchased through All Sports in Portland. I will advise Region 10 of the US EPA Enforcement Division of the unregistered Bear Repellent being sold there. All bases such as this do purchase Sporting Good Related Items throughout Alaska. Most of these items are being sourced outside Alaska. State and Federal Agencies must purchase items for sale or agency use through local sources, (inside Alaska) before they look for sources in other states. This ensures local economies first rights with state and federal agencies.

Please send Guard Alaska Catalog and Stocking Distributor Price Program to him. He is currently out of Pepper Plus. This is an excellent opportunity to put this product in place in Kodiak Island.

Please feel free to call if you have questions.

Sincerely,
Randal Prater
President/CEO

US PATENT & TRADEMARK OFFICE
TRADEMARK TEXT AND IMAGE DATABASE

Check Status

Word Mark	***FRONTIERSMAN***
Pseudo Mark	FRONTIERS MAN
Owner Name	(REGISTRANT) Security Equipment Corporation
Owner Address	330 Sun Valley Circle Sun Valley Industrial Park Fenton MISSOURI 63026 CORPORATION MISSOURI
Attorney of Record	LAWRENCE E. EVANS, JR.
Serial Number	75-014075
Registration Number	2008385
Filing Date	11/02/1995
Registration Date	10/15/1996
Mark Drawing Code	(1) TYPED DRAWING
Register	PRINCIPAL
Published for Opposition	07/23/1996
Type of Mark	TRADEMARK
International Class	001
Goods and Services	red pepper personal defense spray; DATE OF FIRST USE: 1995.01.00; DATE OF FIRST USE IN COMMERCE: 1995.01.00

US PATENT & TRADEMARK OFFICE
TRADEMARK TEXT AND IMAGE DATABASE

Help | Home | Mark | Bookcase | Manual | Number | Order Copy | PTDLS

(1 of 1)

Check Status

Word Mark	***ALASKA'S BEST*** DEFENSE
Pseudo Mark	***Alaska's BEST*** DEFENSE
Owner Name	(APPLICANT) Security Equipment Corporation
Owner Address	330 Sun Valley Circle Fenton MISSOURI 63026 CORPORATION MISSOURI
Attorney of Record	Julianne B. Bochinski
Serial Number	75-655407
Filing Date	03/08/1999
Mark Drawing Code	(1) TYPED DRAWING
Register	PRINCIPAL
Type of Mark	TRADEMARK
International Class	005
Goods and Services	OUTDOOR ANIMAL REPELLANT AEROSOL SPRAY CONTAINING RED PEPPER AS AN ACTIVE INGREDIENT; DATE OF FIRST USE: 1995.12.30; DATE OF FIRST USE IN COMMERCE: 1995.12.30

(1 of 1)

H. Bishop Dansby

370-R Neff Avenue
Harrisonburg, VA 22801

540-434-6275
Fax 540-434-3143
Bdansby@amcad.com

October 13, 1999

TO: George LaRocca
FAX (703) 305-6596

Dear Mr. LaRocca:

I have received the copies of the chlordane levels. Thank you.

As you will recall, the application in my case was done in September 1980, and was broadcast applied to a stack of lumber that was to be incorporated as flooring in a house.

My interpretation of the documents you have sent is as follows:

> There is a Gold Crest label that appears to be dated July 19, 1974 that allows some interior applications and some above ground applications. (Interestingly, even on this label interior applications are limited to "Spot Applications.")
>
> The FR Notice restricts to termite use as of the date of the notice, July 21, 1975, with the exception of wood impregnation.
>
> There is a Gold Crest label dated Feb 6, 1976 that appears to implement the restrictions of the July 21, 1975 FR Notice.
>
> There is a "typical label" that also sets out the specifications for wood impregnation. This document appears to be dated 11/7/84. It is not clear whether this is the earliest date on which a label contains the wood impregnation specifications.
>
> Finally, there is a new Gold Crest label dated Nov. 27, 1987. The only obvious difference between the 1987 label and the 1976 label is that it prohibits application inside masonry walls.

In summary, it appears that labels were out in the field as early as 1976 that reflected the EPA's action as represented in the 1975 FR Notice. It is not clear from these materials whether there was a label that specified how wood impregnation, allowed by the 1975 FR Notice, was to be done. It may well be, however, that it would have been clear in the industry allowance of wood impregnation would not allow broadcast application on wood. My conclusion is that the regs and the labels available in the field would not have allowed broadcast application to wood for interior or exterior use in 1980.

I would appreciate your feedback on my comments, and whether you agree with my conclusion.

Sincerely,

Bishop Dansby

Corporate Headquarters
McNeil River Enterprises, Inc.
P.O. Box 233002
Anchorage, Alaska 99523

Oct. 12, 1999
Alaska Magnum Marketing
750 W. Dimond, Suite 203
Anchorage, AK. 99515

Steve,

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Please feel free to call if you have questions.

Sincerely,
Randal Prater
President/CEO

US PATENT & TRADEMARK OFFICE
TRADEMARK TEXT AND IMAGE DATABASE

Word Mark	***FRONTIERSMAN***
Pseudo Mark	FRONTIERS MAN
Owner Name	(REGISTRANT) Security Equipment Corporation
Owner Address	330 Sun Valley Circle Sun Valley Industrial Park Fenton MISSOURI 63026 CORPORATION MISSOURI
Attorney of Record	LAWRENCE E. EVANS, JR.
Serial Number	75-014075
Registration Number	2008385
Filing Date	11/02/1995
Registration Date	10/15/1996
Mark Drawing Code	(1) TYPED DRAWING
Register	PRINCIPAL
Published for Opposition	07/23/1996
Type of Mark	TRADEMARK
International Class	001
Goods and Services	red pepper personal defense spray; DATE OF FIRST USE: 1995.01.00; DATE OF FIRST USE IN COMMERCE: 1995.01.00

US PATENT & TRADEMARK OFFICE
TRADEMARK TEXT AND IMAGE DATABASE

(1 of 1)

Check Status

Word Mark	***ALASKA'S BEST*** DEFENSE
Pseudo Mark	***Alaska's BEST*** DEFENSE
Owner Name	(APPLICANT) Security Equipment Corporation
Owner Address	330 Sun Valley Circle Fenton MISSOURI 63026 CORPORATION MISSOURI
Attorney of Record	Julianne B. Bochinski
Serial Number	75-655407
Filing Date	03/08/1999
Mark Drawing Code	(1) TYPED DRAWING
Register	PRINCIPAL
Type of Mark	TRADEMARK
International Class	005
Goods and Services	OUTDOOR ANIMAL REPELLANT AEROSOL SPRAY CONTAINING RED PEPPER AS AN ACTIVE INGREDIENT; DATE OF FIRST USE: 1995.12.30; DATE OF FIRST USE IN COMMERCE: 1995.12.30

(1 of 1)

DP BARCODE: D260124

(2 of 2)

CASE: 064803 DATA PACKAGE RECORD DATE: 10/13/99
SUBMISSION: S569580 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 08/27/99 DUE OUT DATE: 03/04/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 260124 EXPEDITE: N DATE SENT: 10/12/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	
DIV : RD	/ /	/ /	ADMIN DUE DATE: 03/10/00
BRAN: IRB	/ /	/ /	NEGOT DATE: / /
SECT: PM04	/ /	/ /	PROJ DATE: / /
REVR : wy	10/12/99	11/9/99 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill: Please review spray pattern data 449067-01 and ~~data~~ video.
Review with these documents: label (submitted earlier), incident involving Doug Crawford (sent by Region) and other incident (I talked with victim but could never get report.)
Thanks, Dan

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

P.S. They also sent some labels.

FRONTIERSMAN®
BEAR ATTACK DETERRENT

To Deter Bears from Attacking Humans

ACTIVE INGREDIENT:

Capsaicin and related capsaicinoids	1.388%
INERT INGREDIENTS	98.612%
Total	100.000%

Includes 0.857% Capsaicin and 0.531% other capsaicinoids derived from Oleoresin of Capsicum

Keep Out of Reach of Children

WARNING

Do not seek out encounters with bears. This product is a bear attack deterrent that may protect users in some unexpected confrontations with bears but may not be effective in all situations or prevent all injuries. Read this entire label before taking this product into areas where bears might be encountered.

See Back Panel for Additional Precautionary Statements

EPA Reg. No. 72265-R **EPA Est. _____**

NET CONTENTS: 9.17 OZ.

Manufactured by:
SECURITY EQUIPMENT CORPORATION
330 Sun Valley Circle
Fenton, MO 63026
sabre@stlnet.com
www.sabredefensesprays.com
(800) 325-9568

Made in the U.S.A

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles or safety glasses). Strongly irritating to nose and respiratory tract. Wash skin thoroughly with soap and cold water after handling or if sprayed. Immediately remove contaminated clothing and wash clothing before reuse.

First Aid

If in Eyes: Hold eyelids open and flush with a steady, gentle stream of cool water for 15 minutes. Get medical attention.

Physical or Chemical Hazards

Flammable. Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS: This product may be used only to deter bears that are attacking or appear likely to attack humans. This product may not be effective in all situations or prevent all injuries. Do not spray this product on objects, tents or humans; such use has **no** deterrent effect on bears. Do not seek out encounters with bears or intentionally provoke them. Keep safety clip in place except when practicing with or using the product. Do not eat or allow to be eaten any food or feed materials that may have become contaminated with this product.

This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds.

APPLICATION DIRECTIONS: Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test-fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can.

To Arm and Apply: This product is designed for one-handed operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (fig. 1). Depress actuator tab for burst of spray (fig. 2).

Fig. 1

Fig. 2

Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

To Disarm: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (fig. 3).

Fig. 3
Snap Safety Clip in Place

Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Storage and Disposal

Storage: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.
Disposal: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

08/26/99

RegWest Company

P.O. Box 2220 Greeley, CO 80632-2220 970/353-0611 FAX 970/353-0613

Federal Express
AB 809552050266

August 26, 1999

449067-00

Document Processing Desk
Office of Pesticide Programs - ***7505C***
U.S. ENVIRONMENTAL PROTECTION AGENCY
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

ATTN: Dan Peacock, Insecticide/Rodenticide Branch

Dear Mr. Peacock:

SUBJECT: Security Equipment Corporation
Frontiersman® Bear Attack Deterrent
EPA File Symbol: 72265-R
Agency Letter Dated July 22, 1999

On behalf of its client ***Security Equipment Corporation***, RegWest Company is submitting the enclosed materials in response to your letter of July 22, 1999 and in continuing support of subject product's FIFRA Section 3(c) pesticide product registration. RegWest Company will act as sole agent in this endeavor.

Enclosed are the following items:

VOLUME 1 OF 2: ADMINISTRATIVE DOCUMENTS:

1. Application for Pesticide: Other [OPP IDN 265518]
2. Five copies of draft product labeling
3. Video Tape: Spray Pattern Data

VOLUME 2 OF 2: PRODUCT PERFORMANCE DATA: ASSIGNED MRID NUMBER: 44906701

Nance, L. (1999): Spray Pattern Data of Frontiersman® Bear Attack Deterrent. Unpublished study prepared by Security Equipment Corporation, Fenton, MO. 20p. Guideline Number 96-1. [3 copies]

In response to the points addressed in your letter –

I.A. We have noted the correct units are ***ounces*** as opposed to ***fluid ounces***. This correction has been made on the enclosed draft labeling. Yes, this will be the only size. Should we desire additional container sizes in the future notification of such, per PR Notice 98-10, will be made.

II.A. Yes, Security Equipment Corporation will analyze each batch of product for active ingredient content using their HPLC method. This was succinctly stated in the manufacturing process portion of the product chemistry data.

C.1. The spray pattern data have been revised pursuant to your suggestions. Refer to Volume 2 of this submission and the accompanying video tape.

III. Security Equipment Corporation and RegWest Company would be most interested in reviewing with the Agency any "alleged incidents" at any time in the future.

IV.1. The label modifications stipulated in your letter have been made. Please note you may also want to update your ***Bear Deterrent Registration Kit*** information with these changes.

IV.2 through 7. The product sample submitted June 3, 1999 was not to be illustrative or indicative of the product labeling. It was submitted as a sample of **only** the delivery system, per the ***Bear Deterrent Registration Kit***. Therefore, all label comments concerning that packaging concept are being disregarded. When registration is achieved, labeling will be produced using the stamped accepted label and will comply with 40 CFR 156.10 regulations. We would appreciate all future label comments be directed to the enclosed draft labeling.

We note the reminder of FIFRA Section 6(a)(2) reporting requirements and once the product is registered will comply as required by the regulations.

We would appreciate a most expeditious response to this submission as it was our understanding registration would be granted some time ago. - In addition, please note the ***Bear Deterrent Registration Kit*** did not mention a requirement for product specific efficacy data. In fact, the kit clearly indicated that citing existing data would be sufficient. We chose to submit additional public literature supportive of these products as bear deterrents and cannot understand the Agency's repeated verbal requests for product usage data with subsequent negative comments regarding cooperators' reports.

Please contact me at (970) 353-0611 if you have any questions or require additional information.

Regards,

REGWEST COMPANY

Kim Davis, CC, APC
Consultant/Agent

Enclosures

pc: SEC-Nance, L.

2/2

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060. Approval Expires 05/31/98

United States **Environmental Protection Agency** 401 M Street, S.W. Washington, DC 20460-0001	☐ Registration ☐ Amendment ■ Other	OPP Identifier Number **265518**

Application for Pesticide – Section I

1. Company/Product Number	2. EPA Product Manager	3. Proposed Classification
EPA File Symbol: 72265-R	**Daniel Peacock**	■ None ☐ Restricted
4. Company/ Product (Name) **Frontiersman® Bear Attack Deterrent**	PM #	
5. Name and Address of Applicant (*Include ZIP Code*) **SECURITY EQUIPMENT CORPORATION c/o RegWest Company P.O. Box 2220 Greeley, CO 80632-2220** ☐ *Check if this is a new address*	**6. Expedited Review.** In accordance with FIFRA Section 3(c)(3)(b)(i) my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____	

Section – II

☐ Amendment – Explain below.	☐ Final printed labels in response to Agency letter dated _____
■ Resubmission in response to Agency letter dated **July 22, 1999**	☐ "Me Too" Application.
☐ Notification – Explain below.	☐ Other – Explain below.

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Section – III

1. Material This Product Will Be Packaged In:

Child Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
☐ Yes* ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Metal ☐ Plastic ☐ Glass ☐ Paper ☐ Other (Specify): _____
Certification must be submitted	If "Yes" Unit Packaging Wgt. / No. Per Container	If "Yes" Packaging Wgt. / No. Per Container	

3. Location of Net Contents Information	4. Size(s) Retail Container	5. Location of Label Directions
☐ Label ☐ Container		☐ On Label ☐ On Labeling Accompanying Product

6. Manner in Which Label is Affixed to Product ☐ Lithograph ☐ Stenciled ☐ Paper glued ☐ Other _____

Section - IV

1. Contact Point (*Complete items directly below for identification of individual to be contacted, if necessary, to process this application.*)

Name	Title	Telephone No. (Include Area Code)
Kim Davis, CC, APC	**Consultant/Agent**	**(970) 353-0611**

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature	3. Title	6. Date Application Received (Stamped)
	Consultant/Agent	
4. Typed Name **Kim Davis, CC, APC**	5. Date **August 26, 1999**	

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

(1d1)

DP BARCODE: D259112

CASE: 064803 DATA PACKAGE RECORD DATE: 09/01/99
SUBMISSION: S567578 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 08/30/99 DUE OUT DATE: 03/07/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 259112 EXPEDITE: N DATE SENT: 09/01/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 01/29/00
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR : Ley	9/1/99	11/9/99 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Please review the enclosed label. New Spray pattern data to follow.

I am also providing some background information on one incident involving a Frontiersman product last year. I had tried to contact some of the individuals on the attached sheet in July 1999 but never reached anyone. I was trying to get hold of the official report of the incident, which we should review so that we fix any product with this pending product before it is registered.

In the past the 2 biggest complaints from competitor's was:

1. product was water-based (This is not the case now.)
2. product was associated with ineffectiveness
   (This is true. The question is has the problem been fixed. The company claims they have not been involved in any recent maulings in past 2 years.

Dan Peacock, 305-5407

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

Personal privacy information

SUBJECT: Frontiersman by Sabre
Unregistered Bear Repellent
Attempt to Obtain Follow-up Report to Incident of Ineffective Use
on September 27, 1998, Involving [redacted]

Summaries of Telephone Conversations	
Person, Telphone Number, Time, & Date	Summary
Mr. Domenic Domenici WY Game & Fish or U.S. Fish & Wildlife Service ? 307-261-6365	
Mr. Kerry Gunther National Park Service 307-344-2162	
Mr. David Moody WY Game and Fish 307-332-7723	

C:\capsaici\Frontiersman[redacted]Incident Follow-up.wpdSeptember 1, 1999

Personal privacy information

July 6, 1999

TELEPHONE MEMORANDUM

SUBJECT: Frontiersman by Sabre
Unregistered Bear Repellent
Incident of Ineffective Use on September 27, 1998

FROM: Dan Peacock, Biologist
Registration Division

TO: [redacted]

Summary of Incident	
When	September 27, 1998
Where	Bridger Teton National Forest, Togwote Pass, WY
Details	[redacted] a friend, and his father were hunting elk in a remote area of the Forest. He had a rifle and pepper spray. He saw the bear 75 feet away but not the 2 cubs behind him. One cub cried out. The sow charged and knocked him down before he could use his rifle. The bear's momentum took her 45 feet pass him. He grabbed the pepper spray, which was in his fanny pack on the ground. [He had test fired the product some time earlier. He test fired it for about ½ second. At that time the spray pattern seemed OK to him. The distance was about 15 feet (need to check).] When he fired the spray at the bear, the spray would not reach it. He had to wait until it got to much closer. This time the spray would only go about 6 to 7 feet and only lasted 5-6 seconds. Then the bear attacked, severely injuring him. Eventually, his friend shot the bear once from 70 yards, then a second time from a closer range. [redacted] father called 911 on his cell phone. [redacted] was evacuated by helicopter 1-1/2 hour later. Otherwise, he felt that he would have bled to death.
Name of Product	Frontiersman by Sabre
Where Purchased	IGA on September 23, 1998

Personal privacy information

Effectiveness of Firearm	Ineffective because of lack of time to respond
Effectiveness of Bear Repellent	There was enough time to respond. However, the product was ineffective. The following factors may have contributed to ineffectiveness: 1. Lack of propellent: a. Except for initial ½ sec test fire, the product only went 6 to 7 ft. b. Product only lasted about 5-6 seconds c. There was still product left in the can after discharge. d. Except for initial ½ sec test fire, the spray pattern was very poor. It just sputtered out of the can. 2. Lack of Irritation (and Possibly Lack of Active) In 1997, [redacted] accidentally sprayed himself with a UDAP product [now registered as "UDAP Pepper Power"under Bear Guard (71920-1-72007]. In hindsight, he felt that the UDAP product was much less irritating. This may suggest that there was much less active ingredient in the product. At that time none of the registrants knew how much Capsaicin and Related Capsaicinoids were in their products. 3. Lack of Labeling Labeling was virtually non-existent. He did remember a picture of mountains in the background. The Forest Service retained the can, but he does not know if they still have it. 4. Lack of Testing Based on [redacted] description of product performance, product testing must have been minimal. Our registered products have chemistry, acute tox, and spray pattern testing at a minimum. We would have known the actual amount of active, the irritability of the product, the spray pattern, the duration of spray, and the number of 1 sec bursts of spray.

Personal privacy information

Formal Reports	The Forest Service made a report, but [redacted] has not been able to obtain a copy under Freedom of Information yet. His lawyer is in the process of making another request. **Having an opportunity to review this Report prior to registration of Frontiersman would be helpful in making our decision about registration and help prevent criticism from competitors about our not properly evaluating a product possibly involved in a bad bear mauling.**
Location of Label	Forest Service had it at one time.
Identification of Product Name	The incident was in the print and TV media, but the product name was not revealed, probably because of a fear of a law suit.
Contact of Victim with Company	[redacted] had heard that another victim of a bear attack, who has used Frontiersman, had sought a suit. However, he thought that the company was out of business. He was skeptical for getting satisfaction from a small company like Security Equipment Corporation. He was also concerned about getting suited himself. He still has $5000 in debts and needs another operation.
Next Steps Resulting from this Incident	These are possible next steps that we could take. 1. Hold off registration until we review the Forest Service's Report. Once we locate the Report, we could talk to Kate Bouve about how to get a copy of the Report from the Forest Service quickly. 2. Request that the company state in writing what they have said verbally: that they know of no recent (1998) incidents involving their products and bear maulings. 3. Have Enforcement could inspect the facility and look for records of incidents. 4. Have an official sample sent to one of our chemistry labs and checked for 1) % active 2) net contents by weight 3) spray duration and 4) rough spray pattern. 5. Double check the spray pattern data. 6. Require that the company test each lot for % active in finished product (like Guard Alaska supposedly does).

Personal privacy information

[redacted] PM 7/1/99 5:00 PM

To: Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Re: Frontiersman by Sabre or Alaska's Best Defense

Dan,

In response to your questions, I called Dominic yesterday. He was out but I did get some contacts from another person in the office. Specifically, Tim Eicher, U.S. Fish and Wildlife, (307/527-7604) who reported an incident last fall (he thought in September) which involved Frontiersman. He referred me to a [redacted] (not sure of spelling) [redacted] for details [redacted] was the individual involved in the incident).

Mr Eicher also recommended that I talk to Kerry Gunther ?
(Park Service) in Yellowstone (307/344-2162). Kerry and I traded calls. Mr. Gunther(spelling?) reported an incident last fall involving a hunter (could be [redacted] which involved Frontiersman. There appeared to be a problem with the spray pattern (too narrow) which caused the product to be ineffective.

Have a good weekend.

---------- Forwarded by Tim Osag/ENF/R8/USEPA/US on 07/01/99 02:54 PM ----------

[redacted] PM 6/29/99 2:28 PM

To: Dan Peacock/DC/USEPA/US@EPA
cc:

Subject: Re: Frontiersman by Sabre or Alaska's Best Defense

I don't have any details about the claimed attacks, however, I've noticed that Pride Johnson made such claims in a 11/18/98 letter to you. He also said that we could get more details from a Mr. Domenic Domenici with WY Game and Fish and provided a telephone number (307/261-6365). I've put in a call to see what info they might have but was not able to reach anyone (I left a message). I'll keep you informed regarding what I find out.

7/8/99 1:36 PM

[redacted] PM

To: Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Re: Incident with Frontiersman

I had a call from Dave Moody, 307-332-7723, X240, WY Game and Fish. He confirmed that there were 2 incidents last year involving Frontiersman. He will try to get back to me on a contact for the 2nd incident. I understand he has a report on the 1st incident [redacted] but release would be contingent on Dominic (U.S. Fish and Wildlife) clearance.

Personal privacy information

DP BARCODE: D259112

CASE: 064803 DATA PACKAGE RECORD (CONTINUED) DATE: 09/01/99
SUBMISSION: S567578 BEAN SHEET

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

Personal privacy information

SUBJECT: Frontiersman by Sabre
Unregistered Bear Repellent
Attempt to Obtain Follow-up Report to Incident of Ineffective Use
on September 27, 1998, Involving [redacted]

Summaries of Telephone Conversations	
Person, Telphone Number, Time, & Date	Summary
Mr. Domenic Domenici WY Game & Fish or U.S. Fish & Wildlife Service ? 307-261-6365	
Mr. Kerry Gunther National Park Service 307-344-2162	
Mr. David Moody WY Game and Fish 307-332-7723	

C:\capsaici\Frontiersman [redacted] Incident Follow-up.wpdSeptember 1, 1999

Cannister Label

PRECAUTIONARY STATEMENTS
Hazardous to Humans & Domestic Animals

DANGER: May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

FIRST AID – Have label with you when obtaining treatment advice.

If On Skin or Clothing – Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center, doctor, or 1-800-XXX-XXXX immediately for treatment advice.

If In Eyes – Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center, doctor, or 1-800-XXX-XXXX immediately for treatment advice.

PHYSICAL OR CHEMICAL HAZARDS – Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

ENVIRONMENTAL HAZARDS – Do not apply directly to water. Do not contaminate water by disposing of unused material.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS – This product may be used only to deter bears that are attacking or appear likely to attack humans. This product may not be effective in all situations or prevent all injuries. Do not spray this product on objects, tents, or humans; such use has no deterrent effect on bears. Do not seek out encounters with bears or intentionally provoke them. Keep safety clip in place except when practicing with or using the product. Do not eat or allow to be eaten any food or feed materials that may have become contaminated with this product.

This product fires 25 feet.
The canister empties in approximately 7.8 seconds.

APPLICATION DIRECTIONS – Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before, you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container, make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can.

To Arm and Apply – This product is designed for one-hand operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (Fig. 1). Depress actuator tab for burst of spray (Fig. 2). Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

To Disarm – Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (Fig. 3). Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Fig. 1

Fig. 2

Fig. 3

STORAGE AND DISPOSAL

STORAGE – Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.

DISPOSAL – When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

CHEMICAL EMERGENCY NUMBER:
800-255-5000

Expiration Date 5/2002
Discard unit after date of expiration

FRONTIERSMAN.
BEAR ATTACK DETERRENT

To Deter Bears From Attacking Humans

DO NOT SEEK OUT ENCOUNTERS WITH BEARS. THIS PRODUCT IS A BEAR ATTACK DETERRENT WHICH MAY PROTECT USERS IN SOME UNEXPECTED CONFRONTATIONS WITH BEARS BUT MAY NOT BE EFFECTIVE IN ALL SITUATIONS OR PREVENT ALL INJURIES. READ THIS ENTIRE LABEL BEFORE TAKING THIS PRODUCT INTO AREAS WHERE BEARS MIGHT BE ENCOUNTERED.

KEEP OUT OF REACH OF CHILDREN

DANGER

Strong temporary irritant to eyes, nose and skin. Wash thoroughly with soap and water after handling. See Side Panel for additional precautions.

ACTIVE INGREDIENTS:

Capsaicin and related capsaicinoids*	1.388%
INERT INGREDIENTS	98.612%
TOTAL	100.000%

** Made from Oleoresin of Capsicum.*

EPA Reg. No._____ EPA Est._____

Manufactured by:
Security Equipment Corporation, 330 Sun Valley Circle, Fenton, MO 63026
1-800-325-9568
sabre@stlnet.com • www.sabredefensesprays.com

NET CONTENTS: 9.1 OUNCES • MADE IN THE U.S.A.

Clam Shell Insert

FRONTIERSMAN

BEAR ATTACK DETERRENT

FBAD-01

Made in USA

For self-protection against violent attacks while

HUNTING, CAMPING, FISHING, HIKING, & BIKING

or whenever enjoying the great outdoors.

DANGER:

Strong temporary irritant to eyes, nose and skin. Wash thoroughly with soap and water after handling. See back for additional precautions.

Contents under pressure.

KEEP OUT OF REACH OF CHILDREN

Clam Shell Insert

FRONTIERSMAN.
BEAR ATTACK DETERRENT

WHEN TO USE FRONTIERSMAN BEAR ATTACK DETERRENT

It is recommended that Frontiersman Bear Attack Deterrent be carried in hand when hunting, camping, fishing, hiking, biking or whenever enjoying the great outdoors.

PRECAUTIONARY STATEMENTS

Hazardous to Humans & Domestic Animals

DANGER: May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

FIRST AID – Have label with you when obtaining treatment advice.

If On Skin or Clothing – Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center, doctor, or 1-800-XXX-XXXX immediately for treatment advice.

If In Eyes – Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center, doctor, or 1-800-XXX-XXXX immediately for treatment advice.

PHYSICAL OR CHEMICAL HAZARDS – Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

ENVIRONMENTAL HAZARDS – Do not apply directly to water. Do not contaminate water by disposing of unused material.

DIRECTIONS FOR USE

REFER TO BACK OF CANISTER LABEL FOR COMPLETE DIRECTIONS FOR USE.

STORAGE AND DISPOSAL

STORAGE – Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.

DISPOSAL — When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

CHEMICAL EMERGENCY NUMBER:
800-535-5053

Expiration Date 5/2002
Discard unit after date of expiration.

DANGER:

Strong temporary irritant to eyes, nose and skin. Wash thoroughly with soap and water after handling

See back for additional precautions

Contents under pressure.

KEEP OUT OF REACH OF CHILDREN

BAR CODE

FBAD-01 MADE AND PRINTED IN USA

SECURITY INTERNATIONAL
330 Sun Valley Circle
Fredonia, MD 63005

FRONTIERSMAN.
BEAR ATTACK DETERRENT

WHEN TO USE FRONTIERSMAN BEAR ATTACK DETERRENT

It is recommended that Frontiersman Bear Attack Deterrent be carried in hand when hunting, camping, fishing, hiking, biking or whenever enjoying the great outdoors.

PRECAUTIONARY STATEMENTS

Hazardous to Humans & Domestic Animals

DANGER: May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

FIRST AID – Have label with you when obtaining treatment advice.

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ENVIRONMENTAL HAZARDS – Do not apply directly to water. Do not contaminate water by disposing of unused material.

DIRECTIONS FOR USE

REFER TO BACK OF CANISTER LABEL FOR COMPLETE DIRECTIONS FOR USE.

STORAGE AND DISPOSAL

STORAGE – Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.

DISPOSAL — When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

CHEMICAL EMERGENCY NUMBER:
800-535-5053

Expiration Date 5/2002
Discard unit after date of expiration.

DANGER:

Strong temporary irritant to eyes, nose and skin. Wash thoroughly with soap and water after handling

See back for additional precautions

Contents under pressure.

KEEP OUT OF REACH OF CHILDREN

BAR CODE

FBAD–01 MADE AND PRINTED IN USA

SECURITY
Frontiersman, North America
3301 Sun Valley Circle
Frederick, MD 21701

FBAD–02

MADE AND PRINTED IN USA

WHEN TO USE FRONTIERSMAN BEAR ATTACK DETERRENT

It is recommended that Frontiersman Bear Attack Deterrent be carried in hand when hunting, camping, fishing, hiking, biking or whenever enjoying the great outdoors.

PRECAUTIONARY STATEMENTS

Hazardous to Humans & Domestic Animals

DANGER: May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

FIRST AID – Have label with you when obtaining treatment advice.

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DIRECTIONS FOR USE

REFER TO BACK OF CANISTER LABEL FOR COMPLETE DIRECTIONS FOR USE.

STORAGE AND DISPOSAL

STORAGE – Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.

DISPOSAL — When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

CHEMICAL EMERGENCY NUMBER: 800-535-5053

Expiration Date 5/2002. Discard unit after date of expiration.

BAR CODE

SECURITY 330 Sun Valley Circle Fenton, MO 63026

241

Bag Tag

SECURITY
EQUIPMENT CORPORATION

August 26, 1999
Office of Pesticide Programs 750C
U.S. ENVIRONMENTAL PROTECTION AGENCY
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA. 22202

Attention: Dan Peacock:

Dear Mr. Peacock:

Subject: Frontiersman Bear Attack Deterrent
EPA File Symbol: 72265-R

In regards to your letter of July 22, 1999 I have made the changes on the enclosed label, clam shell insert, and the bag tag that you instructed.

I have a question about the label. It has to do with the paragraph that starts out with "DO NOT SEEK OUT ENCOUNTERS WITH BEARS". THIS PRODUCT IS A BEAR ATTACK REPELLENT.

Should this say Repellent or Deterrent? I am asking for two reasons. The product name says that it is a deterrent. I have head of similar products that were called Repellent that were used wrongly. People were spraying their children as if it was mosquito repellent.

The two labels that I have enclosed have it both ways. One says repellent the other says deterrent. Please advise which word I should use.

Now about the spray pattern study, we finished it over two weeks ago and forwarded it to Kim Davis as she instructed. As of today I understand that she has not sent it to you. She still says she is going to write a letter to you. So be prepared.

I look forward to your advice.

Regards,
Larry Nance
Larry Nance
President

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://www.sabredefensesprays.com

F A C S I M I L E T R A N S M I S S I O N

S-566558 166/38

O'NealDesign

2306 East Royal Court
St. Louis, Missouri 63131
314 / 821-6717 Studio
314 / 821-7225 Fax
soneal@i1.net E-Mail

TO **Dan Peacock**

FROM **Steve O'Neal**

PAGES TO FOLLOW **0** DATE **8-10-99** TIME **2:00 pm**

Dan,

I have been working on revising the packaging for Frontiersman Bear Attack Deterrent (EPA File Symbol 72265-R) based on the comments you made in a letter to Ms. Kim Davis dated July 22, 1999. After reviewing the packaging work and the letter, I have a few questions. Would you please either call me with the answers to these or write everything out and fax it to my attention? My studio phone number and fax number are at the top of this cover sheet. For all of these questions, I have made mention to a number in your letter to Ms. Davis for reference.

1. Regarding item marked IV., 2., a.: The precautionary statement on the front of the container label will be moved above the ingredients. Should we also move the "EPA Reg. No." and the "EPA Est." above the ingredients or keep it at the bottom? I did not see any indication of where this should be in this section or in section IV., 5. ← NO

2. Regarding item marked IV., 2., d.: It was indicated the paragraph beginning with "*THIS PRODUCT FIRES UP TO 23 FEET...*" was unacceptable. No indications were made as to if this should be changed or removed all together. If this paragraph is removed, should we, and if so where should we, include the information on maximum range, effective range, and time to empty canister? see IV C 1 distance claim must match data

   distance claim needs to match data — no

3. Regarding item marked IV., 7.: This shows the First Aid information presented in a box. Does this information have to be in a box, or is it acceptable to use this verbiage written out in paragraph form? preferred

Thank you in advance for you help, and please do not hesitate to call me if any of the above is unclear.

Sincerely,

Steve O'Neal

Steve O'Neal

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 22 1999

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

5-558144 165/13
5-564617 166/13
5-564625 166/13

CERTIFIED MAIL

Security Equipment Corp.
c/o RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

EPA's 7-21-2000

Attention: Ms. Kim Davis

Subject: Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R
Your application of February 19, 1999
Your letters of February 24, June 3, and June 29, 1999

The Agency has completed the review of your application. Our comments on your forms, data, and labeling follow below. As soon as we have the revised labeling and the information about efficacy, we will be able to register this product.

I. Forms

A. Application Form

In Block 4, the correct units is "ounces", not "fluid ounces". Will this be your only size? If you want to add additional sizes, you need our approval first.

II. Data

A. Product Chemistry Data

The product chemistry data are acceptable, provided that you indicate how you will ensure that the amount of active ingredient is within your certified limits. Will you analysis each batch of your product using your HPLC method? If so, please indicate. See the labeling requirements below.

B. Acute Toxicity Data

These data were acceptable. See the labeling requirements below.

C. Efficacy Data

1. Spray Pattern Data

The report of "SPRAY PATTERN DATA" is not acceptable. The procedures used for the study are not described in sufficient detail and we question some of the results reported. Unless you can provide us a complete description of the procedures followed and copies of raw data-collection sheets, we will not consider this study further.

Alternatively, you might consider running a new trial with vertical spray patterns being determined at several fixed distances (e.g., 10', 15', 20', 25, and 30') from the container and with times to spray evacuation determined by use of an accurate stopwatch. You may wish to document the conduct of a new study on videotape in addition to recording all procedures and results on paper.

2. Supporting Data

Although no specific efficacy test data for Frontiersman were included in your application package of February 19, 1999, the information (MRID# 447632-04) supplied suggests that Capsaicin-based aerosols can be used to repel bears.

3. Mr. Rainer's Account

Mr. Rainer's terse account of spraying a bear in Alaska (submitted on June 29, 1999) suggests that it took two applications of a product at very close range to drive away a relatively small black bear. The first application reportedly had some adverse impact on the bear. Mr. Rainer does not report the name of the product that he used.

III. Review of Alleged Past Incidents Involving Frontiersman

We are currently reviewing alleged incidents involving products marketed in the past by your company. We need to be sure that any past problems do not extend to this pending product. We may be discussing these alleged incidents further with you in the future.

IV. Labeling

1. The container label proposed for this product on February 19, 1999, is basically acceptable from the standpoint of efficacy, but the changes identified below are needed in the "**DIRECTIONS FOR USE**".

   a. Between the first ("**This product ... humans**") and second ("Do not spray ... bears") sentences of the "**USE RESTRICTIONS:**" subsection, insert the following sentence:

      This product may not be effective in all situations or prevent all injuries.

   b. Change "**TO ARM AND APPLY:**" and "**TO DISARM:**" to "**To Arm and Apply:**" and "**To Disarm:**" so that it is clear that they fall under the subheading "**APPLICATION DIRECTIONS:**". In the first sentence of "**To Arm and Apply:**", change "one hand" to "one-hand" or "one-handed".

   Except for the changes indicated above, make sure that the organizational format proposed for the "**DIRECTIONS FOR USE:**" is retained when the label is set up for mounting on containers. The container label submitted on February 19, 1999, is closer to being acceptable than is the printed version submitted on June 3, 1999.

2. The printed container label submitted for this product on June 3, 1999, is not acceptable from the standpoint of efficacy for the reasons listed below.

   a. The proposed use of a red background with type and graphics appearing in three different colors creates a front label panel on which the name of the product is very easy to read, but on which the toxicity signal word and "Keep Out of Reach of Children" are somewhat harder to read, and the statement of ingredients and the paragraph which begins with "Do not seek out encounters with bears" are rendered inconspicuous are very difficult to read. Due to the importance of the material in that paragraph, it must be presented in such a way that it jumps out at readers. The bold black type on a white background used on the container label submitted on February 19, 1999, emphasized this text adequately, but putting it above the ingredients statement in all-capital bold letters would have been even better.

   b. The headings "**PRECAUTIONARY STATEMENT**" and "**DIRECTIONS FOR USE**" must be centered on the back panel so it is clear that they are major section headings. Presenting those headings in red type emphasizes them somewhat, but not sufficiently. The heading "**STORAGE AND DISPOSAL**" also must be centered.

   c. Between the first ("**This product ... humans**") and second ("Do not spray ... bears") sentences of the "**USE RESTRICTIONS:**" subsection of the "**DIRECTIONS FOR USE:**", insert the following sentence:

This product may not be effective in all situations or prevent all injuries.

d. Even if we had found the "SPRAY PATTERN DATA" report of analysis to be fully acceptable, it would not have supported the first sentence of the "**USE RESTRICTIONS --**" paragraph quoted below.

> ***"THIS PRODUCT FIRES UP TO 23 FEET WITH THE MOST EFFECTIVE RANGE AT 18 FEET. THE CANISTER EMPTIES IN APPROXIMATELY 8 SECONDS."***

?

Because no vertical spray pattern was reported 23 feet from test containers, the report does not indicate to what extent there might have been spray at bear-eye level at that distance. The report did claim a vertical spray pattern (8'H-X-9'W, consistently) at the 18' distance.

e. Change "**TO ARM AND APPLY:**" and "**TO DISARM:**" to "**To Arm and Apply:**" and "**To Disarm:**" so that it is clear that they fall under the subheading "**APPLICATION DIRECTIONS--**". In the first sentence of "**To Arm and Apply:**", change "one hand" to "one-hand" or "one-handed".

The product name indicated on the container label submitted on June 3, 1999, does not match the product name indicated on the container label submitted on February 19, 1999. Choose one basic name for this product an use it consistently on elements of labeling.

3. The blister-pack label submitted on June 3, 1999, is not acceptable for the reasons indicated below.

   a. The product name on the blister pack label does not match the product name on the label proposed for the container that is supposed to be in the blister pack. Pick a name for this product and use it consistently.

   b. The front panel of the blister pack makes claims which are unsupported, false or misleading. These claims (listed below) must be deleted.

      (1) "Highly Effective in Extreme Temperature **-40° to 120°F**". Taken at face value, your spray pattern report only covered the temperature range of -10° to 60°F, and those were temperatures of storage and apparently not temperatures of use. There was no indication of ambient temperature in the only account of product use that you have submitted.

      (2) "**22% Oleoresin Capsicum (Red Pepper)**". The active ingredients in this product may only be claimed in the manner in which they appear on the container label's statement of ingredients.

(3) "3,000,000 SHU'S". Whether or not the hotness claimed is correct, it is not acceptable to claim activity in terms of Scoville Heat Units.
The heading "**WHEN TO USE SABRE FRONTIERSMAN**" must be changed so that it does not rename the product. "**WHEN TO USE FRONTIERSMAN**" would be acceptable. If you decide to call the product "**FRONTIERSMAN**® *BY SABRE* **BEAR ATTACK DETERRENT**", the heading could be worded "**WHEN TO USE FRONTIERSMAN BY SABRE BEAR ATTACK DETERRENT**" or it could be abbreviated to "**WHEN TO USE FRONTIERSMAN BY SABRE**". As "**FRONTIERSMAN**" seems to be an adequate trade name and as your company is called "Security Equipment Corporation", we have been wondering what "**BY SABRE**" adds to the name of the product or is supposed to mean.

The abbreviated use directions ("**HOW TO USE SABRE FRONTIERSMAN**") must be deleted. This section is a selective abridgement of the required "**DIRECTIONS FOR USE**" which omits many important directions, restrictions, and precautions. You may put the entire "**DIRECTIONS FOR USE**" section that appears on the container label (as modified by our comments above) on the blister pack or you may refer readers to the "**DIRECTIONS FOR USE**" on the container label.

The same basic comment holds for precautionary statements. The statements on the blister-pack label must be the same as those required for the container, or the blister-pack label may use abbreviated precautionary labeling and refer to the full statements on the container label. The incorrect signal word "**CAUTION:**" may not be used on the blister-pack label. [Dan and Grace: I have only touched on the problems with the precautionary statements. I expect that you will be supplying the correct text based on the outcome of the precautionary labeling review.]

4. The holster bag-tag label submitted on June 3, 1999, is <u>not</u> acceptable for the reasons indicated below.

   a. The product name on the bag tag label does not match the product name on the label proposed for the container that is supposed to be in the bag. Pick a name for this product and use it consistently.

   b. The front panel of the bag-tag label makes claims which are unsupported, false or misleading. These claims (listed below) must be deleted.

      (1) "Highly Effective in Extreme Temperature **-40° to 120°F**".

      (2) "**22% Oleoresin Capsicum (Red Pepper)**".

(3) "3,000,000 SHU'S".

The abbreviated use directions ("**HOW TO USE SABRE FRONTIERSMAN**") must be deleted. You may put the entire "**DIRECTIONS FOR USE**" section that appears on the container label (as modified by our comments above) on the bag tag or you may refer readers to the "**DIRECTIONS FOR USE**".

The same comment holds for precautionary statements. The statements on the bag-tag label must be the same as those required for the container, or the bag-tag label may use abbreviated precautionary labeling and refer to the full statements on the container label. The incorrect signal word "**CAUTION:**" may not be used on the bag-tag label.

5. Reformat your "Front Panel" as follows:

DO NOT SEEK OUT ENCOUNTERS WITH BEARS. THIS PRODUCT IS A BEAR ATTACK REPELLENT WHICH MAY PROTECT USERS IN SOME UNEXPECTED CONFRONTATIONS WITH BEARS BUT MAY NOT BE EFFECTIVE IN ALL SITUATIONS OR PREVENT ALL INJURIES. READ THIS ENTIRE LABEL BEFORE TAKING THIS PRODUCT INTO AREAS WHERE BEARS MIGHT BE ENCOUNTERED.
[same type size as "KEEP OUT OF REACH OF CHILDREN]

KEEP OUT OF REACH OF CHILDREN
DANGER

Strong temporary irritant to eyes, nose and skin. Wash thoroughly with soap and water after handling. See Side Panel for additional precautions.

Active Ingredients:

Capsaicin and Related Capsaicinoids*	1.388%
Inert Ingredients:	98.612%
TOTAL	100.000%

*Made from Oleoresin of Capsicum

6. Change your "Net Contents" to 9.1 Ounces".

7. Revise your "Precautionary Statements" as follows:

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS

DANGER
May cause irreversible eye damage if sprayed directly in the eye at close range. Contact through touching or rubbing the eye may cause moderate eye irritation.

Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling.

FIRST AID Have label with you when obtaining treatment advice.	
If on skin or clothing	•Take off contaminated clothing. •Rinse skin immediately with plenty of water for 15-20 minutes. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.
If in eyes	•Hold eye open and rinse slowly and gently with water for 15-20 minutes. •Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. •Call a poison control center, doctor, or 1-800-xxx-xxxx immediately for treatment advice.

PHYSICAL OR CHEMICAL HAZARDS

Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130 Deg F may cause bursting.

ENVIRONMENTAL HAZARDS

Do not apply directly to water. Do not contaminate water by disposing of unused material.

As a reminder, under section 6(a)(2) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), registrants are required to report adverse data and incidents to us under section 6(a)(2), usually within 30 days of receipt. If you need additional information about the reporting requirements, you can view them on EPA's website at:

http://www.epa.gov/pesticides/fifra6a2/

If you have questions about this letter, you may reach Dan Peacock by phone (703-305-5407), fax (703-305-6596), or E-Mail (peacock.dan@epa.gov)

Sincerely,

DBP

Daniel B. Peacock, Biologist
Insecticide-Rodenticide Branch
Registration Division (7504C)

cc: Region 8 (Tim Osag) and Region 10 (Lyn Frandsen)

C:\capsaici\72265-R,July 22 1999.wpd22 July 1999

1. Label (on all container)

received 6/8/99

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS — WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles or safety glasses). Strongly irritating to nose and respiratory tract. Wash skin thoroughly with soap and cold water after handling or if sprayed. Immediately remove contaminated clothing and wash clothing before reuse.

FIRST AID — If in Eyes: Hold eyelids open and flush with a steady, gentle stream of cool water for 15 minutes. Get medical attention.

PHYSICAL OR CHEMICAL HAZARDS — Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS — This product may be used only to deter bears that are attacking or appear likely to attack humans. Do not spray this product on objects, tents, or humans; such use has no deterrent effect on bears. Do not seek out encounters with bears or intentionally provoke them. Keep safety clip in place except when practicing with or using the product. Do not eat or allow to be eaten any food or feed materials that may have become contaminated with this product.

Fig. 1

THIS PRODUCT FIRES UP TO 23 FEET WITH THE MOST EFFECTIVE RANGE AT 18 FEET. THE CANISTER EMPTIES IN APPROXIMATELY 8 SECONDS.

APPLICATION DIRECTIONS — Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before, you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container, make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can.

Fig. 2

TO ARM AND APPLY — This product is designed for one hand operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (Fig. 1). Depress actuator tab for burst of spray (Fig. 2). Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

Fig. 3

TO DISARM — Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (Fig. 3). Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

STORAGE AND DISPOSAL — STORAGE: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F. DISPOSAL: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

CHEMICAL EMERGENCY NUMBER:
800-535-5053

Expiration Date 8/2002
Discard unit after date of expiration

FRONTIERSMAN.

BY SABRE

BEAR ATTACK DETERRENT

TO DETER BEARS FROM ATTACKING HUMANS

ACTIVE INGREDIENT:	
Capsaicin and related capsaicinoids	1.38%
INERT INGREDIENTS	98.62%
TOTAL	100.00%

includes 0.85% Capsaicin and 0.53% other capsaicinoids derived from Oleoresin of Capsicum.

Keep Out of Reach of Children

WARNING

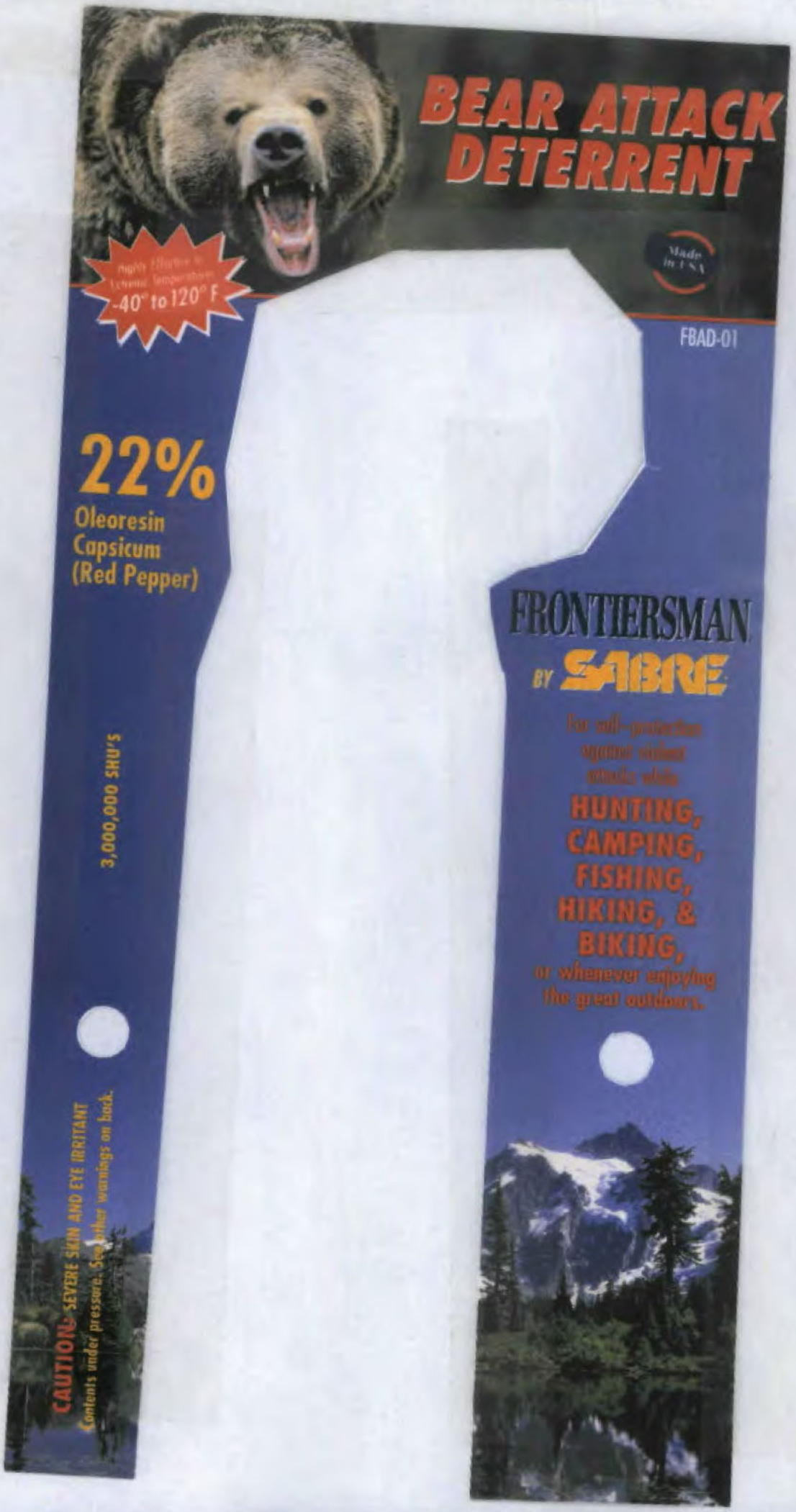
Do not seek out encounters with bears. This product is a bear attack deterrent that may protect users in some unexpected confrontations with bears but may not be effective in all situations or prevent all injuries. Read the entire label before taking the product into areas where bears might be encountered.

See Back Panel for Additional Precautionary Statements

EPA Reg. No. _____ EPS Est. _____

Manufactured by:
Security Equipment Corporation • 230 Sun Valley Circle, Fenton, MO 63026
sabre@stlnet.com • www.sabredefense.com

NET CONTENTS: 9.17 FL. OZ. • MADE IN THE U.S.A.



2a Clam Shell (Front) (alternative to Bag Tag)

received 6/8/99

2b.
Clam
Shell
(Back)

FRONTIERSMAN. BY SABRE

WHEN TO USE SABRE FRONTIERSMAN

It is recommended that the Frontiersman be carried in hand when hunting, camping, fishing, hiking, biking, or whenever enjoying the great outdoors.

HOW TO USE SABRE FRONTIERSMAN

Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before, you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container, make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can. TO ARM AND APPLY: This product is designed for one hand operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb. Depress actuator tab for burst of spray. Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again. TO DISARM: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard. Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

WARNING: SEVERE SKIN AND EYE IRRITANT. KEEP OUT OF REACH OF CHILDREN
Chemical Emergency Number 1-800-535-5053

Contains 22% Oleoresin Capsicum (Red Pepper). Do not puncture or incinerate can. Do not expose to heat or store above 120°F. In case of skin contact, wash skin with soap and cold water, repeat as necessary. Do not rub, or use creams, salves, or oils. In case of eye contact, flush with cold water for 15 minutes or longer. Expose to fresh air. Get prompt medical attention. Keep out of reach of children. For self-defense only. Not for sale where prohibited by law.

BAR CODE

FBAD-01 MADE AND PRINTED IN USA

SECURITY
330 Sun Valley Circle
Fenton, MO 63026

FRONTIERSMAN BY SABRE

for self-protection against attacks while

HUNTING, CAMPING, FISHING, HIKING, & BIKING, or whenever enjoying the great outdoors.

Fully Tested in Extreme temperatures -40° to 120°F

CAUTION: SEVERE SKIN AND EYE IRRITANT
Contents under pressure. See other warnings on back.

22% Oleoresin Capsicum (Red Pepper)

3,000,000 SHU'S

FBAD-02

MADE AND PRINTED IN USA

WHEN TO USE SABRE FRONTIERSMAN

It is recommended that the Frontiersman be carried in hand when hunting, camping, fishing, hiking, biking, or whenever enjoying the great outdoors.

HOW TO USE SABRE FRONTIERSMAN

Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before, you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container, make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can. TO ARM AND APPLY: This product is designed for one hand operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb. Depress actuator tab for burst of spray. Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again. TO DISARM: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard. Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Contains 22% Oleoresin Capsicum (Red Pepper). Do not puncture or incinerate can. Do not expose to heat or store above 120°F. In case of skin contact, wash skin with soap and cold water, repeat as necessary. Do not rub, or use creams, salves, or oils. In case of eye contact, flush with cold water for 15 minutes or longer. Expose to fresh air. Get prompt medical attention. Keep out of reach of children. For self-defense only. Not for sale where prohibited by law.

retain 6/8/90

3 Bag Tag (alternative to clam shell packaging)

FRONTIERSMAN®
BEAR ATTACK DETERRENT

To Deter Bears from Attacking Humans

ACTIVE INGREDIENT:

Capsaicin and related capsaicinoids	1.388%
INERT INGREDIENTS	98.612%
Total	100.000%

Includes 0.857% Capsaicin and 0.531% other capsaicinoids derived from Oleoresin of Capsicum

Keep Out of Reach of Children

WARNING

Do not seek out encounters with bears. This product is a bear attack deterrent that may protect users in some unexpected confrontations with bears but may not be effective in all situations or prevent all injuries. Read this entire label before taking this product into areas where bears might be encountered.

See Back Panel for Additional Precautionary Statements

EPA Reg. No. 72265-R **EPA Est.** _____

received 2/22/99

NET CONTENTS: 9.17 FL. OZ.

Manufactured by:
SECURITY EQUIPMENT CORPORATION
330 Sun Valley Circle
Fenton, MO 63026
sabre@stlnet.com
www.sabredefensesprays.com
(800) 325-9568

Made in the U.S.A

PRECAUTIONARY STATEMENTS

Hazards to Humans & Domestic Animals

WARNING: Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear (goggles or safety glasses). Strongly irritating to nose and respiratory tract. Wash skin thoroughly with soap and cold water after handling or if sprayed. Immediately remove contaminated clothing and wash clothing before reuse.

First Aid

If in Eyes: Hold eyelids open and flush with a steady, gentle stream of cool water for 15 minutes. Get medical attention.

Physical or Chemical Hazards

Flammable. Contents under pressure. Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F may cause bursting.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS: This product may be used only to deter bears that are attacking or appear likely to attack humans. Do not spray this product on objects, tents or humans; such use has no deterrent effect on bears. Do not seek out encounters with bears or intentionally provoke them. Keep safety clip in place except when practicing with or using the product. Do not eat or allow be eaten any food or feed materials that may have become contaminated with this product.

This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds.

APPLICATION DIRECTIONS: Special procedures must be followed to arm the container, apply the product and restore the safety clip to disarm the container. Before taking this product into bear country, read the directions below and familiarize yourself with these procedures. If you have not used this product before you should obtain a training can and practice with it until you can perform these activities quickly and accurately. If you test-fire this container make sure the wind is at your back and depress the actuator tab for no more than half a second. Do not test-fire in areas inhabited by bears. After test firing, clean nozzle and can with soap and water to remove residue from the can.

TO ARM AND APPLY: This product is designed for one hand operation. Place forefinger through hole in handle with thumb on orange safety clip curl. Pull safety clip straight back and off using thumb (fig. 1). Depress actuator tab for burst of spray (fig. 2).

Fig. 1

Fig. 2

Aim at face and eyes of bear. Press trigger for 3 seconds in order to create a barrier of spray between you and the bear. Stop to evaluate the impact of wind and other factors and adjust your aim if needed before spraying again.

TO DISARM: Replace orange safety clip by firmly pushing with thumb until audible "snap" is heard (fig. 3).

Fig. 3
Snap Safety Clip in Place

Check to see if safety clip is securely in place. No gap should be visible between the actuator handle and the safety clip.

Storage and Disposal

Storage: Store in a cool, dry place inaccessible to children and pets. Do not store in places where the temperature may exceed 120°F.
Disposal: When container is empty, press valve to release all pressure. Replace safety clip, wrap container and discard in trash. Do not incinerate or puncture.

5-564617

SECURITY
EQUIPMENT CORPORATION

Thursday, June 03, 1999

Dan Peacock, Insecticide/Rodenticide Branch
Document Processing Desk - APPL
Office of Pesticide Programs - 7505C
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Room 266A, Crystal Mall 2
Arlington, VA 22202

72265-R

Dear Mr. Peacock:

Enclosed you will find the marketing materials which we would like to package with our Frontiersman Bear Attack Deterrent spray once it is approved. I spoke with my father, Larry Nance, and he informed me that all marketing materials must obtain your approval before they can be circulated to consumers. Therefore, I kindly ask for you to review the enclosed materials. Please let us know if these materials are acceptable.

Concerning the registration, I know that my father has worked extremely hard for over a year compiling research and formulating to produce the safest deterrent spray for our environment. I can assure you that Security Equipment Corporation has always manufactured products with both the environment's and consumer's best interests in mind. My father has worked extremely hard over the past twenty-four years to build Security Equipment Corporation into a very reputable company. I hope that he will soon be rewarded with the EPA registration of his Frontiersman Bear Attack Deterrent Spray.

Thank you for all of your cooperation and assistance. Please let me know if there is anything else I can do to assist you.

Respectfully submitted,

David Nance
Director of Sales and Marketing

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://home.stlnet.com/~sabre

File

Put in jacket
72265-R

Dan Peacock on 06/04/99 06:48:54 AM

To: Lyn Frandsen/R10/USEPA/US@EPA, Tim Osag/ENF/R8/USEPA/US@EPA, Bill Lee/R9/USEPA/US, tatum.tyres@epa.gov
cc: Bill Jacobs/DC/USEPA/US@EPA, chemarmr@chemarmor.com
Subject: unregistered products

Lyn, Tim, Bill, and Tyres,

Could you follow-up on this complaint about the sale of unregistered bear repellent. I know that Region 10 is already is investigating this product in Alaska.

The Registration Division considers any product claiming "to prevent attacks", coupled with a picture of a bear, to be a claim to repel bears. Any product making such a claim would be sale of an unregistered product and should be stop saled immediately if shipped from the manufacturer after January 15, 1999.

Call me if you need to discuss this matter.

Dan Peacock, 703-305-5407

---------- Forwarded by Dan Peacock/DC/USEPA/US on 06/04/99 06:42 AM ----------

chemarmr@chemarmor.com on 06/03/99 04:36:52 PM

Please respond to chemarmr@chemarmor.com

To: Dan Peacock/DC/USEPA/US@EPA
cc: Grace Robiou/DC/USEPA/US@EPA
Subject: unregistered products

Dear Dan;

We are running into a tremendous amount of unregistered bear repellent being advertised as "backpacker spray". Almost exclusively what is being seen is "Frontiersman by Sabre", manufactured and distributed by Security Equipment Corporation, 330 Sun Valley Circle, Fenton, Missouri, owner Larry Nance. This product is marketed as a bear repellent by the retailers and according to every retailer or distributor that we have spoken to or contacted, they all agree that they will continue to sell this product until they are told otherwise by the EPA. This is not product that is left over from before the January 15 stop sale but new product that is being distributed currently. It seems to me that the EPA registration requirement is only a hurdle and expense for those companies that want to play by the rules as retailers will continue to sell unregistered product without hesitation until YOU tell them they can't. The problem is that the cost of unregistered product to the retailer is very cheep as the quality and percent capsaicin is extremely low. Larry Nance has personally told me that he will continue to skirt the EPA registration requirement by selling his product as "not for use on

animals". V.F. Grace, an Anchorage Alaska distributor of Frontiersman said that they will continue to sell the product until they hear otherwise from the EPA. Do I need to file a formal complaint on this problem and if so, please inform me of how and where to file.

Sincerely,

Kate Dwire
ChemArmor

For self-protection
against violent
attacks while
HUNTING,
CAMPING,
FISHING,
HIKING, AND
BIKING.
Or whenever enjoying
the great outdoors.
Made in USA

Lyn Frandsen/R10/USEPA/US@EPA on 05/10/99 05:31:06 PM

To: Brenda Mosley@EPA, Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: photos -Forwarded

Greetings, The Alaska inspectors conducted an inspection at VF Grace a large sporting goods wholesale distributor in Anchorage, AK last Friday. They found a large quanity of pepper spray called Alaska's Best Defence Pepper Spray manufactured by Security Equipment Corp., Fenton, MO. The products come in 300 & 165 gram containers. They were ordered on 1-15-99 and shipped on 1-22-99. Attached are photos of the product label. There are no direct animal deterent claims other than a picture of a bear in the lower right hand section of the clam package.
Where I need some expert advise is : As labeled is this product a pesticide? And if so, would product shipped after 1-15-99 be violative and subject to enforcement action? Please advise. Call if you want 206-553-4768. Thanks

Received: from anc-exchange.state.ak.us (mail2.envircon.state.ak.us) by epamail.epa.gov (PMDF V5.1-12 #26439) with ESMTP id <0FBJ007HM4A29M@epamail.epa.gov> for frandsen-lyn@r0nmsnwc.r10.epa.gov; Mon, 10 May 1999 14:20:38 -0400 (EDT)
Received: by mail2.envircon.state.ak.us with Internet Mail Service (5.5.2232.9) id <KJP6PS2V>; Mon, 10 May 1999 10:18:39 -0800
Content-return: allowed
Message-id: <F178509A0821D211834A00805FBB1233026D7C@PLM-EXCHANGE>
X-Mailer: Internet Mail Service (5.5.2232.9)
Date: Mon, 10 May 1999 14:21:38 -0400
From: "Mircovich, Susan" <SMircovi@envircon.state.ak.us>
To: FRANDSEN.LYN@EPAMAIL.EPA.GOV
Cc: DBarrett@envircon.state.ak.us
Subject: photos
Mime-Version: 1.0
Content-Type: multipart/mixed; boundary="=_1F491227.23422F64"

Hi Lyn, here are a few of the photos we discussed this morning. I printed them in b&w, and am faxing them but I don't know how they will look. If you can't see these in email by double clicking, try "saving attachments" on your hard drive, and going to your browser and opening them from there using "file" "open". That should do it! Let me know if this works....Sue
<<MVC-007F.JPG>> <<MVC-008F.JPG>> <<MVC-009F.JPG>>
<<MVC-011F.JPG>>
<<MVC-012F.JPG>> <<MVC-013F.JPG>> <<MVC-006F.JPG>>

- MVC-007F.JPG

- MVC-008F.JPG
- MVC-009F.JPG
- MVC-011F.JPG
- MVC-012F.JPG
- MVC-013F.JPG
- MVC-006F.JPG

panupdates@igc.apc.org on 06/25/99 05:02:36 PM

To: panups@igc.apc.org
cc:
Subject: PANUPS: CA Farmworker Protection

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PANUPS
Pesticide Action Network Updates Service
==========

California Agencies Not Protecting Farmworkers

June 25, 1999

California farmworkers face a greater risk of pesticide poisonings than any other segment of the population and are not adequately protected by state and county agencies according to a new report. Fields of Poison: California Farmworkers and Pesticides, written by Pesticide Action Network North America (PANNA), United Farm Workers (UFW), and California Rural Legal Assistance Foundation (CRLAF), found poor enforcement of pesticide regulations by most California County Agriculture Commissioners.

While some County Agricultural Commissioners do conduct fairly thorough inspections and regularly issue fines for violations, the report concludes these agencies are the exception rather than the rule. During 1996/1997, more than 85% of documented pesticide safety violations statewide carried no fines at all and were not recorded in permanent statewide records. When fines are issued, they are generally very low. Of those issued between 1991 through 1996, almost half were less than US$151, and less than 5% exceeded US$1,000.

The report reveals that California counties with the largest number of reported pesticide poisonings and the highest agricultural pesticide use issue the fewest fines for pesticide safety violations. These include Fresno, Kern, Tulare, San Joaquin and Monterey counties.

Approximately 600,000 farmworkers are employed in California, the state with the largest agricultural economy in the United States. Between 1991 and 1996, an average of 665 incidents of acute farmworker pesticide poisonings were officially reported in the state each year, with many more cases unreported. Of those reported, most poisonings were caused by exposure to pesticide spray drift (44%) or pesticide residues in the field (33%).

The report identifies the top 10 crops in California responsible for the highest number of reported farmworker poisonings between 1991 and 1996. Topping the list are grapes, cotton and broccoli, accounting for 31% of all reported cases. These are followed by oranges, ornamentals,

almonds, tomatoes, lettuce, strawberries and alfalfa. In about 29% of the cases, no specific crop was identified.

PANNA, UFW and CRLAF demand immediate action to reduce pesticide exposure and to strengthen enforcement of regulations to protect farmworkers, including:

* Stronger enforcement of existing pesticide safety laws, including mandatory minimum penalties for violations.

* A rapid phase out of the most toxic pesticides and promotion of safe and sustainable alternatives.

* Improved reporting systems for pesticide-related illnesses and pesticide use.

* Improved farmworker access to medical treatment.

Agriculture is one of the most hazardous occupations in the United States. The death rate among agricultural workers nationwide was estimated at 20.9 per 100,000 workers in 1996, compared to the average for all industries of 3.9 per 100,000 workers. Rates of injury or illness among farmworkers are also high. Since 1990 injury rates in agricultural production have ranged from 9.4% to more than 12%, well above the average of occupational injuries for all industries.

"Many consumers are choosing cruelty-free cosmetics and recycled paper. We should also be demanding food that is produced in an ethical and socially responsible way and not at the expense of the health and well-being of thousands of farmworker men, women and children," said Margaret Reeves of PANNA.

The report, available in English and Spanish, is free to California residents and US$10 for all others. It is also available on the PANNA website at http://www.panna.org.

Source/contact: Pesticide Action Network North America, 49 Powell Street #500, San Francisco, CA 94102; phone (415) 981-1771; fax (415)981-1991; email panna@panna.org.

==========

Pesticide Action Network North America (PANNA)
49 Powell St., Suite 500, San Francisco, CA 94102 USA
Phone: (415) 981-1771
Fax: (415) 981-1991
Email: panna@panna.org
Web: www.panna.org

To subscribe to PANUPS, send email to majordomo@igc.org
with the following text on one line in the body of the message:
subscribe panups
To unsubscribe, use this text:
unsubscribe panups

==========

Dan Peacock on 04/22/99 12:54:53 PM

To: Bill Jacobs/DC/USEPA/US@EPA
cc: Lyn Frandsen/R10/USEPA/US@EPA, Tim Osag/ENF/R8/USEPA/US@EPA
Subject: Frontiersman Bear Attack Deterrent, EPA File Symbol 72265-R

Bill,

I talked to Larry Nance of Security Equipment Corp today about the following topics:

1. Status of Application: Chemistry-finished-send out results next week
Toxicity-finished-send out results next week
Efficacy-to be finished in a few weeks

2. Has he had incidents with this or other bear sprays, resulting in bear maulings.

No.

Note: We can verify this through the regions.

3. Is this a water-based spray?

No.

We can verify this through the chemist.

4. Is this product likely to freeze in cold weather?

No. He claims to have put units in -40Deg and then used fired them successfully.

5. How long has he been marketing an unregistered bear repellent product.

Since 1995.

6. When did he stop?

October 1998

7. What does he do when he received requests for product?

Sends potential customers to Counter Assault.

8. How did he determine his formula?

By talking to Kate Dwire and Carie Hunt, both of whom thought he had an acceptable formula. I asked him if he could get anything in writing from Ms. Hunt. He will try.

9. Has he changed formulas since 1995.

No

He did not seem overly pushy. I told him that I was just trying to anticipate questions that had been raised or might be raised about his or other products. While he is waiting for the efficacy review, he can work on the other reviews and Ms. Hunt's critique.

Dan Peacock

Dan Peacock on 06/29/99 08:14:00 AM

To: Paula Bruin/R9/USEPA/US@EPA
cc: Grace Robiou/DC/USEPA/US@EPA, Bill Jacobs/DC/USEPA/US@EPA
Subject: Standards for Bear Repellents

Paula,

I am sorry that I did not receive your request in time to provide you meaningful information in time to meet the paper's deadline. Hopefully, in the absence of all the facts, the paper held off their story. Because of the misinformation circulating about this topic, the facts are important. The following documents will provide the facts to write an informed story on bear deterrents.

1. Generic Kit(Oct98)

This document, an October 1998 version of a one originally developed in 1996, outlines the requirements to register a capsaicin (pepper spray) product. The strategy was to make the process simple enough so that one company would seek registration. Once registered, the other companies would soon follow. The strategy worked. We received our first application for pepper-based bear repellent in 1997. We granted our first registration for a capsaicin product on May 12, 1998. A year later we had registered four pepper-based bear deterrents and were reviewing a fifth.

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2. Bear.pa

This September 1998 Press Advisory announced the first registered bear deterrent product containing capsaicin as an active ingredient.

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3. Q&A on 041299 Wash Post A

The Office of Pesticide Programs (OPP) developed these Questions and Answers as a result of April 12, 1999, Washington Post article on bear deterrents.

Q&A about regulation of bear r

4. OPP developed these additional general Questions and Answers about regulation of bear deterrent products after publication of the April Washington Post article.

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qa.fin-3.w

5. The Agency developed this initial set of Questions and Answers in fall 1998, explaining Agency's plan to encourage registration of bear repellent products through:

a. enforcement action,
b. expedited review of registration applications, and
c. consumer education.

Registered and Pending Bear-Deterrent Prod

6. This is the current list of registered and pending bear-deterrent products.

The "take home" message for persons hiking, hunting, and camping in bear country is:

to buy a EPA registered bear deterrent and to study the label before setting out.

Consumers can identify EPA registered bear deterrent because the label will have "EPA Registration Number" or "EPA Reg. No." following by two numbers separated by a dash [-] or three numbers separated by dashes. See file above for current list of registered products by product name and registration number.

Buying unregistered products, which are being phased out, is to settle for less than the best product to protect your life and the lives of friends and loved ones.

If anyone has additional questions, please contact me.

Dan Peacock
tel 703-305-5407
fax 703-305-6596
E-Mail: peacock.dan@epa.gov

Dan Peacock on 06/29/99 07:08:30 AM

To: Bill Jacobs/DC/USEPA/US@EPA
cc: cgriffin@delta-ac.com
Subject: Frontiersman Bear Deterret

Bill,

Frontiersman has indicated that they are sending us some efficacy data on their product.

Dan

---------- Forwarded by Dan Peacock/DC/USEPA/US on 06/29/99 07:15 AM ----------

sabre@postnet.com on 06/28/99 08:48:54 PM

To: Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Frontiersman Bear Deterret

Dan,

Today I sent you a next day air envelope by U.P.S. It is effectiveness data for Frontiersman. They used it on a Black Bear with very good results. Please keep an eye open for delivery before 10:30AM.

Also Kim Davis asked me to ask you to call her.

Regards,

Larry Nance
President Security Equipment Corporation

Dan Peacock on 06/15/99 12:36:46 PM

To: sabre@postnet.com
cc: Tim Osag/ENF/R8/USEPA/US@EPA, Bill Jacobs/DC/USEPA/US@EPA, Grace Robiou/DC/USEPA/US@EPA
Subject: Re: Frontiersman Bear Attack Deterrent

Larry,

Subject: Experimental Use of Product and Revised Labeling for Product

A. Experimental Use

I appreciate your sharing with me, for the first time, that you were distributing units of this product for experimental use. I hope that your research is fruitful.

I think that distribution of a very limited amount of product for experimental use is acceptable, provided that:

1. insure that the number of units is small (less than 100)
2. send units directly to cooperators, not through the normal distribution chain,
3. insure that your cooperators are people likely to provide useful information about bear-human encounters with the product
4. include guidance to cooperators as to what information to collect,
5. share the results of testing with us
6. include on the labeling, in prominent type, "For Experimental Use Only", and
7. use the registered version once approved.

The details about experimental use are spelled out in 40 CFR 172. There is guidance about when a permit is needed for agricultural uses (10 acres or more) and aquatic uses (1 acre or more.). However, there is no specific guidance in those Regulations about bear repellent products, concerning when a formal permit is needed.

My suggestion is that you read the Regulations and ask me any questions about them that you have. I will also send a copy of this message to the Region and our efficacy reviewer in case they have additional thoughts.

B. Revised Labeling

I will check with Grace and Bill about receipt of the labeling that you referred to.

Dan Peacock

Dan Peacock on 06/15/99 07:03:56 AM

To: Bill Jacobs/DC/USEPA/US@EPA
cc:
Subject: Re: Definition of "Water-based Bear Deterrent"

FYI

---------- Forwarded by Dan Peacock/DC/USEPA/US on 06/15/99 07:12 AM ----------

chemarmr@chemarmor.com on 06/14/99 04:08:08 PM

Please respond to chemarmr@chemarmor.com

To: Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Re: Definition of "Water-based Bear Deterrent"

Dear Dan;

I no sooner got your email this morning than I received a call from Larry Nance of Sabre products trying to get as much information out of me as he could on my interpretation of your email. I don't exactly have much respect for his business practices as we have encountered his "Backpacker Spray" throughout the country, especially Alaska and it is NOT product left in the marketplace prior to the SSURO.

This may help to shed some light on your inquiry. Most of the bear repellent products formerly on the market and all of the currently registered products are what are termed "oil based" (actually a misnomer). There were several "water based" products also available but all were inferior products. All of the registered products use the propellant [redacted]

Manufacturing process information may be entitled to confidential treatment

Manufacturing process information may be entitled to confidential treatment

[redacted]

On a different note, park officials at Denali National Park are trying to set a "standard" for bear repellents and unfortunately they are getting information from Chuck Bartelbaugh, a spokesman for Counter Assault. The information supplied is that only products that contain 1.4 to 1.8% total capsaicinoids are effective and that only this "range" has been "proven to be non-toxic". I believe that this is in direct violation of FIFRA and it is unfortunate that government agencies such as park service are setting policy based on the continued misinformation from "agents" of unscrupulous companies. We strongly feel as does Health Canada that "related capsaicinoids" are unreliable at best and only serve as a marketing gimmick to help companies misrepresent the product. Percent capsaicin is the only reliable way to measure the product's effectiveness. There are dozens of capsaicinoids, most have no pungency. It is impossible to maintain any given standard when both capsaicin and related capsaicinoids are declared as the relative ratios change dramatically with each batch of oleoresin capsicum.

If you have any questions, please don't hesitate to call.

Sincerely,

Kate Dwire
ChemArmor
---- Original Message ----
From: <Peacock.Dan@epamail.epa.gov>
To: <cgriffin@delta-ac.com>; <chemarmr@chemarmor.com>; <counter@bigsky.net>; <sabre@stlnet.com>; <randy@guardalaska.com>; <Amy_Roberts.aroberts.tsgusa.com@epamail.epa.gov>
Cc: <Jacobs.Bill@epamail.epa.gov>; <Malak.Sami@epamail.epa.gov>
Sent: Monday, June 14, 1999 10:17 AM
Subject: Definition of "Water-based Bear Deterrent"

>
>
> Addresses,
>
> If anyone has a definition for a "Water-Based Bear Deterrent", could you
> share it with me.
>
> If there is a source for your definition, could you supply it to me

by
> E-Mail.
>
> I would also appreciate it if you could fax it to me at 703-305-6596.
>
> Thank You,
>
> Dan Peacock, 703-305-5407
>

Dan Peacock on 06/15/99 07:19:28 AM

To: chemarmr@chemarmor.com
cc: Bill Jacobs/DC/USEPA/US@EPA
Subject: Re: Definition of "Water-based Bear Deterrent"

Kate,

Thanks for the information. The question of the what ingredients should be included as "actives" is one that needs addressing. My sense is that, once we have completed registering the initial products, that would be the time to tackle that and other questions. You should start thinking about how such a question should be addressed. It would have to involve methods to identify the various capsaicinoids and a means of determining relative activity.

Dan Peacock

IRB BRANCH REVIEW - TSS

Record Number(s)

D254069
D257320
D257323

3/10/99
IN 6/29/99 OUT 6/30/99

EFFICACY

FILE OR REG. NO. 72265-R

PETITION OR EXP. PERMIT NO.

DATE DIV. RECEIVED 2/22/99, 2/25/99, 6/8/99, 6/29/99

DATE OF SUBMISSION 2/19/99, 2/24/99, 6/3/99, 6/29/99

DATE SUBMISSION ACCEPTED 3/10/99, 6/29/99

TYPE PRODUCTS(S): I, D, H, F, N, ~~X~~ S

DATA ACCESSION NO(S). 447632-04

PRODUCT MGR. NO. 04

PRODUCT NAME(S) FRONTIERSMAN BEAR ATTACK DETERRENT

COMPANY NAME Security Equipment Corporation

SUBMISSION PURPOSE registration

CHEMICAL & FORMULATION 1.38% "Capsaicin and related capsaicinoids" aerosol

Efficacy Review: FRONTIERSMAN BEAR ATTACK DETERRENT, 72265-R
Security Equipment Corporation
Fenton, MO 63026

200.0 INTRODUCTION

200.1 Uses

A 1.388% "Capsaicin and related capsaicinoids" aerosol product proposed for Federal registration for use at unspecified sites

> **"only to deter bears which are attacking or appear likely to attack humans".**

The label indicates that the product is nominally 0.857% Capsaicin and 0.531% "other capsaicinoids".

200.2 Background Information

See general efficacy review of 6/17/93 for Capsaicin bear repellents and the 1997-1999 efficacy reviews for similar products. On 5/12/98, Counter Assault Bear Deterrent (55541-2) was accepted as the first Federally registered Capsaicin-based bear repellent in the U.S. Prior to that time there had been perhaps 20 years of illegal sale of that and similar products (including Frontiersman for some of that time) as unregistered pesticides. Recently, this product was being sold illegally under labeling contrived so as to make the product appear (to some) not to be a pesticide. Enforcement actions possibly have stopped that practice. Four aerosol attack deterrents are now registered: Counter Assault, Guard Alaska (71545-1), BearGuard (71768-1), and Bear Pause (71920-1).

This review discusses the initial application for Federal registration of Frontiersman. This submission, dated 2/19/99, was prepared by Kim Davis of RegWest Company, Greeley, CO. The materials from the submission that were routed for my review include copies of the application form, the data matrix, the Confidential Statement of Formula (CSF), a proposed label, information on the product's spray pattern, and a volume of efficacy-related information assembled by Davis.

This review also discusses labeling materials submitted on 6/3/99, a FAX-ed account of one person's alleged use of the product, and Security's submission of 2/24/99, consisting of a short cover letter and an example of a "9.17 FL. OZ." container of the product with part of a paper label affixed to it.

Product ingredient source information may be entitled to confidential treatment

201.0 DATA SUMMARY

The proposed CSF (dated 2/19/99) claims the source of active ingredients to be [redacted]

In her letter of 2/19/99, Davis addresses product performance with the following statement:

> "In lieu of citing product performance data we have chosen to submit a compilation of two published reports."

The documents to which she refers are familiar to me. Davis submitted them as a single volume to which OPP assigned the MRID# 447632-04. Below, I cite and discuss these documents individually. These discussions have been imported and adapted from my reviews of submissions pertaining to other bear repellent products.

Herrero, S. and Higgins, A. (1998) Field use of capsicum spray as a bear deterrent. *Int. Conf. Bear-Res. Manage. 10:000-000* (In press)

This item was published (later) in 1998 (Ursus, 10, 533-537).

Herrero and Higgins summarize and attempt to draw inferences from "66 cases of field use of capsicum sprays" that occurred from 1984 through 1994. Fifty of these cases involved use of the Counter Assault product of the Bushwacker Backpack and Supply Co., Missoula, MT. As the authors do not name another specific product, it is possible that some or none of the remaining 16 incidents involved Frontiersman. The authors thanked a Cappy Gagnon of Counter Assault Personal Defense Sprays for "sharing descriptions" of accounts of product use that people had supplied to the company.

Herrero and Higgins (1998)

> "... propose that the case history approach is the most effective means of studying the responses of free-ranging brown bears to being sprayed."

Herrero and Higgins assumed that most or all of the products used

> "likely contained 10% capsicum extract as their active ingredient."

The cases occurred primarily in Canada, Alaska, and Montana. (All sales of capsicum-based bear repellents in the U.S. would have been illegal during the time period covered by this report.)

Thirty-six of the cases involved brown bears, while the remaining 30 involved black bears. The authors summarize the incidents according to the type of bear involved and its apparent pre-application behavior. They also attempt to correlate outcomes with degrees of reported exposure of the bears to repellents, but conclude that no clear links are evident. Below, I present tables constructed from the results discussed by the authors in paragraph form.

BROWN BEARS ACTING AGGRESSIVELY

EVENT TOTAL	# OF	% OF CASES
All such incidents	16	100%
Bear charged people	14	88%
Only one bear seen	6	38%
Female with cubs involved	10	62%
Adult male bear involved	1	6%
Bear stopped aggressive behavior	15	94%
Bear continued aggressiveness	1	6%
Initially repelled bears subsequently resumed aggressive behavior	5	31%
Bear left area after spraying	14	88%
Person left area after bear was sprayed	2	12%
Person doing spraying was injured, hospitalized	3	19%
Bear causing injury left area after additional spraying	1	6%
Person was not aware of bear until it was within 50 m	13	81%
Bear first sighted at >200 m	2	12%

The incidents of brown bears leaving include some in which it took 2 or 3 sprayings to drive them away. One of the 3 hospitalizations lasted more than 24 hours. The encounters in which people were hurt included 1 with an adult male and

2 involving an adult female with cubs. In each of these cases, the bears reportedly received substantial facial exposure to the spray.

BROWN BEARS ACTING CURIOUSLY OR SEARCHING FOR PEOPLE'S FOOD OR GARBAGE

EVENT TOTAL	# OF	% OF CASES
All such incidents	20	100%
Bear not aggressive prior to being sprayed	16	80%
Bear aggressive prior to being sprayed (but aggression was associated with getting a person's food)	4	20%
Only one bear involved	16	80%
Sibling group involved	4	20%
Bears were subadults	17	85%
Bear stopped undesirable behavior immediately after spraying	20	100%
Bear left area immediately after spraying	18	90%
Bear that had left returned subsequently	2	10%
Bear did not appear to receive substantial dose in face	8	40%
Sound of spray discharge & spray appeared to drive bear off	3	15%

Proportionately fewer of the incidents involving black bears involved aggressive bears. In black-bear incidents, spraying was less likely (than with the incidents involving brown bears) to cause the animal to leave the area. Black bear incidents are summarized in the two tables on the next page.

The person that was followed by a black bear from the area where the encounter took place reportedly was able make it back to camp "only after firing a bear banger."

While black bears were less likely to respond as intended to the products used than were brown bears, brown bears (apparently including grizzlies and Kodiak's) were responsible for the serious injuries that were reported. The authors caution that they have no knowledge of how any of the reported encounters would have ended if the spray had not been used and note that charges without attacks are common for black bears in the absence of spray

BLACK BEARS ACTING AGGRESSIVELY

EVENT	# OF CASES	% OF TOTAL
All such incidents	4	100%
Bear charged people	2	50%
Bear vocalized aggressively, then approached	1	25%
Humans did not notice bears until they were < 50 m apart	3	75%
Bear exhibited predatory behavior	1	25%
Only one bear involved	1	25%
One or 2 bears involved	3	75%
Bears possibly courting	1	25%
Spray changed bear's behavior	4	100%
Bear left area after spraying	0	0%
Bear shot dead after spraying	1	25%
Bear left after shotgun was fired	1	25%
Person left area after bear was sprayed	2	50%
Bear followed person leaving area	1	25%
People injured	0	0%

BLACK BEARS ACTING CURIOUSLY OR SEARCHING FOR PEOPLE'S FOOD OR GARBAGE

EVENT	# OF CASES	% OF TOTAL
All such incidents	26	100%
Bear not aggressive prior to being sprayed	22	85%
Bear aggressive prior to being sprayed (but aggression was associated with getting a person's food or garbage)	4	15%
Only one bear involved	24	92%
Female with cubs involved	2	8%
Spray apparently changed bear's behavior	19	73%
Spray elicited varied and unclear responses	5	19%
Bear showed no apparent response to spray	2	8%
Bear left area after spraying	14	54%
Bear that had left returned subsequently	6	23%
Bear appeared to receive substantial facial exposure	13	50%
Bear did not leave or returned despite apparently substantial dose in face	8	31%

The authors report that wind, rain, and interference adversely affected results in 6 of the 66 cases (9%). Crosswinds and vegetation led to misses; headwinds to autoexposure of applicators; and rain to rapid run-off of applied material. Spray canisters did not work appropriately in 2 additional incidents (3% of the total). Another user ran out of product while a brown bear was still charging. Canisters reportedly had ranges of about 6 m (perhaps reported as 20'), with accuracy being enhanced within 3 m (10').

Herrero and Higgins were concerned that the sprays might be less effective on black bears than on brown bears, but felt that they did not have enough data to reach a firm conclusion.

The authors also felt that sprays which disperse "into a cloud" might be more effective than those which come out as "a narrow stream" because there is more spray-release noise and less need for spraying accuracy with the "cloud" type. They add that pepper sprays can be used with less training than is needed to deter a charging bear using a firearm.

Herrero and Smith suggest that users should test spray canisters "briefly" to become familiar with how they work and to make sure that they work.

The authors conclude that while capsicum sprays appear to have value ("reasonably, but not 100%, effective") in deterring bears,

> "Carrying bear spray is not a substitute for the normal precautions when traveling or camping in bear country."

Hunt, C.L. (1984) Behavioral responses of bears to tests of repellents, deterrents, and aversive conditioning. M.S. Thesis, University of Montana, Missoula, MT, 146 pp.

Hunt describes research conducted with captive bears (tethered or in enclosures) and free-ranging bears. The enclosures were part of a largely abandoned prisoner-of-war impoundment located at Fort Missoula.

The captive bears all were considered to be

> "problem animals . . . because they had damaged livestock or property."

The animals were slated for relocation or destruction.

Potential bear repellents were tested under conditions designed to create "a 'charging bear' situation." With tethered bears (on a 4-m lead), a human "tester" moved within 2 m of the animal "and attempt to provoke a charge" while a human "observer" took notes. Test stimuli were paired with tests of a "water spray" control. Pairs of tests were run about an hour apart, with order of stimulus presentation having been randomized.

Tests with impounded bears also were run using a "tester" and an "observer". In this case, the "tester" was separated from the insides of the bear's cell by a barred door. The "tester" would do something to rile the bear and, if the bear charged to within 1 m, either would deliver a stimulus or just stand there. If the "tester" could provoke a second charge, the test stimulus was applied again. The "observer" took notes on the proceedings, which also were videotaped. A bear was considered to have been repelled if it

> "retreated farther than 1m from the door and oriented its body at least perpendicular to the tester ($\geq$90 degrees)."

Under either approach, captive bears were run through no more than 2 sets of paired tests/day. Test pairings were run 10 hr apart. If chemical stimuli were used for impounded bears, only 1 test was run per 24-hr period with the test cell being "thoroughly scrubbed following the test".

Capsaicin-based products were not used with tethered bears. Bear Skunker reportedly tended to mollify the 2 male black bears exposed to it in 1981, but a mace product (Shield) and an air horn, used with one bear each, caused the animals to become more aggressive.

One of these bears was tested later in 1981 in the impoundment. There, it was repelled by Halt (0.35% Capsaicin aerosol dog repellent, 7754-37) and at least temporarily by the Skunker, while its aggressiveness continued in response to the air horn, "waterspray" and no treatment. When exposed to "music" (radio rock'n'roll), the animal was relatively passive during the instrumental part, but "charged" and "remained aggressive" after "the vocal section" began.

Regarding the "Halt" trial, Hunt wrote the following:

> "Halt seemed to have an immediate repellent effect on him, but no long term effect . . . When sprayed, the bear immediately turned and ran

about 2.5m, blinking his eyes rapidly, then stopped and looked over his shoulder at the tester for about 4 seconds. He then returned to his bed, sat down, and facing the tester, would not charge again. Unlike his behavior following the Skunker tests, he did not seem restless or inclined to leave the area when the tester had retreated. In less than 30 minutes, he appeared to be behaving normally. His behavior and appetite were not visibly affected on the following day. However, he would not charge during the presentation of the next test."

This account brings to mind a statement made in the earliest account (to my knowledge) of the use of a Capsaicin-based spray against bears. About the repelled captive black bears (1 male, 1 female) that they had sprayed, Jenkins and Hayes (circa 1960, MRID# 427676-06) reported

"Surprisingly enough they showed no particular resentment."

Additional trials with captive bears and assorted stimuli were conducted at Fort Missoula in 1982 with 1 of the 2 bears used in 1981 plus 4 other bears, one of which was a grizzly. Various stimuli (mechanical, pyrotechnical, and chemical) were used in testing, including a "Skunker/Halt" combination. In these trials, the 3 male bears were about twice as likely as the 2 females to charge testers. With such small numbers of subjects, individual variations could have been mistaken for gender trends.

When no test stimulus (control) was delivered to charging bears, they typically continued to charge or otherwise "REMAINED AGGRESSIVE". The same was basically true when railroad flares or a rapidly opened umbrella were used as test stimuli, although there were a few "SUBMISSIVE" responses to these agents. All responses to Halt, Bear Skunker, or a combination of the two were classed as "WAS REPELLED" or "WAS SUBMISSIVE". Instances of "BEAR DID NOT CHARGE TESTER, NO STIMULUS DELIVERED" tended to be higher when chemical stimuli were involved than under the other study conditions. However, not all bears were tested with all stimuli; and individual differences among bears were evident. Testers' who assumed certain bear-significant body postures (especially a "submissive stance") eventually elicited charges from bears that initially had held back.

Regardless of the causative stimulus, bears that had been repelled in the previous trial were less likely to charge in the next one. Continued responses to chemical stimuli

were classed as "Repel/Submissive" in 11 of 13 Halt trials (85%), 12 of 13 Skunker/Halt trials (92%), and all 5 Skunker trials (100%). Subsequent charges by two bears initially briefly repelled by Halt led to a more lasting effect after two (black bear) or 3 (brown bear) total applications of Halt. Bears that had remained aggressive in previous trials not only were more likely to charge in the next trial but were far more likely to charge immediately upon the appearance of the tester. If the stimulus previously used was Skunker, Halt, or their combination, bears were far less likely to charge in the next trial than after any of the other test conditions.

Although Halt and the Halt/Skunker combination seemed to be effective, Hunt noted that (in 1984)

> "These stimuli are not currently available with delivery systems that have the range and accuracy necessary for use on free-ranging bears."

Hunt's "AVERSIVE CONDITIONING" trials, involved 4 "problem" bears that were candidates for release. One was the male black bear that had been tether-tested with Skunker and other stimuli in 1981. The other was a female black bear who was given a control, a water-spray, and 2 Halt tests at Fort Missoula. She was repelled in the Halt tests. The other 2 bears were sibling female grizzly cubs. They were housed together at Fort Missoula and subjected to 1 control, 1 foot-stomp, and 1 Halt test. In the Halt test, both cubs were sprayed; and the experience reportedly threw them into "a blind panic".

Following their respective conditionings, these bears were equipped with radio collars and released. None was known to have caused subsequent problems, but Hunt did not know the fates of any of them. Only the pair of grizzly cubs had been reported to have been sighted after release. Hunt felt that providing only a few exposures to spray prior to release and selecting relatively non-aggressive bears for release would give the best chance for the conditioning to generalize to encounters with humans, but there was insufficient feedback on the fates of these 4 bears to support any hypotheses.

Hunt's tests involving free-ranging bears were run at a landfill near Sparwood, BC. Hunt reports that 30 or more black bears visited the site during the period of the study and that destruction of black bears visiting the site was suspended in 1982 "so that our tests could be conducted without disturbance." Nine of the bears visiting the site in 1982 were darted, aged, and ear-tagged to facilitate visual identification. Observers' experience at the site

enabled them also to visually identify most of the other bears that came there.

Tests took place in the "Commercial Garbage Pile" area of the landfill. Attraction stations consisting of 75-cm (30") square stainless-steel trays containing "a homemade syrup mixture" were established. Test materials thought to be "passive deterrents" were mixed with the syrup at a rate of 1 part deterrent to 2 parts syrup and/or placed "on the ground around another baited tray." "Pain inducing repellents" were sprayed at bears that approached trays equipped with "Delivery devices". Observations were conducted during 6 periods in the fall of 1982. Observations occurred at night (8:00 PM to 3:00 AM) and were made from a parked vehicle. Observers used night-vision goggles as well as binoculars. "Delivery devices" were activated by use of "a fine cable attached to our truck."

Halt and Bear Skunker were tested as "Pain inducing repellents". Bear Skunker also was tested as a passive deterrent, as were "full strength" ammonia, ammonia "with household detergent", "Boundary (commercial dog deterrent)", "human urine (male and female), mothballs, and "Technichem (potential commercial bear deterrent)". The Boundary product was from Lambert Kay (Cranbury, NJ) and contained 1.9% Methyl Nonyl Ketone and 0.1% compounds related to MNK. (This product probably was 8220-17, currently registered by the Lambert Kay Division of Carter-Wallace, Inc., of Cranbury.) "Technichem Bear Repellent" was attributed to Technichem Corporation (Boise, ID) and reportedly was "A secret formula". ("Technichem" appears in the name of two entities that have been assigned company numbers under FIFRA. Neither is from Idaho.)

Table 1 summarizes the results of the trials at the Sparwood Landfill. (Note the descriptions of terms like "Repelled" and "Deterred" that Hunt used to characterize results.) I would characterize the performance of the passive deterrents as "fair to awful". Generally, these agents produced somewhat better effects if they adulterated the syrup bait, as opposed to being on the ground around the tray. If anything, the "Technichem" product attracted bears. Mothballs (100% Naphthalene), the Boundary MNK dog repellent, and the ammonia cleanser (Wizard) were no more aversive than controls. Human urines were somewhat effective, especially when in the syrup and from a male. However, male human urine received relatively high rates of visits per test, especially when placed on the ground around the trays. Bears might have been relatively interested in the stimulus but not very interested in feeding in its presence. Full strength ammonia was fairly

effective in either context, and was low in visits per test when it adulterated the syrup.

Remotely triggered Halt (0.35% Capsaicin) was probably the most effective material tested. Bears ran away upon activation of the delivery system in 17 of 21 applications and walked away in another instance. The bears deterred or repelled by Halt left the study site (10), went to its perimeter (2), went to the garbage pile (2), or to another tray (3). (Hunt reports that there is "NO DATA" for one of these bear visits.) The "Not deterred/repelled" bear visits were attributed to two individual bears. Of these events, Hunt reports the following:

> "During the 3 tests where bears were not repelled, the spray appeared to have contacted the animals in the upper neck region. These bears had been hit with triggered stimuli several times before and when sprayed, merely hesitated briefly, then resumed eating."

In Hunt's trials, the lone Capsaicin-containing product tested showed better potential than anything else for protecting humans who suddenly encountered bears. The Skunker seemed next best. Hunt tried a Halt-Skunker combination to no clear advantage over Halt alone. Hunt felt that improved delivery systems would be needed to make either of these products or their combination practical as something with which people venturing into bear country could arm themselves confidently. The bear repellents that we have registered to date come in cans which enable their contents to be propelled 20-30' in a large cloud (assuming moderate wind conditions).

There is no mention of Frontiersman in Hunt's thesis. According to Security's Larry Nance, the product was not marketed until 1995.

For reasons that make sense to her ("it lends itself toward a physical/chemical characteristic"), Davis included the report of "SPRAY PATTERN DATA" for Frontiersman in the product chemistry volume that she assembled for the application package. The report, which evidently appears on pages 12 and 13 of the product chemistry package, was copied and included with the package routed for efficacy review. Security Equipment Corporation (the applicant) is responsible for the data which the report summarizes.

According to the report, 12 containers of "a net weight of 256grams [sic]" were used. Eight of the containers were kept at 60°F, and 4 at -10°F. The report implies that the cans were not shaken prior to use. Cans were fired indoors

and outdoors. Outdoor tests reportedly were run when the ambient temperature was 20°F.

For the spray patten test, canisters were fired "until empty" at a target hung from a wall. The "firing line" was 18' from the target. In some cases, canisters were held "level", 4' above ground level. In other cases, the cans (presumably still 4' above the substrate) were "tilted at a 45 degree angle toward the body of the shooter" so as "to simulate shooting up at a bear". Regardless of the test location (indoors or outdoors) and the orientation of the container, the report indicates that the spray pattern 18' from the container was 8' high and 9' wide.

SAMPLE NO.	STORAGE TEMP.	TEST ANGLE	TEST SITE	PATTERN DIMENSIONS
1	60°	0°	Inside	8'H, 9'W
3	60°	0°	Outside	8'H, 9'W
2	60°	45° up	Inside	8'H, 9'W
4	60°	45° up	Outside	8'H, 9'W
9	-10°	0°	Inside	8'H, 9'W
10	-10°	45° up	Outside	8'H, 9'W

The other 6 containers reportedly were assessed for spray distance and duration (number of seconds of consecutive firing over which the container delivers an effective spray pattern). The spray distance reportedly was determined by assessing the spray pattern on a 25'-square "cardboard area" laid over the substrate in the direction of firing. The methods used to determine spray duration are not reported.

Spray distance and duration results are summarized below.

SAMPLE NO.	STORAGE TEMP.	TEST ANGLE	TEST SITE	SPRAY DURATION	SPRAY DISTANCE
5	60°	0°	Inside	8 sec	23'
7	60°	0°	Outside	8 sec	23'
6	60°	45° up	Inside	8 sec	20'
8	60°	45° up	Outside	8 sec	20'
11	-10°	0°	Inside	8 sec	23'
10	-10°	45° up	Outside	8 sec	20'

As with the spray pattern test, essentially no variability was reported for tests of similar container orientation,

regardless whether the units were fired indoors or outside. Tilting the units backward at a 45° angle reportedly reliably shortened the spray distance by 3', but the reported 10-mph headwind into which the units tested outdoors were fired was not reported to shorten the spray distance. When the warmer containers (60°F) were tested, the maximum width of the horizontal pattern of spray deposition was reported to be 18' from the source, regardless of the orientation of the test units. This same distance was reported to be the point of widest deposit for the cold (-10°F) container fired level to the ground, but the distance of maximum width for the cold container tilted backward was reported to be 16'. Regardless of their distances from the source, all maximum widths were reported to have been 9'.

The amazing consistency and whole-unit nature of the results reported for Frontiersman suggests that the measurements might not have been made accurately, that they might have been "guesstimated" by crude methods (e.g., eye-balling, pacing, and "one-thousand-one, one-thousand-two, etc." counting), that they might not have been measured at all, or that they might have been measured appropriately (e.g., using measuring tape and a stopwatch) and rounded due to a feeling that the methods in general were rather crude (or that EPA did not have to see more precise figures). Whatever the case, I find the report to raise too many questions to be acceptable.

I also am puzzled by the claim that the spray pattern did not get wider the further away from the source that one measured. The effect reported could have been caused by they 10-mph headwind claimed for the outdoor tests, but that wind should not have affected the spray indoors. It also is possible that the particles were harder to see (or less likely to impinge on the cardboard) the more that they dispersed from the source, or that the report's expression "the widest spot pattern" refers to a certain concentration of spots rather than to the appearance of any. The report should have indicated the intended meaning of that expression.

As the test container provided by Security looks much like those used for other bear-attack repellents, the spray pattern for Frontiersman might well be expected to be similar to the spray patterns similar of other bear-repellent products. Because those products have been brought under Federal regulation only recently, there is no standard protocol for spray-pattern tests for bear repellents. For this reason and because the companies often do their own spray-pattern tests, the methods used have varied a bit from product to product. Compared to the

results reported for products (71920-1, 71768-1) for which vertical impingement data were reported, the 8'-X-9' spray pattern at 18' is a relatively large. For 71920-1 (for which a videotape of the test was submitted), the spray pattern at 15' from the source was 42" high and 48" wide. At 20', the pattern was 54" high and 67" wide. Even at 30', the spray pattern recorded for that product was only 64" high and 91" wide.

Unless Security can provide believable additional details and greater precision for the results of their spray-pattern study, I feel that they should be required to repeat it.

The efficacy-related item FAX-ed to IRB on 6/29/99 consists of a one paragraph letter of that date from Larry Nance, Security's President, a copy of a "FAX" of 6/28/99 from a "Msgt. Robert Bassett" of Elmendorf Air Force Base, located near Anchorage, AK, and a one-page "To Whom It May Concern:" item attributed to a Roy Rainer. In his letter, Nance refers to Bassett's item as

> "one of the Product Specific effectiveness reports that I have received."

He also claims that a

> "Kate Weidermeir the head biologist said that Frontiersman is more effective than what they are currently using."

Nance offers no substantiation for that statement.

Bassett's item seems to announce Rainer's document. Among other things, Bassett writes, "This is the only bear that has been sprayed."

Rainer's entire account is quoted below.

> "I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with black and brown bears. I responded to a black bear in a residential area. Upon arrival I was able to use your product. The first shot was from about ten feet. The bear's first response was a snort, then shook its head, and then went up a tree. I was then able to shoot it again, from about four to five feet. The bear's response this time was a snort in which she had saliva hanging down from her snout. After this shot she proceeded down the tree very rapidly and ran off into the woods.

(Handwritten)
Bear 727 3yr. old about 110 pds"

Taken at face value, this account indicates that it took two sprayings of the product used at close range to drive away a relatively small bear which likely was outweighed by the human wielding the pepper spray. While not a glowing account of product efficacy, Rainer's item would be consistent with the notion that this product functions as a bear deterrent except for the fact that Rainer does not identify the product that he used. Rainer does not indicate whether the bear had behaved aggressively toward him any other humans.

Rainer's account is the only information that Davis or Security has provided regarding the efficacy data on the Frontiersman product. From other sources, I have learned a bit more about Frontiersman. What little I learned appeared in a group of internet items printed and submitted by the party who subsequently received a registration for the GUARD ALASKA product, 71545-1.

The information from the internet was mainly about bears and the precautions that one should take when traveling and camping in bear country. Most of the concerns dealt with protecting foods and dissociating food and non-human odors (e.g., perfumes, cooking smells) from humans so as not to attract bears to people.

There were some discussions of encounters with bears and a couple of mentionings of bear repellents. One such mentioning is quoted below.

> **"- Backcountry travelers who feel uncomfortable in grizzly country can carry pepper spray for use in the event of a chance encounter with a bear. These sprays are non-lethal irritants and have proven effective in the field at repelling grizzlies."**
>
> [National Wildlife Federation "FACT SHEET", p. 2.]

The author (identified only by an e:mail address) of a 6-page item entitled **"Backpacking in Bear Country"** devotes 6 paragraphs to **"Pepper Spray"**. The text is rather "folksy":

> **"Pepper spray is becoming popular as a bear repellent. Those designed for bears are basically like the small cans sold for personal protection in the city, only much larger. The small cans probably don't have nearly enough in them to be real effective, but the large cans are really substantial. I read a story about a couple of bow hunters who used pepper spray in a grizzly attack and they ran out of pepper before they ran out of bear! If I'm hunting in grizzly country, or backpacking without a rifle, I carry a large can of pepper spray."**

The author goes on to name a personal favorite product called "**Frontiersman by Sabre**" which, it is claimed: (1) "**weighs 15 ounces including the can**"; (2) "**holds 454 grams of 15% water-based Oleoresin Capsicum**"; (3) is reminiscent "**of a small fire extinguisher**"; (4) comes with "**a great holster**" that fits on a belt; (5) "**has a quick access Velcro flap**"; and "**costs about $25.**" Obviously, claims (1) and (2) cannot both be true. The author sees formulation strength as an advantage for his preferred product:

> **"Pepper spray comes in different strengths ranging from less than 10% to at least 15%. I go with the highest concentration I can get. Why do I carry 15%? Because I couldn't find 16%!"**

The author states that he believes water-based sprays are better than oil-based sprays because they clean up more easily. The only draw back to the preferred product is said to be that the applied material comes out as "**a fog spray**" rather than as "**a more direct stream**" which the author feels would be more effective if circumstances required that the product be discharged into a headwind.

Whatever might have been the case when the author of that internet item had experience with Frontiersman, the CSF (of 2/19/99) proposed for this product does not list water as an ingredient and, as noted above, claims "Oleoresin Capsicum, African Type 6.0% MC" at a nominal concentration of 23.13%. Other parties (mainly producers of other pepper sprays for use against bears) have stated that water-based products are inferior (to theirs) in efficacy.

The uniqueness of the bear-attack use pattern creates circumstances in which case-history accounts must at least

be considered as useful sources of information on product efficacy (as Herrero and Higgins, 1998. have done). These circumstances are: the difficulty in obtaining sufficient replications in a timely manner by waiting for bears to make essentially unprovoked attacks on people who are armed with pepper spray (or a placebo) and prepared to make research-quality observations; the ethical and human-safety concerns associated with deliberately exposing testers to aggressive bears under no-spray, placebo-spray, or possibly-not-effective-test-spray conditions; and the lack of applicability of the types of procedures (e.g., ambush tests at dumps or campgrounds) which can produce reasonable numbers of replications in a relatively short time.

Although Rainer's account seems to be rather matter-of-fact, many of the case-history accounts that I have seen for bear repellents have appeared to be on the glowing-testimonial end of the case-history spectrum. Such items cause me to wonder to what extent friendships and/or business relationships might have colored the accounts. In the Federal pesticide regulatory program, we used to accept testimonials in place of true efficacy data but abandoned this practice decades ago because of the possibility of observer bias, the lack of appropriate controls, the lack of training of the observer, and some rather obvious cases of abuse. We have no way of verifying whether Rainer's incident description is real or realistic.

The article cited and discussed below addresses the possibility that Capsaicin-based bear repellents can attract bears under certain circumstances.

Smith, T.S. (1998) Attraction of brown bears to red pepper spray deterrent. Wilson Society Bulletin, 26:1, 92-94.

Smith states that liquid sprays made from Oleoresin Capsicum (hereafter OC) were developed in the 1970's. Smith's report documents that brown bears were attracted to certain substrates that had been treated with OC sprays. The lingering questions are whether such attraction was due specifically to the presence of OC, to a more general curiosity/attraction to new olfactory stimuli, or to a response to other stimuli present at the site with which odors from the spray might have interacted.

Smith's study sites were 9 locations along the Kulik River in Katmai NP, AK. The sites selected were gravel substrates located along "bear travel corridors". Smith wanted to observe responses of bears which, in the course of their normal wanderings, encountered objects treated with OC sprays. Treated areas were 1 m^2 in area. Seven of the sites were treated with products claimed to be 10% OC,

while 2 sites were treated with a nominally 15% OC product. Bears were observed from blinds located 10-200 m from treated substrates. Observations were made over the period from 10/25/97 through 10/27/97 from 10:00 AM to 5:00 PM.

Products from 4 different manufacturers were tested. (Smith has informed us that the products were: Counter Assault, now 55541-2; BearGuard, 71920-1; Frontiersman; and Bearcountry Escort, not in our system.)

Smith observed 13 instances of individual bears or groups of bears visiting treated sites. Some 20 bears were observed including 3 mother bears, 7 bear cubs, 3 adult male bears, and 7 other bears whose sex was not identified. These bears made a total of 40 approaches to the treated sites. Using a nominal scale of intensity of response the 40 approaches, Smith reports the data shown below.

BEAR COHORT		INTENSITY OF REACTION			
	N	None	Slight	Moderate	High
Adult males	3	2		1	
Female w/cubs	3	2	3	1	2
Lone bears (sex not determined)	7	12	5	3	9
TOTALS	13	16	8	5	11

The specific behavioral responses observed included

> "25 bouts of sniffing, 9 pawing bouts, 10 licking bouts, 16 head rubbing bouts, and 11 bouts of bears rolling their entire body on the pepper spray. Behavioral bouts at individual treatment sites lasted of 0.1-2.5 minutes (x = 1.0 min. SD = 0.47)."

Apparently, all "**High**" intensity responses included bouts of rolling. Smith's article includes a photograph of a "Bear lying in pepper spray". Smith claims, at other times, to have observed bears at the same loci that were treated with OC products for ">750 hours" without once seeing

> "bears rubbing their heads on the ground, pawing and licking soils, or rolling on their backs as done in the presence of red pepper spray residue, strongly suggesting that these novel behaviors stemmed directly from exposure to the red pepper spray I had deposited on soils."

Smith also claims that in each of the 16 **"No Response"** outcomes, prevailing wind speeds were in excess of 37 km/hr (about 23 mph). Smith also reports that bears continued to respond strongly to substrates that were treated 5 days earlier.

In light of his observations, Smith expresses concern that test firing of cans of bear repellent might leave OC residues on objects in the campground, including the partially used spray cans. He suggests that label directions encouraging test firings might be counter-productive from a safety standpoint and run against the advice given to those who hike and camp in bear country regarding keeping food items and "otherwise odorific articles" away from sleeping areas. He adds,

> "Given that red pepper spray residues elicit intense interest and scent rubbing in bears, it may be prudent to keep canisters which have been fired free of residues by careful cleaning or storage in locations other than sleeping areas. Given these findings, I recommend a cautious approach to use and storage of red pepper spray products in bear country.

We have kept these comments in mind as we have reviewed proposed labeling for Capsaicin-bases bear repellents, but I cannot help but think that it might still be better to have the pepper spray can handy in a trail camping situation that tied way off the ground with actual food items. Smith's report does not help assess certain applicants' claims that their products are less attractant than other products to bears in non-attack situations.

A videotape supplied with other materials to support the registration of Bear Pause (71768-1, ChemArmor, Missoula, MT) includes some footage of Smith's research. Some brown bears do indeed rub their heads or torsos (back and front) into areas along a river bank. Although Smith attributed instances in which bears did not respond to treated substrates to high winds, ChemArmor wanted us to believe that Bear Pause did not attract bears in Smith's tests because it is made from extracted Capsaicin rather than food grade OC. Bear Pause was not used in Smith's trials.

Last winter, a flurry of accusations and counter accusations regarding the alleged attractiveness of surfaces treated with OC sprays to bears led us to require that labels command users not to spray objects to ward off bears without alluding to the possibility that such spraying might attract bears in some cases.

The next two citations are reports of research into the efficacy of possible bear deterrents. These trials were run under the Border Grizzly Project during the early 1980's and do no mention Frontiersman.

Smith, M.E. (1984) Repellents and deterrents for black and grizzly bears. Progress Report 1983, Border Grizzly Project, School of Forestry, University of Montana, Missoula, MT. 21 pp.

Smith describes outcomes of tests of candidate bear repellents/deterrents at the Fort Missoula and Sparwood landfill facilities. The Fort Missoula tests involved bears not discussed in Hunt's thesis; and the Sparwood tests were conducted in 1983, nearly a year after those discussed by Hunt (1984).

Three grizzly bears (2 male, 1 female) and a male black bear were tested at Fort Missoula in 1983. The procedures used were essentially those described by Hunt. Test stimuli included: Halt, a Halt/Skunker combination, "Phaser II" (Sekure International Corp., Ft. Lauderdale, FL), and two preparations from a Frank Child of Cody, WY.

Smith does not discuss the Fort Missoula results in detail but does summarize the tests in a table which, as adapted by me, appears on the next page. In a 1984 telephone conversation, Smith described to me the system that he used for rating repellent responses. In the efficacy review of 10/16/84, I summarized his comments as shown below.

Strong Response	-	Bear immediately turns 90° or more from tester and runs away
Moderate Response	-	Bear turns 90° or more away from tester and stops charging
Weak Response	-	Bear stops charging and may back up. Turns less than 90° and does not run

STIMULUS	# BEAR APPROACHES	# BEAR CHARGES	REPELLENT RESPONSES†			
			S	M	W	N
Halt	13	7	6	1	0	0
Phaser II	21	12	6	2	4	0
Skunker/Halt	16	5?*	1	1	3	0
Childs #1	5	2	0	0	2	0
Childs #3	7	4	2	0	2	0
	62	30?*	15	4	11	0

*Smith's table lists 12 "Still Test" outcomes ("Bear would not charge) out of 16 Skunker/Halt tests, but also presents 5 "Repellent Response" outcomes. In adapting the table, I removed the "Still Test" column and identified the number of chargers. I have assumed that there would have to have been 5 charges in the Halt/Skunker test condition in order to produce 5 responses.

†S: "Strong"; M: "Moderate"; W: 'Weak"; N: "None"

Under the conditions of testing, all stimuli elicited (at least "Weak") repellent responses from charging bears; but Halt was the only one to elicit "Strong" responses in more than half (86%, actually) of the instances in which a bear charged the tester. Phaser II elicited "Strong" repellent responses in half of its trials with charging bears. The same was true for Child's #3 preparation.

Due to "insufficient funding" (Bear Country Products made the "only funding commitment" for 1983), research at Sparwood lasted only from 8/12/83 through 9/18/83. Due to time lost to pre-trial trapping (6 bears caught, 3 equipped with radios) and setting up, no product tests were run until 8/29/83. The site was visited by the six previously trapped bears plus 21 others that the researchers could recognize visited the study site.

Smith does not describe the procedures used in the 1983 field trials in great detail. He does, however, report that the attractant syrup was made from "'slum-gum,' a by-product of honey processing" plus "a commercial lure ('10 Dead Horse')". From the review of 10/16/84, it seems that the trials were run primarily like the "actively triggered" trials discussed by Hunt (1984), although humans (including Smith himself) apparently sprayed bears in some tests. (Bear Country Products sent us a videotape which showed Smith spraying Skunker at 2 bears and water at a third.)

The 0.35% Capsaicin product Halt produced varied results. Smith speculated that "inconsistent quality control" might have been a factor in the erratic results but also wondered whether the (evidently remotely activated) product release had always hit the bears. He added that bear cubs were "too short (low) to be hit with a direct spray."

STIMULUS	# TESTS	REPELLENT RESPONSES*			
		S	M	W	N
Halt	23	7	6	5	5
Phaser	7	6	0	0	1
Bear Skunker	11	3	3	4	1
Childs #5-B	1	1	0	0	0
Childs #2 (Stake)	6	0	0	0	6
	48	17	9	9	13

*See response key for tests with captive animals.

The Phaser product elicited "Strong" repellent responses in 6 of its 7 applications. However, Smith's discussion of the Phaser trials (quoted below) alludes to some problems with executing the Phaser trials.

> "Phaser was again consistent in producing a strong repellent response. In the one case of 'no-reaction,' the bear was 10 feet away, and the spray was against a moderate wind, so it may have missed the bear. Problems in the spray delivery system caused the whole can to be sprayed in each test. Four of the Phaser tests not only repelled the bear being tested but caused every bear within a 100-foot radius to leave the area. This may have been from the noise associated with the spray, as well as the spray itself. Most of the repelled bears came back to the dump within a few minutes."

Smith's report does not describe the formulation for the Phaser product. In a 1984 telephone conversation, Carrie Hunt told me that Border Grizzly Project workers in Yellowstone N.P. had carried Phaser and that one of them, while being mauled, had managed to spray the bear, causing it to run off. Whether the Phaser was a Capsaicin aerosol similar in composition to Frontiersman might be difficult to establish.

Hunt, C. and Jonkel, C. (1983?) Bear deterrent tests. Manuscript, Border Grizzly Project, University of Montana, Missoula, MT. 13 pp.

Acc. # 250625

This paper describes the initial tests with captive bears which Hunt (1984) also discussed. Although results with Halt and certain other stimuli are mentioned, this report dwells mainly on the results obtained with Bear Skunker.

To the extent that "pepper sprays" in general deter attacks by bears, it seems likely that Frontiersman would have some efficacy. All the talk about the pros and cons of water-based pepper sprays seems to be irrelevant to the formulation proposed for registration of 72265-R.

The container label proposed for this product on 2/19/99 is patterned after the container labels that have been accepted for the 4 Capsaicin bear repellents that already are registered, most closely resembling the label for COUNTER ASSAULT, 55541-2. The sample container submitted by Security on 2/24/99 has a draft of the front panel of that same proposed label mounted on it. On that mock-up, there seems to be insufficient room for all of the proposed back-panel text to appear on the container.

The "**Do not seek out encounters with bears** ..." paragraph that appears on the front panels of labels for registered bear repellents is located below the signal word on the front panel of the label proposed for Frontiersman. That location is acceptable, although I would prefer the paragraph to appear above the statement of ingredients so as to have greater prominence and, consequently, be more likely to be noticed by shoppers before they decide whether to buy the product. I also prefer the text to be in "all-caps", but the bold type proposed on 2/19/99 is acceptable.

The back panel is arranged with the "**PRECAUTIONARY STATEMENTS**" above the "**DIRECTIONS FOR USE**". This is typical formatting for pesticide products but not for bear repellents. Because of the risks to humans resulting from improper use (e.g., missing the bears and getting mauled for it, and/or hitting themselves), I feel that it is most important to convey to users how the product is to be applied and what one should and should not do with it.

Except for a minor problem under "**APPLICATION DIRECTIONS:**" (see "CONCLUSIONS"), the format proposed for the "**DIRECTIONS FOR USE**" on the proposed container is acceptable. The main heading is centered as are the "It is

a violation ... labeling" sentence and the sentences in the "**USE RESTRICTIONS:**" subsection which claim "**an effective range of up to 18 feet**" and that the "**canister empties in approximately 8 seconds**". Prior to receiving (on 6/29/99) the labeling materials submitted on 6/3/99, I was concerned that the proposed organizational format might be altered once Security tackled the task of attempting to mount the full label text onto a container. The printed container label submitted on 6/3/99 indicates that such concern was well founded.

I have no major problems with the proposed content of the "**DIRECTIONS FOR USE**" on the container label of 2/19/99, but I do feel that the "**USE RESTRICTIONS:**" subsection should include the sentence

> "This product may not be effective in all situations or prevent all injuries."

This sentence does not appear on the label for COUNTER ASSAULT that we accepted on 5/12/98, but we have required it to appear on labels for products registered subsequently (e.g., 71768-1 and 71920-1). Essentially meaning "This product does not make you invincible against bears", this sentence brings the product's potential for life-protection into perspective. Even though similar thoughts are expressed in the "**Do not seek out encounters** ..." paragraph on the front panel, I feel that the information is appropriate to the "**USE RESTRICTIONS:**" paragraph and worth repeating.

Although the proposed container label submitted on 2/19/99 is rather close to being acceptable, the same cannot be said for the labeling items submitted on 6/3/99 (and routed to me on 6/29/99). In his letter of 6/3/99, David Nance, Security's Director of Sales and Marketing (and Larry's son), describes these labeling items as

> "the marketing materials which we would like to package with Frontiersman Bear Attack Deterrent spray once it is approved."

The items provided include a printed container label on which the product is called "**FRONTIERSMAN® *BY SABRE* BEAR ATTACK DETERRENT**", a blister-pack label on which the product is called both "**FRONTIERSMAN® *BY SABRE***" and "**BEAR ATTACK DETERRENT**", and a "bag-tag" label on which the product also is called both "**FRONTIERSMAN® *BY SABRE***" and "**BEAR ATTACK DETERRENT**". The inconsistent naming of the

product is not the only problem with these items. The blister-pack and bag-tag labels use "CAUTION" as the signal word, present use directions which differ from any that we would be likely to accept (including those on the proposed container label submitted on 2/19/99), and include false or misleading claims. Even the printed container label departs in certain ways from the text proposed on 2/19/99.

The front panel of the printed container label submitted on 6/3/99 shows a red background against which text is presented in 3 colors: blue, yellow, and white. Against this background, the words printed in yellow are most easily read. These words include: the signal word "WARNING", the KORC statement, the "*BY* ***SABRE*** **BEAR ATTACK DETERRENT**" portion of the product's new proposed name, and the claim "TO DETER BEARS FROM ATTACKING HUMANS".

The "**FRONTIERSMAN®**" portion of the product's name appears in blue on the red background but is easy to read because it appears in large type (except for the "®"). Also in blue is a picture of a bear with its mouth wide open.

The text printed in white on the red background is very difficult to read, in large part because most of the white type is very thin and/or very small. The text that appears in white includes the statement of ingredients, the important "Do not seek out ... encountered" paragraph (which was in "**bold**" type on the proposed container label submitted on 2/19/99), the statement of contents, and information on the product number, establishment number, and the manufacturer's name and address. Whether or not it was deliberate, the obscuring of the "Do not seek out ... encountered" paragraph is a troubling development.

The back panel of the container label submitted on 6/3/99 departs from the organizational framework of the proposed for the container label submitted on 2/19/99 chiefly by virtue left-justification of the major section headings "**PRECAUTIONARY STATEMENTS**" and "**DIRECTIONS FOR USE**". The impression that these are major subject headings is preserved to a degree by the fact that they appear in red type (on a white background) while all other markings on the back panel are in blue. Were it not for the red type, the "**DIRECTIONS FOR USE**" section would appear to begin and end with the "*It is a violation ... labeling*" sentence which now appears in italics and also is left-justified. The section heading "**STORAGE AND DISPOSAL**" is left-justified but not in red type.

Also left-justified (and in italics) of the container label submitted on 6/3/99 are the sentences related to the distance and duration of firing claims. The text of that portion of the "**USE RESTRICTIONS --**" (now having a hyphen instead of a colon) has been changed to read as shown below.

> ***"THIS PRODUCT FIRES UP TO 23 FEET WITH THE MOST EFFECTIVE RANGE AT 18 FEET. THE CANISTER EMPTIES IN APPROXIMATELY 8 SECONDS."***

Security apparently has decided to get even more out of its questionable spray pattern study than it did in February by claiming the full distance which the product reportedly traveled, whether into a headwind or not, across the substrate even though vertical spray patterns only were reported for the 18' distance from the container. Even if I had no questions about the conduct of the study, I would not accept the 23' claim based upon the procedures that seem to have been used.

Under "CONCLUSIONS", I reject all elements of labeling that were submitted on 6/3/99 and indicate what is wrong with them.

202.0 CONCLUSIONS

1. The report of "SPRAY PATTERN DATA" is not acceptable. The procedures used for the study are not described in sufficient detail and we question some of the results reported. Unless you can provide us a complete description of the procedures followed and copies of raw data-collection sheets, we will not consider this study further. Alternatively, you might consider running a new trial with vertical spray patterns being determined at several fixed distances (e.g., 10', 15', 20', 25, and 30') from the container and with times to spray evacuation determined by use of an accurate stopwatch. You may wish to document the conduct of a new study on videotape in addition to recording all procedures and results on paper.

2. Although no specific efficacy test data for Frontiersman were included in your application package of February 19, 1999, the information (MRID# 447632-04) supplied suggests that Capsaicin-based aerosols can be used to repel bears.

3. Mr. Rainer's terse account of spraying a bear in Alaska (submitted on June 29, 1999) suggests that it took two applications of a product at very close range to drive

away a relatively small black bear. The first application reportedly had some adverse impact on the bear. Mr. Rainer does not report the name of the product that he used.

4. The container label proposed for this product on February 19, 1999, is basically acceptable from the standpoint of efficacy, but the changes identified below are needed in the "**DIRECTIONS FOR USE**".

   a. Between the first ("**This product ... humans**") and second ("Do not spray ... bears") sentences of the '**USE RESTRICTIONS:**" subsection, insert the following sentence:

      This product may not be effective in all situations or prevent all injuries.

   b. Change "**TO ARM AND APPLY:**" and "**TO DISARM:**" to "**To Arm and Apply:**" and "**To Disarm:**" so that it is clear that they fall under the subheading "**APPLICATION DIRECTIONS:**". In the first sentence of "**To Arm and Apply:**", change "one hand" to "one-hand" or "one-handed".

   Except for the changes indicated above, make sure that the organizational format proposed for the "**DIRECTIONS FOR USE:**" is retained when the label is set up for mounting on containers. The container label submitted on February 19, 1999, is closer to being acceptable than is the printed version submitted on June 3, 1999.

5. The printed container label submitted for this product on June 3, 1999, is not acceptable from the standpoint of efficacy for the reasons listed below.

   a. The proposed use of a red background with type and graphics appearing in three different colors creates a front label panel on which the name of the product is very easy to read, but on which the toxicity signal word and "Keep Out of Reach of Children" are somewhat harder to read, and the statement of ingredients and the paragraph which begins with "Do not seek out encounters with bears" are rendered inconspicuous are very difficult to read. Due to the importance of the material in that paragraph, it must be presented in such a way that it jumps out at readers. The bold black type on a white background used on the container label submitted on February 19, 1999, emphasized this text adequately, but putting it above the

ingredients statement in all-capital bold letters would have been even better.

b. The headings "**PRECAUTIONARY STATEMENT**" and "**DIRECTIONS FOR USE**" must be centered on the back panel so it is clear that they are major section headings. Presenting those headings in red type emphasizes them somewhat, but not sufficiently. The heading "**STORAGE AND DISPOSAL**" also must be centered.

c. Between the first ("**This product ... humans**") and second ("Do not spray ... bears") sentences of the '**USE RESTRICTIONS:**" subsection of the "**DIRECTIONS FOR USE:**", insert the following sentence:

> This product may not be effective in all situations or prevent all injuries.

d. Even if we had found the "SPRAY PATTERN DATA" report of analysis to be fully acceptable, it would not have supported the first sentence of the "**USE RESTRICTIONS --**" paragraph quoted below.

> "***THIS PRODUCT FIRES UP TO 23 FEET WITH THE MOST EFFECTIVE RANGE AT 18 FEET. THE CANISTER EMPTIES IN APPROXIMATELY 8 SECONDS.***"

Because no vertical spray pattern was reported 23 feet from test containers, the report does not indicate to what extent there might have been spray at bear-eye level at that distance. The report did claim a vertical spray pattern (8'H-X-9'W, consistently) at the 18' distance.

e. Change "**TO ARM AND APPLY:**" and "**TO DISARM:**" to "**To Arm and Apply:**" and "**To Disarm:**" so that it is clear that they fall under the subheading "**APPLICATION DIRECTIONS--**". In the first sentence of "**To Arm and Apply:**", change "one hand" to "one-hand" or "one-handed".

The product name indicated on the container label submitted on June 3, 1999, does not match the product name indicated on the container label submitted on February 19, 1999. Choose one basic name for this product an use it consistently on elements of labeling.

6. The blister-pack label submitted on June 3, 1999, is not acceptable for the reasons indicated below.

   a. The product name on the blister pack label does not match the product name on the label proposed for the container that is supposed to be in the blister pack. Pick a name for this product and use it consistently.

   b. The front panel of the blister pack makes claims which are unsupported, false or misleading. These claims (listed below) must be deleted.

      (1) "Highly Effective in Extreme Temperature **-40° to 120°F**". Taken at face value, your spray pattern report only covered the temperature range of -10° to 60°F, and those were temperatures of storage and apparently not temperatures of use. There was no indication of ambient temperature in the only account of product use that you have submitted.

      (2) **"22% Oleoresin Capsicum (Red Pepper)"**. The active ingredients in this product may only be claimed in the manner if which they appear on the container label's statement of ingredients.

      (3) "3,000,000 SHU'S". Whether or not the hotness claimed is correct, it is not acceptable to claim activity in terms of Scoville Heat Units.

      The heading **"WHEN TO USE SABRE FRONTIERSMAN"** must be changed so that it does not rename the product. **"WHEN TO USE FRONTIERSMAN"** would be acceptable. If you decide to call the product **"FRONTIERSMAN® *BY SABRE* BEAR ATTACK DETERRENT"**, the heading could be worded **"WHEN TO USE FRONTIERSMAN BY SABRE BEAR ATTACK DETERRENT"** or it could be abbreviated to **"WHEN TO USE FRONTIERSMAN BY SABRE"**. As **"FRONTIERSMAN"** seems to be an adequate trade name and as your company is called "Security Equipment Corporation", we have been wondering what **"BY SABRE"** adds to the name of the product or is supposed to mean.

      The abbreviated use directions (**"HOW TO USE SABRE FRONTIERSMAN"**) must be deleted. This section is a selective abridgement of the required **"DIRECTIONS**

FOR USE" which omits many important directions, restrictions, and precautions. You may put the entire **"DIRECTIONS FOR USE"** section that appears on the container label (as modified by our comments above) on the blister pack or you may refer readers to the **"DIRECTIONS FOR USE"** on the container label.

The same basic comment holds for precautionary statements. The statements on the blister-pack label must be the same as those required for the container, or the blister-pack label may use abbreviated precautionary labeling and refer to the full statements on the container label. The incorrect signal word **"CAUTION:"** may not be used on the blister-pack label. [Dan and Grace: I have only touched on the problems with the precautionary statements. I expect that you will be supplying the correct text based on the outcome of the precautionary labeling review.]

7. The holster bag-tag label submitted on June 3, 1999, is not acceptable for the reasons indicated below.

   a. The product name on the bag tag label does not match the product name on the label proposed for the container that is supposed to be in the bag. Pick a name for this product and use it consistently.

   b. The front panel of the bag-tag label makes claims which are unsupported, false or misleading. These claims (listed below) must be deleted.

      (1) "Highly Effective in Extreme Temperature **-40° to 120°F**".

      (2) **"22% Oleoresin Capsicum (Red Pepper)"**.

      (3) "3,000,000 SHU'S".

      The abbreviated use directions (**"HOW TO USE SABRE FRONTIERSMAN"**) must be deleted. You may put the entire **"DIRECTIONS FOR USE"** section that appears on the container label (as modified by our comments above) on the bag tag or you may refer readers to the **"DIRECTIONS FOR USE"**.

      The same comment holds for precautionary statements. The statements on the bag-tag label

must be the same as those required for the container, or the bag-tag label may use abbreviated precautionary labeling and refer to the full statements on the container label. The incorrect signal word "**CAUTION:**" may not be used on the bag-tag label. [Dan and Grace: I have only touched on the problems with the precautionary statements. I expect that you will be supplying the correct text based on the outcome of the precautionary labeling review.]

William W. Jacobs
Biologist
Insecticide-Rodenticide Branch
June 30, 1999

Table 1. Results of 1982 tests of passive deterrents and active repellents, as described by Hunt (1984), at Landfill site near Sparwood, BC.

STIMULUS	# TEST NIGHTS USED	# OF BEAR VISITS	BEAR VISITS PER NIGHT	# OF DIRECT INVES-TIGATIONS	# OF INDIRECT INVES-TIGATIONS	# OF TIMES BEARS WERE DETERRED	# OF TIMES BEARS WERE REPELLED	# OF TIMES BEARS NOT DETERRED	# OF TIMES BEARS NOT REPELLED	% OF TIMES BEARS WERE DETERRED	% OF TIMES BEARS WERE REPELLED	% OF TIMES BEARS DETERRED OR REPELLED
'Control 1'	21	52	2.5	42	10	8	5	0	39	15.4%	9.6%	25.0%
'Control 2'	16	29	1.8	26	3	2	2	0	25	6.9%	6.9%	13.8%
Boundary in Tray	5	25	5.0	23	2	4	3	0	18	16.0%	12.0%	28.0%
Boundary around Tray	5	18	3.6	16	2	1	0	2	15	5.6%	0.0%	5.6%
Mothballs in Tray	5	24	4.8	22	2	3	2	0	19	12.5%	8.3%	20.8%
Mothballs around Tray	5	19	3.8	19	0	0	1	0	18	0.0%	5.3%	5.3%
Technichem in Tray	5	19	3.8	17	2	1	0	0	18	5.3%	0.0%	5.3%
Technichem around Tray	5	33	6.6	31	2	3	0	0	30	9.1%	0.0%	9.1%
Male Urine in Tray	5	23	4.6	12	11	14	4	1	4	60.9%	17.4%	78.3%
Male Urine around Tray	5	37	7.4	33	4	9	5	1	22	24.3%	13.5%	37.8%
Female Urine in Tray	6	8	1.3	7	1	3	1	0	4	37.5%	12.5%	50.0%
Female Urine around Tray	6	16	2.7	15	1	1	1	0	14	6.3%	6.3%	12.5%
Full-strength Ammonia in Tray	6	6	1.0	2	4	3	1	0	2	50.0%	16.7%	66.7%
Full-strength Ammonia around Tray	6	18	3.0	14	4	5	5	0	8	27.8%	27.8%	55.6%
Ammonia Cleanser in Tray	8	19	2.4	13	6	3	3	0	13	15.8%	15.8%	31.6%
Ammonia Cleanser around Tray	8	22	2.8	19	3	3	2	4	13	13.6%	9.1%	22.7%
Bear Skunker in Tray	6	24	4.0	21	3	3	2	1	18	12.5%	8.3%	20.8%
Bear Skunker Control	13	13	1.0	13	0	0	4	1	8	0.0%	30.8%	30.8%
Bear Skunker Triggered	13	37	2.8	37	0	12	8	8	9	32.4%	21.6%	54.1%
Halt Control	9	12	1.3	12	0	3	0	0	9	25.0%	0.0%	25.0%
Halt Triggered	10	21	2.1	18	3	17	1	1	2	81.0%	4.8%	85.7%

NOTES:

For "passive" (not "Triggered") tests, "DETERRED" means "Walk away; no eat"; "REPELLED" means "Eat briefly, leave"; "NOT DETERRED" means "Eat hesitantly", and "NOT REPELLED" means "Eat continuously".

For "Triggered" tests, "DETERRED" means "Run away"; "REPELLED" means "Walk away"; "NOT DETERRED" means "Orient to, eat hesitantly", and "NOT REPELLED" means "Orient to, eat continuously".

Please Send
To Dan
Peacock

1 of 2

DP BARCODE: D257320

CASE: 064803 DATA PACKAGE RECORD DATE: 06/29/99
SUBMISSION: S564617 BEAN SHEET Page 1 of 2

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 06/08/99 DUE OUT DATE: 12/15/99

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 257320 EXPEDITE: N DATE SENT: 06/29/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	
DIV : RD	/ /	/ /	
BRAN: IRB	/ /	/ /	
SECT: PM04	/ /	/ /	
REVR : Wy	6/29/99	6/29/99	OBJ
CONTR:	/ /	/ /	

ADMIN DUE DATE: 11/26/99
NEGOT DATE: / /
PROJ DATE: / /

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Please review this additional labeling that the company sent to us. According to the company's 6/3/99 letter, this material accompanies the product at the point of sale.

On 6/29/99 I talked to Larry Nance to clarify the types of labeling submitted.

1. Two Panel Label with RED Front Panel

This is the container label. This is sold with every unit.

---

2. Clam Shell (Front and Back)

The text surrounds the container. Everything is held together with plastic.

No holster is sold with this package.

This type of packaging is an alternative to the Bag Tag packaging.

* * * DATA REVIEW INSTRUCTIONS * * *

---

3. Bag Tag (2 panel folded in middle)

This includes a clear plastic bag that holds the container.

A holster, which has no text, is included in the bag. The Bag Tag hangs from a metal rod.

The Bag Tag is an alternative to the Clam Shell.

Note: I have told registrants that selling the holster with some units is OK as long as there is no text. The holster would just be a plus for any units that had them. We would not consider the holster an essential part of the registration. If that were the case, every unit would need one.

Thank,

Dan

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

5-564617

SECURITY
EQUIPMENT CORPORATION

Thursday, June 03, 1999

Dan Peacock, Insecticide/Rodenticide Branch
Document Processing Desk - APPL
Office of Pesticide Programs - 7505C
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Room 266A, Crystal Mall 2
Arlington, VA 22202

72265-R

Dear Mr. Peacock:

Enclosed you will find the marketing materials which we would like to package with our Frontiersman Bear Attack Deterrent spray once it is approved. I spoke with my father, Larry Nance, and he informed me that all marketing materials must obtain your approval before they can be circulated to consumers. Therefore, I kindly ask for you to review the enclosed materials. Please let us know if these materials are acceptable.

Concerning the registration, I know that my father has worked extremely hard for over a year compiling research and formulating to produce the safest deterrent spray for our environment. I can assure you that Security Equipment Corporation has always manufactured products with both the environment's and consumer's best interests in mind. My father has worked extremely hard over the past twenty-four years to build Security Equipment Corporation into a very reputable company. I hope that he will soon be rewarded with the EPA registration of his Frontiersman Bear Attack Deterrent Spray.

Thank you for all of your cooperation and assistance. Please let me know if there is anything else I can do to assist you.

Respectfully submitted,

David Nance
Director of Sales and Marketing

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://home.stlnet.com/~sabre

2 of 2

DP BARCODE: D257323

CASE: 064803 DATA PACKAGE RECORD DATE: 06/29/99
SUBMISSION: S564625 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 166 RESB NEW PRO-OC-MIN CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: DANIEL PEACOCK 703-305-5407 ROOM: CM2 221
RECEIVED DATE: 06/29/99 DUE OUT DATE: 01/05/00

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 257323 EXPEDITE: N DATE SENT: 06/29/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: N LABEL: N

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 11/26/99
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR : WY	6/29/99	6/30/99 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill,

Please review this information on effectiveness faxed to us.

Thanks,

Dan

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL

SECURITY EQUIPMENT CORPORATION

330 Sun Valley Circle
Sun Valley Industrial Park
Fenton, Mo. 63026

Phone 314-343-0200
Toll Free 800-325-9568
Fax 314-343-1318

FAX MESSAGE

DATE: 6/29/99 SUBJECT: Bear Spray

TO: U.S. Environmental Protecion Agency

FAX NUMBER: 703-305-6596 NUMBER OF PAGES TRANSMITTED: 4

ATTN: Dan Peacock PREPARED BY: Larry Hance

SECURITY
EQUIPMENT CORPORATION

June 29, 1999

U.S. Environmental Protection Agency
Dan Peacock, Insecticide/Rodenticide Branch
Office of Pesticide Programs - 7505C
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Dear Mr. Peacock:

I received the enclosed report from Master Sergeant Robert Basset, Natural Resource Offices Elmendorf Air Force Base in Alaska. This is one of the Product Specific effectiveness reports that I have received, which you had requested. Kate Weidemeir the head biologist said that Frontiersman is more effective than what they are currently using.

Regards,

Larry Nance

Larry Nance
President

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://home.stlnet.com/~sabre

FAX TRANSMITTAL COVER SHEET
FOR
BASE NATURAL RESOURCES OFFICE

TO: LARRY NANCE
FAX: 1-636-343-1318
PHONE: 1-800-325-9566

3CES/CEVNR Fax: 552-0799 Tele: 552-2436
4803 8th St
Elmendorf AFB AK

SUBJECT: Bear Spray

DATE: 28 June 99

OF PAGES (including cover sheet): 2.

REMARKS:
This is the only Bear that has been sprayed. I have not had the chance to try it myself but I do carry a can with me at all times. [Black Bear #729 3yr old female 110 pds]

If I could can I get the M.D.S. for the spray Thank You

MSgt Robert BASSETT

DO NOT TRANSMIT CLASSIFIED INFORMATION OVER UNSECURED TELECOMMUNICATIONS SYSTEMS. OFFICIAL DOD TELECOMUNICATIONS SYSTEMS ARE SUBJECT TO MONITORING AND USE OF DOD TELECOMMUNICATIONS SYSTEMS CONSTITUTES CONSENT TO MONITORING.

06/14/99

To Whom It May Concern:

I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with black and brown bears. I responded to a black bear in a residential area. Upon arrival I was able to use your product. The first shot was from about ten feet. The bear's first response was a snort, then shook its head, and then went up a tree. I was then able to shoot it again, from about four to five feet. The bear's response this time was a snort in which she had saliva hanging down from her snout. After this shot she proceeded down the tree very rapidly and ran off into the woods.

Bear 729 3yr. old about 110 pds

Roy Rainer

Grace Has Jacket

DP BARCODE: D254069

CASE: 064803 DATA PACKAGE RECORD DATE: 03/10/99
SUBMISSION: S558144 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 165 NEW PROD-OC-MINOR CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: GRACE ROBIOU 703-305-1016 ROOM: CM2 203
RECEIVED DATE: 02/22/99 DUE OUT DATE: 08/31/99

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 254069 EXPEDITE: Y DATE SENT: 03/10/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 08/07/99
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: IRB	/ /	/ /	PROJ DATE: / /
SECT: PM04	/ /	/ /	
REVR : cmy	3/10/99	6/30/99 RL	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Bill--

EXPEDITE BEAR REPELLENTS

Please review MRID 447632-04 and pages 12-13 Spray Pattern data I've copied from volume 3.

Enclosed: cover letter, CSF, studies, label, packaging, Data Matrix, Form 8570-1.

Thanks, Grace

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
254067	TRB/CHEM	03/10/99	08/07/99	Y	Y	Y
254068	TRB/TOX	03/10/99	08/07/99	Y	Y	Y

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND
TOXIC SUBSTANCES

TOX

April 9, 1999

MEMORANDUM

EPA File Symbol: 72265-R Frontiersman Bear Attack Deterrent
DP Barcode: D254068
Case No: S558144
PC Code: 070701 Capsaicin (in oleoresin of capsicum)

From: Byron T. Backus, Ph.D., Toxicologist
Technical Review Branch
Registration Division (7505C)

Byron T. Backus 4/9/1999

To: Grace Robiou/Tina Levine, PM 04
Insecticide-Rodenticide Branch
Registration Division (7505C)

Registrant: Security Equipment Corporation

ACTION REQUESTED: "Please review MRID 447632-02 and -03."

BACKGROUND: This package, as received by this reviewer, contains the following two acute toxicity studies on EPA File Symbol 72265-R: an eye irritation study (rabbit) in 44763202 and a dermal irritation study (rabbit) in 44763203. Both studies were conducted at Celsis Laboratory Group (Edison, NJ 08837). The proposed label for this product declares Capsaicin and related capsaicinoids as the sole active ingredient at 1.388%.

COMMENTS AND RECOMMENDATIONS:

The primary dermal irritation study has been classified as acceptable. However, the eye irritation study has been classified as unacceptalbe, as the manner (instillation, rather than spraying) by which the test material was administered the rabbit eyes did not adequately address the hazard potential (which would include trauma) of in-use exposure, particularly as the label includes the statement: "This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds." In lieu of an additional eye irritation study, we would accept a toxicity category I classification by this exposure route, with the signal word DANGER.

The following is a partial acute toxicity profile for this product, based on the data as received in this package:

Acute Oral LD50	-	Not received
Acute Dermal LD50	-	Not received
Acute Inhalation LC50	-	Not received
Primary Eye Irritation	-	Unacceptable
Primary Dermal Irritation	IV	Acceptable
Dermal Sensitization	-	Not received

Based on what we know about the toxicology of capsaicin and related capsaicinoids, and taking into account the toxicity of the "inert" ingredients, the following is the recommended acute toxicity profile for this product:

Acute Oral LD50	IV	Cited
Acute Dermal LD50	IV	Cited
Acute Inhalation LC50	IV	Cited
Primary Eye Irritation	I	Waived
Primary Dermal Irritation	IV	Acceptable
Dermal Sensitization	No	Cited

Based on this acute toxicity profile, the following is the recommended precautionary labeling for this product. This was obtained through the label review system, and then subsequently edited to remove all references to corrosivity (the potential toxicity category I eye effects would not be from corrosivity of the formulation, but rather from trauma).

Date: 04/09/99 LABEL REVIEW SYSTEM

ID #: 072265-00001 Frontiersman Bear Attack Deterrent

RESTRICTED USE CLASSIFICATION RECOMMENDED:

Due to eye irritation toxicity category.

The PM Team should decide if restricted use classification is necessary or if alternative labeling will allay the requirement for restricted use classification.

CHILD RESISTANT PACKAGING REQUIRED

[Note: this may or may not be appropriate for this product as it is not a corrosive formulation, and as the user may be in a situation where it is necessary to use this product on relatively short notice.]

SIGNAL WORD: DANGER

PRECAUTIONARY STATEMENTS:

Causes irreversible eye damage. Do not get in eyes or on clothing. Wear goggles or face shield.

STATEMENT OF PRACTICAL TREATMENT (SOPT):

IF IN EYES: Hold eyelids open and flush with steady, gentle stream of water for 15 minutes. Get medical attention.

NOTE TO PHYSICIAN:

Note to PM/CRM/Registrant: The proposed label should contain a "Note to Physician." The following statements are suggested types of information that may be included, if applicable:

- technical information on symptomatology;
- use of supportive treatments to maintain life functions;
- medicine that will counteract the specific physiological effects of the pesticide;
- company telephone number to specific medical personnel who can provide specialized medical advice.

The following should appear under the heading USER SAFETY RECOMMENDATIONS:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

DATA REVIEW FOR PRIMARY EYE IRRITATION TESTING (870.2400, formerly §81-4)

Product Manager 04
MRID No.: 44763202

Reviewer: Byron T. Backus, Ph.D.
Study Completion Date: February 5, 1999
Study No.: #822483

Testing Facility: Celsis Laboratory Group
Author: Gilman, M. R.

Quality Assurance (40 CFR §160.12): Included (p. 5)
Test Material: Security Equipment Corporation Sample, Bear Repellent, Lot 120898-BS02, a dark brown liquid with a pH of 7.25.
Dosage: 0.1 mL

Species: Rabbits; Albino, New Zealand White
Age: Not stated
Weight: Not stated
Source: Trevanor Farm, Harpursville, NY 13787

Conclusion:

1. **Toxicity Category:** III (Moderate irritant) - for the formulation as tested
2. **Classification**: Not acceptable (see **Special Comments**)

Procedure (including deviations from 870.2400): "Each animal's eye was gently held open and 0.1 milliliters of the test material, in liquid state, was placed into the conjunctival sac of the test eye, then the lids were held shut for approximately one second..."

Observations	Number "positive"/number tested						
	Hours				Days		
	1	24	48	72	4	7	10
	Unwashed eyes						
Corneal Opacity	2/6	2/6	1/6	1/6	0/6	0/6	nd
Iritis	1/6	2/6	2/6	0/6	0/6	0/6	nd
Conjunctivae:							
Redness[a]	0/6	5/6	2/6	0/6	0/6	0/6	nd
Chemosis[a]	4/6	4/6	2/6	0/6	0/6	0/6	nd
Discharge[a]	6/6	5/6	5/6	0/6	0/6	0/6	nd

[a]Score of 2 or greater required to be considered a positive response.
Nd = not done

Summary: It is stated (p. 9) that: "The animals were monitored daily and found to be free of pain and distress." From p. 11: "Twenty-four hours post instillation, corneal opacity was noted in two of six animals; iritis in two animals, positive conjunctival irritation in five animals with minimal irritation in one animal... On study day 7, all signs of corneal opacity, iritis and conjunctival irritation had cleared..."

Special Comments: Although the performing laboratory indicates that the test formulation is in toxicity category II (according to the report, on p. 10, toxicity category II s defined as "Corneal opacity reversible within 7 days. Irritation persisting for 7 days.") this is incorrect, as the results would normally define a toxicity category III hazard potential in terms of eye exposure.

However, in this study, the test material was simply instilled ("using a 1cc sterile syringe") into the rabbit eyes. The label claims for this product include the following: "This product has an effective range of up to 18 feet. The canister empties in approximately 8 seconds." This indicates that the product is sprayed with considerable force. Normally, for a product of this type, testing would involve a one-second spray from a distance of 10 cm into the rabbit eye. However, in this particular case, we would waive the requirement for any further testing, as long as the registrant accepts that the product is in toxicity category I (signal word: DANGER) with appropriate labeling modifications (including deletion of all references to the formulation as corrosive) because of the potential mechanical trauma.

Cat
III

Tox
original
formula

DATA REVIEW FOR PRIMARY DERMAL IRRITATION TESTING (870.2500, formerly §81-5)

Product Manager: 04
MRID No.: 44763203

Reviewer: Byron T. Backus, Ph.D.
Study Completion Date: February 3, 1999
Study No.: #822482

Testing Facility: Celsis Laboratory Group
Author: Gilman, M. R.

Quality Assurance (40 CFR §160.12): Included (p. 5)
Test Material: Security Equipment Corporation Sample, Bear Repellent, Lot 120898-BS02, a dark brown liquid with a pH of 7.25.
Dosage: 0.5 mL

Species: Rabbits; Albino, New Zealand White
Age: Not stated
Weight: Not stated
Source: Trevanor Farm, Harpursville, NY 13787

Conclusion:

1. **Toxicity Category:** IV (Slight irritant)
2. **Classification**: Acceptable

Procedure (including deviations from 870.2500): "The test material, as supplied, was exposed semi-occlusively to an area of skin approximately six centimeters square and covered with a gauze patch. The patch was held in place with non-irritating tape and covered with gauze which was then over wrapped with Elastikon tape to prevent ingestion of the test material."

Results: PDIS = 0.83. Very slight erythema (maximum score of 1) was noted on all six rabbits at 24, 48 and 72 hrs. There was no edema (all scores = 0).

Special Comments: None

ACUTE TOX ONE-LINERS

1. **DP BARCODE:** D254068
2. **PC CODE:** 070701 Capsaicin (in oleoresin of capsicum)
3. **CURRENT DATE:** April 9, 1999
4. **TEST MATERIAL:** Security Equipment Corporation Sample, Bear Repellent, Lot 120898-BS02, a dark brown liquid with a pH of 7.25

Study/Species/Lab Study #/Date	MRID	Results	Tox. Cat.	Core Grade
Primary eye irritation/rabbit/ Celsis Laboratory Group/#822483/FEB-5-1999	44763202	Corneal opacity in 2/6 eyes at 24 hrs; iritis in 2/6 eyes at 24 hrs. All scores zero by day 7. However, 0.1 mL test material was instilled in rabbit eye using a syringe; proposed product has label claims of an effective range up to 18 feet and states that the canister empties in about 8 seconds, indicating potential for mechanical trauma.	-	U
Primary dermal irritation/rabbit/Celsis Laboratory Group/#822482/FEB-3-1999	44763203	PDIS = 0.83. Very slight erythema (score = 1) noted for all six rabbits at 24, 48 and 72 hrs; no edema (all scores = 0).	IV	A

Core Grade Key: **A =Acceptable, S = Supplementary, U = Unacceptable, V = Self Validated**

8791

DP BARCODE: D254068

CASE: 064803 DATA PACKAGE RECORD DATE: 03/10/99
SUBMISSION: S558144 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 165 NEW PROD-OC-MINOR CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: GRACE ROBIOU 703-305-1016 ROOM: CM2 203
RECEIVED DATE: 02/22/99 DUE OUT DATE: 08/31/99

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 254068 EXPEDITE: Y DATE SENT: 03/10/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT
DIV : RD	/ /	/ /
BRAN: TRB	/ /	/ /
SECT: TOX	/ /	/ /
REVR :	/ /	/ /
CONTR:	/ /	/ /

ADMIN DUE DATE: ~~08/07/99~~
NEGOT DATE: 6/8/99
PROJ DATE: / /

* * * DATA REVIEW INSTRUCTIONS * * *

Tox--

EXPEDITE BEAR REPELLENTS

Please review MRID 447632-02 and -03.

Enclosed: cover letter, csf, data matrix, form 8570-1, label, studies.

Call me if questions arise.
Grace Robiou
305-1016

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
254067	TRB/CHEM	03/10/99	08/07/99	Y	Y	Y
254069	IRB/PM04	03/10/99	08/07/99	Y	Y	Y

DATE O March 16, 1999

SUBJECT: EP [x] MP [ ] PRODUCT CHEMISTRY REVIEW
DP BARCODE No.D254067 REG /File Symbol No.: 72265-R
PRODUCT NAME Frontiersman Bear Attack Deterrent
COMPANY Security Equipment Corporation

as

FROM: Alfred Smith, Chemist
Technical Review Branch/RD (7505C)

TO: Grace Robiou, PM Team 04
Insecticide Branch/RD (7505C)

INTRODUCTION

The Applicant requests the registration of the End-Use Product (EP), Frontiersman Bear Attack Deterrent. Labelling and product chemistry information are submitted in support of the registration.

FINDINGS

1. The product chemistry information partially satisfies the requirements of 40 CFR 158.155 (Product Composition) for the EP. The EP is formed from an unregistered active ingredient source (Integrated Formulation System). Therefore, the Applicant must provide product composition information for the unregistered active ingredient source, [redacted] This information must also contain: (a) Description of the material used to produce the product; (b) Manufacturing process; (c) Discussion of the Formation of Impurities; (d) Preliminary Analysis; (e) Certified Limits for the components; (f) Enforcement Analytical Method; (g) Physical and Chemical Properties of the unregistered active ingredient source.

2. The product chemistry information satisfies the requirements of 40 CFR 158.165 (Formulation Process); 40 CFR 158.175 (Certified Limits); 40 CFR 158.180 (Enforcement Analytical Method); 40 CFR 158.190 (Physical and Chemical Properties).

Product ingredient source information may be entitled to confidential treatment

CONCLUSIONS

The product chemistry information does not satisfy the product chemistry requirements of 40 CFR 158.150 for the End-Use Product, Frontiersman Bear Attack Deterrent. Product chemistry information as noted under Item 1 (FINDINGS) is needed and should be submitted.

Contrary to chem reviewer, the company did send items (a)-(g).
Dan Peacock/Connie Robbins

EP [x] MP [ ] PRODUCT CHEMISTRY REVIEW

1. DP BARCODE No.: D254067 2. Reg./File Symbol No.: 72265-R

3. Registration [x] 4. Reregistration [ ], Rereg Case No._____

5. Product Name: Frontiersman Bear Attack Deterrent

6. Pesticide Type: Fungicide [ ] Herbicide [ ]
Insecticide [ ] Rodenticide [ ] Antimicrobial [ ]
Plant Growth Regulator [ ] Others: Deterrent

7. Uses: Food [ ] Non food use [x]

8. Type of Submission: New [x] Resubmission [ ] Amendment [ ]
"ME-TOO" [ ] Alternate Formulation [ ] Repack [ ]
Experimental Use Permit [ ] Other (Specify)_____

9. If "Me-TOO" Registration, this product is [ ] is not [ ]
similar or substantially similar to EPA's Reg. No.:_____,

If not, comment in Confidential Appendix A on the differences between the registered and the new source where significant.

CONFIDENTIAL STATEMENT OF FORMULA, DATED 02/ 19/1999 :

10. Type of formulation and the sources of active ingredients:

a. Non-integrated formulation system.....[ ]

b. Are all technical grade active ingredients used registered? • yes [ ] • no [ ]

c. Integrated formulation system.....[x]

11. Composition: The nominal concentrations (NC) of the active ingredients and the upper and lower certified limits (UCL & LCL) are as follows:

	% by weight		
Active ingredient(s)	NC	UCL	LCL
Capsaicin and related Capsaicinoids	1.388	1.457	1.319

12. The calculated NCs, based on the pure active ingredients (PAI), are identical to those on the label:

• yes [x] • no [ ]

13. The certified limits are within the standard limits as per 40CFR§158.175 or are adequately explained if different:

• yes [x] • no [ ]

14. Clearance of intentionally added ingredients in the formulation for the intended use:

a. Formulation intended for food use under 40CFR§180.1001:

• yes [• no [x] • Some are cleared, others are not [ ]

• Cleared under list: • c [ ] • d [ ] • e[ ]

b. Formulation intended for non-food use:

• yes [x] • no [ ] • Some are cleared, others are not[ ]

15. For products produced by an integrated formulation system:

• All impurities of toxicological significance have an UCL:

• yes [ ] • no [ ] • not applicable [ ]

• All other impurities ≥ 0.1% associated with the active ingredient in the product are reported at their nominal concentrations:

• yes [ ] • no [ ] • not applicable [ ]

PRODUCT LABEL, EPA RECEIVED 02/22 /1999 :

16. The active ingredients statement (chemical identities, nominalconcentrations) is consistent with the CSF • yes [x] • no [ ]

17. The formulation contains one of the following:

• 10% or more of a petroleum distillate:	• yes [ ]	•no [x]
• 1% or more of methyl alcohol:	• yes [ ]	•no [x]
• sodium nitrite at any level:	• yes [ ]	•no [x]
• a toxic List 1 inert at any level:	• yes [ ]	•no [x]
• arsenic in any form:	• yes [ ]	•no [x]

18. If yes to any of the above, does the inert ingredients statement contains a footnote indicating this?

• yes [ ] • no [ ] • not applicable [ ]

19. The appropriate physical and chemical hazards statement regarding flammability or explosive characteristics of the product are given on the label:

• yes [x] • no [ ] • not applicable [ ]

20. The storage and disposal instructions for the pesticide and container are in compliance with PR Notice 84-1 for household use products or PR Notice 83-3 for all other uses:

• yes [x] • no [ ]

PRODUCT CHEMISTRY DATA (SERIES 830.0000)

21. Chemical IDs/Manufacture/ Analytical Information		Data Required Fulfilled	MRID No.
830.1550	Chemical Identity	N	44763201
830.1600 830.1650	Starting Materials Formulation Process	Y	" "
830.1670	Discussion of Impurities	N	" "
830.1700	Preliminary Analysis	NA	
830.1750	Certified Limits	Y	44763201
830.1800	Enforcement Analytical Method	Y	" "

PRODUCT CHEMISTRY DATA (SERIES 830.0000)

24. Physical/Chemical Properties	Data Required Fulfilled	Value or Qualitative Description	MRID No.
830.6303 Physical State	Y	Liquid	44765201
830.7300 Density/Bulk Density	Y	6.79 lbs/gal	" "
830.7000 pH of Product	Y	7.14	" "
830.6315 Flash Point	N		
830.6315 Flame Extension	Y	>/= 18 feet	44765201
830.6316 Explodability	NR		
830.6317 Storage Stability	Pending		44765201
830.7100 Viscosity	NR		
830.6319 Miscibility (With Hydrocarbon solvents)	NR		
830.6320 Corrosion Characteristics	Pending		44765201
830.6321 Dielectric Breakdown Voltage	NR		" "

"Explanations: Y = The Requirements Were Fulfilled; N = The Requirements Were Not Fulfilled; NA = Not Applicable; G = Data Gap; U = Requires Upgrading; I = Incomplete or In Progress; W = Waived.

#8811

DP BARCODE: D254067

CASE: 064803 DATA PACKAGE RECORD DATE: 03/10/99
SUBMISSION: S558144 BEAN SHEET Page 1 of 1

* * * CASE/SUBMISSION INFORMATION * * *

CASE TYPE: REGISTRATION ACTION: 165 NEW PROD-OC-MINOR CHG
RANKING : 10 POINTS ()
CHEMICALS: 070701 Capsaicin (in oleoresin of capsicum) 1.3880%

ID#: 072265-R Frontiersman Bear Attack Deterrent
COMPANY: 072265 SECURITY EQUIPMENT CORPORATION
PRODUCT MANAGER: 04 TINA LEVINE 703-308-7055 ROOM: CM2 219
PM TEAM REVIEWER: GRACE ROBIOU 703-305-1016 ROOM: CM2 203
RECEIVED DATE: 02/22/99 DUE OUT DATE: 08/31/99

* * * DATA PACKAGE INFORMATION * * *

DP BARCODE: 254067 EXPEDITE: Y DATE SENT: 03/10/99 DATE RET.: / /
CHEMICAL: 070701 Capsaicin (in oleoresin of capsicum)
DP TYPE: 001
CSF: Y LABEL: Y

ASSIGNED TO	DATE IN	DATE OUT	ADMIN DUE DATE: 08/07/99
DIV : RD	/ /	/ /	NEGOT DATE: / /
BRAN: TRB	/ /	/ /	PROJ DATE: / /
SECT: CHEM	/ /	/ /	
REVR :	/ /	/ /	
CONTR:	/ /	/ /	

* * * DATA REVIEW INSTRUCTIONS * * *

Chemist---

EXPEDITE BEAR REPELLENTS

Please review Product Chemistry data, MRID 447632-01 and MRID 447652-01.

Enclosed: cover letter, CSF, Data Matrix, Form 8570-1, label, studies.

Call me if questions arise.
Grace Robiou
305-1016

* * * DATA PACKAGE EVALUATION * * *

No evaluation is written for this data package

* * * ADDITIONAL DATA PACKAGES FOR THIS SUBMISSION * * *

DP BC	BRANCH/SECTION	DATE OUT	DUE BACK	INS	CSF	LABEL
254068	TRB/TOX	03/10/99	08/07/99	Y	Y	Y
254069	IRB/PM04	03/10/99	08/07/99	Y	Y	Y

Frontiersman
72265-R

Dan Peacock on 03/23/99 07:58:45 AM

To: Grace Robiou/DC/USEPA/US@EPA, Bill Jacobs/DC/USEPA/US@EPA, Tim Osag/ENF/R8/USEPA/US@EPA
cc:
Subject: Bear Spray

---------- Forwarded by Dan Peacock/DC/USEPA/US on 03/23/99 08:06 AM ----------

mkiger@sportsmanskihaus.com on 03/19/99 12:33:40 PM

To: Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Bear Spray

Hello,

Just want to ask specific questions regarding Security Equipment's "Alaska's Best Defense" bear spray.

Security Equipment claims they have one approved product (Alaska's Best Defense) and one that is not approved (Frontiersman). Your information says Security Equipment products are not approved. Can you clear this up for us?

Thanks so much!

Best regards,

Mike Kiger - Sporting Goods Buyer

Crown Enterprises, Inc.
d/b/a Sportsman & Ski Haus
40 East Idaho Street
Kalispell, MT 59901

P: 406.755.6484
F: 406.758.7425

Email: mailto:mkiger@sportsmanskihaus.com
Web: http://www.sportsmanskihaus.com

Dan Peacock on 03/23/99 07:58:07 AM

To: mkiger@sportsmanskihaus.com
cc: sabre@stlnet.com (bcc: Grace Robiou/DC/USEPA/US)
Subject: Re: Bear Spray

M [Mike?] Kiger,

Security Equipment Corp has a pending application for "Frontiersman Bear Attack Deterrent, EPA File Symbol 72265-R. The file symbol is an administrative number-letter combination indicating an UNREGISTERED product. We received this application on Feb 22, 1999. We expect to complete our review within 60 days, April 22, 1999, and inform the company if additional information is needed.

Security has no registered bear deterrents. In fact, this is the first product of any type for which they have filed an application for registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

Any product being sold as a bear repellent is subject to enforcement action: including fines, stop sales, and recalls. I hope that they are not selling. If a company were to be selling large numbers of cans of bear spray and had to recall it, this could be a very expensive business.

Now that the major players in the bear repellent business are registered, they will be notifying the states and EPA regional offices of unregistered product. We are getting such reports almost daily, and following up on them with increasing frequency, now that the bear repellent season is starting. So if anyone is selling unregistered products, we will find out about it quickly.

Let me know if you have any other questions.

Dan Peacock, 703-305-5407

Bill Jacobs
06/30/99 04:13 PM

To: Grace Robiou/DC/USEPA/US@EPA, Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Counter Assault review (D255858)

The jacket and completed review are in Dan's office. The package was sent by Grace, but the jacket was checked out to Dan. I know where Dan sits, but haven't located Grace's current resting spot. Dan wins 2 to 1. You guys can fight over who gets to (or gets not to) do the letter. Enjoy! Look for an electronic copy of the review on PM_14.

aroberts@tsgusa.com on 06/30/99 12:01:27 PM

To: Dan Peacock/DC/USEPA/US@EPA
cc:
Subject: Re: Information about Bear Maulings involving Security Equipment Corp 'sProduct in 1998

Hi Dan - I do not have any knowledge of, or information on bear maulings involving Security Equipment's product, but I will certainly pass on anything I hear about. Thanks and best regards, Amy Roberts

----- Original Message -----
From: <Peacock.Dan@epamail.epa.gov>
To: <cgriffin@delta-ac.com>; <chemarmr@chemarmor.com>; <cbrice@erols.com>; <aroberts@tsgusa.com>; <Amy_Roberts.aroberts.tsgusa.com@epamail.epa.gov>
Sent: Tuesday, June 29, 1999 2:52 PM
Subject: Information about Bear Maulings involving Security Equipment Corp 'sProduct in 1998

>
>
> Addresses,
>
> Do you have any details about Security Equipment Corp's products being
> involved in bear maulings last year? If you have information, could you fax it
> to me at 703-305-6596 as soon as possible.
>
> You are reminded that if any of your registered products are involved in
> maulings, you would need to submit that data to the EPA as Adverse Data under
> section 6(a)(2).
>
> Thank you,
>
>
> Dan Peacock, 703-305-5407
>
>
>

SECURITY
EQUIPMENT CORPORATION

June 28, 1999
U.S.ENVIRONMENTAL PROTECTION AGENCY
Dan Peacock, Insecticide/Rodenticide Branch
Office of Pesticide Programs – 7505C
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Dear Mr. Peacock:

I received the enclosed report from Master Sergeant Robert Basset, Natural Resource Offices Elmendorf Air Force Base in Alaska. This is one of the Product Specific effectiveness reports that I have received, which you had requested. Kate Weidemeir the head biologist said that Frontiersman is more effective than what they are currently using.

Regards,

Larry Nance

Larry Nance
President

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://home.stlnet.com/~sabre

FAX TRANSMITTAL COVER SHEET
FOR
BASE NATURAL RESOURCES OFFICE

TO: LARRY NANCE
FAX: 1-636-343-1318
PHONE: 1-800-325-9568

3CES/CEVNR **Fax: 552-0799** **Tele: 552-2436**
4803 8th St
Elmendorf AFB AK

SUBJECT: BEAR SPRAY

DATE: 28 JUNE 99

 # OF PAGES (including cover sheet): 2.

REMARKS:
THIS IS THE ONLY BEAR THAT HAS BEEN SPRAYED. I HAVE NOT HAD THE CHANCE TO TRY IT MYSELF BUT I do ~~not~~ CARRY A CAN WITH ME AT ALL TIMES. [Black Bear #729 3yr old Female 110 pds]

IF I COULD ~~so~~ CAN I GET THE M.D.S. FOR THE SPRAY THANK YOU

MSGT ROBERT BASSETT

DO NOT TRANSMIT CLASSIFIED INFORMATION OVER UNSECURED TELECOMMUNICATIONS SYSTEMS. OFFICIAL DOD TELECOMUNICATIONS SYSTEMS ARE SUBJECT TO MONITORING AND USE OF DOD TELECOMMUNICATIONS SYSTEMS CONSTITUTES CONSENT TO MONITORING.

06/14/99

To Whom It May Concern:

I am a Wildlife Conservation agent in the state of Alaska. Part of my duties includes working with black and brown bears. I responded to a black bear in a residential area. Upon arrival I was able to use your product. The first shot was from about ten feet. The bear's first response was a snort, then shook its head, and then went up a tree. I was then able to shoot it again, from about four to five feet. The bear's response this time was a snort in which she had saliva hanging down from her snout. After this shot she proceeded down the tree very rapidly and ran off into the woods.

Bear 727 3yr. old about 110 pds

Roy Rainer

72265-R

Bill Jacobs
06/08/99 07:12 AM

To: Grace Robiou/DC/USEPA/US@EPA
cc: Dan Peacock/DC/USEPA/US@EPA
Subject: Re: unregistered products

I've been carrying it with me for weeks, but haven't spent much time with it. Actually, the items (illegal sale and pending registration) are largely independent. It appears as though Sabre delayed its application (thereby missing the time period during which we gave these products top priority) because it had this other plan for selling product without a registration. Sabre's spray pattern test report makes the product appear to perform worse than some of the others, but this may be a result of the procedures used. I do not believe that they gave us anything product-specific for efficacy vs. bears, but I haven't read the entire package yet.

---------- Forwarded by Bill Jacobs/DC/USEPA/US on 06/08/99 07:15 AM ----------

Grace Robiou
06/07/99 09:00 AM

To: Bill Jacobs/DC/USEPA/US@EPA
cc: Dan Peacock/DC/USEPA/US@EPA
Subject: Re: unregistered products

Bill: I light of Larry Nance's actions (Frontiersman), could you look at the pending bean for this product?
File Symbol 72265-R
Data Package D254069

I have gotten both the chem and the tox reviews back. Product Chemistry deemed acceptable. Tox review states that they would accept a category I (Danger) in lieu of an additional eye irritation study. The latter was found unacceptable as the manner of exposure of the test (instillation, isntead of spraying) did not address the hazards potential (trauma) of exposure.

Grace

---------- Forwarded by Grace Robiou/DC/USEPA/US on 06/07/99 09:03 AM ----------

chemarmr@chemarmor.com on 06/04/99 12:14:33 PM

Please respond to chemarmr@chemarmor.com

To: Dan Peacock/DC/USEPA/US@EPA
cc: Tina Levine/DC/USEPA/US@EPA, Grace Robiou/DC/USEPA/US@EPA, Bill Jacobs/DC/USEPA/US@EPA
Subject: Re: unregistered products

Dear Dan,

What I'm getting from your email is that in actuality if a product skirts the issue of being a bear repellent by carefully wording their label and removing any pictures of animals then they are not going to be required to register their product nor will there be any consequences. It shouldn't be

a case of all of the registered products being burdened with the expense of informing consumers and retailers about the virtues of a registered bear repellent. The problem is that if there are no consequences to manufacturers or distributors whether retailers or otherwise, nothing has changed and this whole fiasco of requiring registration was just a huge financial burden on the companies trying to obey FIFRA. All of the state agencies that I have spoken with are waiting for word or action from the Federal EPA before they will take any official action, they feel that their hands are tied without backing from the "Feds". Unfortunately all of the states with the most bears and hence bear spray market are also the states without substantial budget to enforce FIFRA therefor states like Alaska are easy targets for unscrupulous companies to unload large quantities of unregistered product. I realize that it is very difficult to determine which products are intended and marketed for use against animals or which are intended for use against humans but we both know that any product over 80 grams is intended for use against animals unless used by military or law enforcement. What is the possibility of requiring any product that is not registered for use against animals to bear the statement "This product is not designed or intended for use against animal attack"? Ultimately I would love to see all products over 80 grams to be required to registered. At least this way the consumer has some information on the intended use of the product. As it is now the consumer is at the mercy of the retailer or manufacturer, as the designation "Backpacker Spray" does imply use against animals. We are debating whether it is in our best interest to register our small products as dog repellents but as it is, it appears to only be another expense from which we will not gain.

Sincerely,

Kate Dwire
ChemArmor
----- Original Message -----
From: <Peacock.Dan@epamail.epa.gov>
To: <Frandsen.Lyn@epamail.epa.gov>; <Osag.Tim@epamail.epa.gov>; <Lee.Bill@epamail.epa.gov>; <tatum.tyres@epamail.epa.gov>
Cc: <Jacobs.Bill@epamail.epa.gov>; <chemarmr@chemarmor.com>
Sent: Friday, June 04, 1999 4:48 AM
Subject: unregistered products

>
>
> Lyn, Tim, Bill, and Tyres,
>
> Could you follow-up on this complaint about the sale of unregistered bear
> repellent. I know that Region 10 is already is investigating this product in
> Alaska.
>
> The Registration Division considers any product claiming "to prevent
> attacks", coupled with a picture of a bear, to be a claim to repel bears. Any
> product making such a claim would be sale of an unregistered product and

should
> be stop saled immediately if shipped from the manufacturer after January
15,
> 1999.
>
> Call me if you need to discuss this matter.
>
> Dan Peacock, 703-305-5407
>
> ---------- Forwarded by Dan Peacock/DC/USEPA/US on 06/04/99
06:42 AM
> ---
>
>
> chemarmr@chemarmor.com on 06/03/99 04:36:52 PM
>
> Please respond to chemarmr@chemarmor.com
>
> To: Dan Peacock/DC/USEPA/US@EPA
> cc: Grace Robiou/DC/USEPA/US@EPA
> Subject: unregistered products
>
>
>
>
> Dear Dan;
>
> We are running into a tremendous amount of unregistered bear repellent
being
> advertised as "backpacker spray". Almost exclusively what is being seen
is
> "Frontiersman by Sabre", manufactured and distributed by Security
Equipment
> Corporation, 330 Sun Valley Circle, Fenton, Missouri, owner Larry Nance.
> This product is marketed as a bear repellent by the retailers and
according
> to every retailer or distributor that we have spoken to or contacted, they
> all agree that they will continue to sell this product until they are told
> otherwise by the EPA. This is not product that is left over from before
the
> January 15 stop sale but new product that is being distributed currently.
> It seems to me that the EPA registration requirement is only a hurdle and
> expense for those companies that want to play by the rules as retailers
will
> continue to sell unregistered product without hesitation until YOU tell
them
> they can't. The problem is that the cost of unregistered product to the
> retailer is very cheep as the quality and percent capsaicin is extremely
> low. Larry Nance has personally told me that he will continue to skirt
the
> EPA registration requirement by selling his product as "not for use on
> animals". V.F. Grace, an Anchorage Alaska distributor of Frontiersman
> said that they will continue to sell the product until they hear otherwise
> from the EPA. Do I need to file a formal complaint on this problem and if

> so, please inform me of how and where to file.
>
> Sincerely,
>
>
> Kate Dwire
> ChemArmor
>
>
>
>

SECURITY
EQUIPMENT CORPORATION

February 24, 1999

Dan Peacock, Insecticide/Rodenticide Branch
Document Processing Desk - APPL
Office of Pesticide Programs - 7505C
U.S. Environmental Protection Agency
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, Virginia 22202

Dear Mr. Peacock:

Enclosed is the sample proto-type of our Frontiersman Bear Spray. We were instructed by Kim Davis of RegWest to forward it to you.

If you have any questions, please feel free to call.

Sincerely,

Larry D. Nance

Larry D. Nance
President

ma
Enclosure

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://home.stlnet.com/~sabre

March 10, 1999

MEMORANDUM

SUBJECT: Request to Expedite Review of Product Chemistry [S-558144, D254067] and Acute Toxicity [S558144, D254068] Reviews
Security Equipment Corporation, Frontiersman Bear Attack Deterrent
EPA File Symbol 72265-R

Submitted to Technical Support Branch on **03/10/99**
by PM Team 14

----------DECISION MEMORANDUM----------

FROM: Tina Levine, Chief
Insecticide-Rodenticide Branch

TO: Deborah McCall, Chief
Technical Review Branch

This memorandum requests an expedite of the review of the subject application. I have checked the applicable boxes that identify the reviews that I would like to have done on an expedited basis.

_X_ Product Chemistry Review

_X_ Acute Toxicity Review

We would appreciate receiving these reviews no later than:

April 9, 1999

Reasons for Expedite:

We are requesting this expedite because, since 1993, the Agency has committed itself to expediting the applications of bear deterrents containing Capsaicin in an effort bring this segment of the market into the community of regulated products, as required under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). In May 1998, the Registration Division (RD) finally registered its first Capsaicin bear deterrent product (Counter Assault), which triggered a

concerted efforts by other sellers of unregistered products to develop data for registration. Guard Alaska Bear Repellent followed suit on December 22, 1998. This application is a direct result of the initial registration of Counter Assault.

We appreciate your efforts in supporting this policy of expedited reviews because it is helping to solve a long-standing problem.

If you or the reviewer has questions about either product, please contact Grace Robiou at 305-1016, or Dan Peacock at 305-5407

CONCUR: _____

DO NOT CONCUR: _____

DATE: _____

FRONT END PROCESSING APPLICATION INFORMATION CHECK

PM 91

EPA COMPANY NUMBER 72265-R

EPA REGISTRATION NUMBER
STATUS (For Amendments) Active _____ Cancelled _____

Not in REFS _____

"ME-TOO" CITED PRODUCT STATUS Active _____ Cancelled _____

Not in REFS _____

PRAT RECORD CREATED yes - 2/23/94

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 25, 1999

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Security Equipment Corporation
c/o RegWest Company
P.O. Box 2220
Greeley, CO 80632-2220

PRODUCT NAME: Frontiersman Bear Attack Deterrent
COMPANY NAME: Security Equipment Corporation
OPP IDENTIFICATION NUMBER: 262533
EPA FILE SYMBOL: 72265-R
EPA RECEIPT DATE: 02/22/99

SUBJECT: RECEIPT OF APPLICATION FOR A NEW REGISTRATION

DEAR REGISTRANT:

The Office of Pesticides Programs has received your application for a new registration and it has passed an administrative screen for completeness.

Please note that this is only a notification of receipt of your application. This is only the first step in the application process, and does NOT constitute approval.

If you have any questions, please contact the Insecticide /Rodenticide Branch, at (703)-305-5404.

Sincerely,

Front End Processing Staff
Information Resources & Services Division
Information Services Branch

Dan Peacock on 03/09/99 11:46:04 AM

To: sabre@stlnet.com
cc: Bill Jacobs/DC/USEPA/US@EPA, Grace Robiou/DC/USEPA/US@EPA
Subject: Status of Frontiersman Bear Attack Deterrent:Status of Review & Request for Information

Mr. Larry D. Nance,

We put your product into review today. We will provide the results of the chemistry, acute toxicity, and efficacy review when the reviews have been finished.

In the meantime, you should assemble any data that you have in your files concerning persons who have used your product in actual human-bear encounters. A copy of the actual reports and a summary of the same would be quite helpful in our review of the registration.

If you have any questions, please let me know.

Dan Peacock, 703-305-5407

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Case: 064803          °      PRAT - SUBMISSION SUBSYSTEM              °Date: 03/10/99
                      °       PRIMARY REGISTRATION CASE               °Time: 10 57 am
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¤ CASE TYPE: REGISTRATION  ORIG ACT CD:                                                ¤
¤ 072265-R       Frontiersman Bear Attack Deterrent                                    ¤
¤ COMPANY NAME: 072265 SECURITY EQUIPMENT CORPORATION                                  ¤
¤ PRIME CHEM:                                                                   MIX?   ¤
¤ STATUS: Pending  REGIST:  /  /   RU:   CRP:   EU:   FORM:           TYPE:            ¤
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Form Approved OMB No. 2070-0060

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Washington, DC 20460

Paperwork Reduction Act Notice: The public reporting burden for this collection of information is estimated to average 0.25 hours per response for registration activities and 0.25 hours per response for reregistration and special review activities including time for reading the instructions and completing the necessary forms. Send comments regarding the burden estimate or any other aspect of this collection of information including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the form to this address.

DATA MATRIX

Date: February 19, 1999 | **EPA Reg. No./File Symbol:** 72265-R | **Page 1 of 2**

Applicant's/Registrant's Name and Address: Security Equipment Corporation c/o RegWest Company; P.O. Box 2220; Greeley, CO 80632-2220

Product Name: Frontiersman® Bear Attack Deterrent

Ingredient: Capsaicin and related capsaicinoids @ 1.388%

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Notes
Group A: Series 830 – Product Identity, Composition and Analysis Test Guidelines					
830-1550	Product identity and composition		Security Equipment Corporation		1
830-1600	Description of materials used to produce the product		Security Equipment Corporation		1
830-1620	Description of production process		Security Equipment Corporation		
830-1650	Description of formulation process		Security Equipment Corporation		
830-1670	Discussion of formation of impurities		Security Equipment Corporation		
830-1700	Preliminary analysis				2
830-1750	Certified limits		Security Equipment Corporation		1
830-1800	Enforcement analytical method		Security Equipment Corporation		
830-1900	Submittal of samples				3
Group B: Series 830 – Physical and Chemical Properties					
830-6302	Color				2
830-6303	Physical state: Compressed liquid (aerosol)		Security Equipment Corporation		
830-6304	Odor				2
830-6313	Stability (sunlight, temperatures, metals and ions)				2
830-6314	Oxidation/reduction: chemical compatibility				2
830-6315	Flammability/flame extension: FE ≥ 18 feet		Security Equipment Corporation		
830-6316	Explodability				2
830-6317	Storage stability of product		Security Equipment Corporation		
830-6319	Miscibility				2
830-6320	Corrosion characteristics		Security Equipment Corporation		
830-6321	Dielectric breakdown voltage				2
830-7000	PH: 7.14		Security Equipment Corporation		
830-7100	Viscosity				2
830-7200	Melting point/melting range				2

Signature:

Name and Title:

Kim Davis, CC, APC **Consultant/Agent**

Form Approved OMB No. 2070-0060

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Washington, DC 20460

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DATA MATRIX

Date: February 19, 1999 | **EPA Reg. No./File Symbol:** 72265-R | **Page 2 of 2**

Applicant's/Registrant's Name and Address: Security Equipment Corporation
c/o RegWest Company; P.O. Box 2220; Greeley, CO 80632-2220

Product Name:
Frontiersman® Bear Attack Deterrent

Ingredient: Capsaicin and related capsaicinoids @ 1.388%

Guideline Reference Number	Guideline Study Name	MRID Number	Submitter	Status	Notes
Group B: Series 830 – Physical and Chemical Properties (Continued)					
830-7220	Boiling point/boiling range				2
830-7300	Density/relative density/bulk density: 6.79 lbs./gal.		Security Equipment Corporation		
830-7370	Dissociation constant				2
830-7520	Particle size, fiber strength, diameter distribution				2
830-7550	Partition coefficient (n-Octanol/H2O) shake flask method				2
830-7560	Partition coefficient (n-Octanol/H2O) generator column method				2
830-7570	Partition coefficient (n-Octanol/H2O) estimation by liquid chromatograph				2
830-7840	Water solubility: column elution/shake flash methods				2
830-7860	Water solubility: generator column method				2
830-7950	Vapor pressure				2
40 CFR § 158.340: Toxicology Data Requirements					
81-1	Acute oral toxicity – rat				2
81-2	Acute dermal toxicity				2
81-3	Acute inhalation toxicity				2
81-4	Primary eye irritation		Security Equipment Corporation		
81-5	Primary dermal irritation		Security Equipment Corporation		
81-6	Dermal sensitization				2
40 CFR §158.640: Product Performance Data Requirements					
96-1	Bear Attack Deterrent	447632-04	Security Equipment Corporation		

NOTES:

1. Refer to Confidential Statement of Formula
2. Not Required per the Bear-Deterrent Registration Kit
3. Packaging sample will be submitted under separate cover

Signature:

Name and Title:

Kim Davis, CC, APC **Consultant/Agent**

Form Approved OMB No. 2070-0060

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Washington, DC 20460

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CERTIFICATION WITH RESPECT TO CITATION OF DATA

Applicant's/Registrant's Name, Address and Telephone Number	EPA Registration Number/File Symbol
SECURITY EQUIPMENT CORPORATION **c/o RegWest Company** **(970) 353-0611** **P.O. Box 2220** **(970) 353-0613 (fax)** **Greeley, CO 80632-2220** regwestco@aol.com	72265-R1
Active Ingredient(s) and/or Representative Test Compound(s) **Capsaicin and related capsaicinoids @ 1.388%**	Date **February 19, 1999**
General Use Pattern(s) [list all those claimed for this product using 40 CFR Part 158] **Domestic Outdoor**	Product Name **Frontiersman® Bear Attack Deterrent**

NOTE: If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data Call-In Notice and have included with this form a list of companies sent offer of compensation (the Data Matrix form should be used for this purpose)

SECTION I: METHOD OF DATA SUPPORT

(Check one method only)

☐ I am using the cite-all method of support and have included with this form a list of companies sent offer to compensation (the Data Matrix form should be used for this purpose).

■ I am using the selective method of support (or cite-all option under the selective method) and have included with this form a completed list of data requirements (the Data Matrix form must be used).

SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☐ I hereby offer and agree to pay compensation to other persons with regard to the approval of this application to the extent required by FIFRA.

SECTION III: CERTIFICATION

I hereby certify that this application for registration, this form for reregistration or this Data Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration or the Data Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses.

I certify that for each exclusive use study cited in support of this registration or reregistration that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered: (1) to pay compensation to the extent required by Sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (2) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with Sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature	Date	Typed or Printed Name and Title
	February 19, 1999	**Kim Davis, CC, APC** **Consultant/Agent**

EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

N|FT

RegWest Company

P.O. Box 2220 Greeley, CO 80632-2220 970/353-0611 FAX 970/353-0613

Federal Express
AB 5392646862

February 19, 1999

Document Processing Desk - ***APPL***
Office of Pesticide Programs - ***7505C***
U.S. ENVIRONMENTAL PROTECTION AGENCY
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

ATTN: Dan Peacock, Insecticide/Rodenticide Branch

Dear Mr. Peacock:

SUBJECT: Security Equipment Corporation
Frontiersman® Bear Attack Deterrent
EPA File Symbol: 72265-R

On behalf of its client ***Security Equipment Corporation***, RegWest Company is submitting the enclosed materials in support of subject product's FIFRA Section 3(c) pesticide product registration. RegWest Company will act as sole agent in this endeavor.

Enclosed are the following items:

VOLUME 1 OF 6: ADMINISTRATIVE DOCUMENTS:

1. Application for Pesticide: Registration [OPP IDN 262533]
2. Agent authorization letter
3. Five copies of draft product labeling
4. Confidential Statement of Formula [2 originals]
5. Certification with Respect to Citation of Data
6. Data Matrix [Agency Internal Use Copy]
7. Data Matrix [Public File Copy]

VOLUME 2 OF 6: PRODUCT CHEMISTRY DATA: ASSIGNED MRID NUMBER: 447632-01

Davis, K. (1999): Product Chemistry Data of Frontiersman® Bear Attack Deterrent. Unpublished study prepared by RegWest Company, Greeley, CO. 32p./5p. Guideline Reference Group A Series 830, 40 CFR 158.155 through 158.180 [3 copies]

VOLUME 3 OF 6: PRODUCT CHEMISTRY DATA: ASSIGNED MRID NUMBER: 447652-01

Davis, K. (1999): Physical and Chemical Characteristics of Frontiersman® Bear Attack Deterrent. Unpublished study prepared by Celsis Laboratory Group, St. Louis, MO. 37p. Guideline Reference Group A Series 830, 40 CFR 158.190. [3 copies]

VOLUME 4 OF 6: ACUTE TOXICOLOGY DATA: ASSIGNED MRID NUMBER: 447632-02

Gilman, M.R. (1999): Primary Eye Irritation of Frontiersman® Bear Attack Deterrent. Unpublished study prepared by Celsis Laboratory Group, Edison, NJ. 16p. Guideline Number 81-4. [3 copies]

VOLUME 5 OF 6: ACUTE TOXICOLOGY DATA: ASSIGNED MRID NUMBER: 447632-03

Gilman, M.R. (1999): Acute Dermal Irritation of Frontiersman® Bear Attack Deterrent. Unpublished study prepared by Celsis Laboratory Group, Edison, NJ. 13p. Guideline Number 81-5. [3 copies]

VOLUME 6 OF 6: PRODUCT PERFORMANCE DATA: ASSIGNED MRID NUMBER: 447632-04

Davis, K. (1999): Compilation of Published Product Performance Data of Bear Deterrent Sprays for Frontiersman® Bear Attack Deterrent. Compilation prepared by RegWest Company, Greeley, CO. Guideline Number 91-6, 40 CFR 158.640. [3 copies]

We followed the guidance document, ***Bear-Deterrent Registration Kit***, in preparing this submission and have the following comments concerning the components of this submission:

1. The administrative forms, as outline in the Kit, are enclosed herewith. The proposed draft labeling was modeled after EPA Reg. No. 55541-2 as provided with the Kit. However, some modifications have been made to reflect the enclosed product chemistry and acute toxicology data.

2. A sample of the proposed packaging design (without the ingredients) will be sent to you under separate cover directly from Security Equipment Corporation. Please advise if it does not arrive in a timely manner.

3. Please refer to the application form and draft product labeling for the single size of product packaging (9.17 fl. oz.)

4. All required product chemistry data is found in volumes 2 and 3 of this submission. Please note the spray pattern data have been included in volume 3, as it lends itself toward a physical/chemical characteristic.

5. We are currently sponsoring one year storage stability testing in conjunction with the corrosion characteristics study. We understand these data will be due within 15 months after issuance of the registration.

6. The results of the eye irritation study place this product in Category II (Warning). The results of the dermal irritation study place this product in Category IV. The product bears the signal word "Warning."

7. In lieu of citing product performance data we have chosen to submit a compilation of two published reports.

All data are identified on the Data Matrix.

Please contact me at (970) 353-0611 if you have any questions or require additional information.

Regards,

REGWEST COMPANY

Kim Davis, CC, APC
Consultant/Agent

Enclosures

pc: SEC-Nance, L.

SECURITY
EQUIPMENT CORPORATION

February 11, 1999

Ms. Maureen Sherrill
Document Processing Desk - COADR
Office of Pesticide Programs - 7504C
U.S. ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
Washington, DC 20460-0001

Dear Ms. Sherrill:

SUBJECT: Authorization for Representation/Agent status
Security Equipment Corporation
EPA Company Number: To Be Assigned

Pursuant to 40 CFR § 152.50(b)(3), Security Equipment Corporation designates RegWest Company as authorized agent to act in behalf of Security Equipment Corporation with respect to any registration matters, regulated through the FIFRA (as amended), that may come before the Agency.

Effective immediately the address of record will be:

Security Equipment Corporation
c/o Reg West Company
P.O. Box 2220
Greeley, CO 80632-2220

The contact for RegWest Company is Kim Davis. She can be reached at (970) 353-0611, (970) 353-0613 (fax) or regwestco@aol.com if you have any questions or require additional information.

This authorization will remain valid until either Security Equipment Corporation or RegWest Company gives further notice.

Best Regards,

Larry D. Nance

Larry D. Nance
President

xc: RegWest Company

State of MO, County of St Louis
Signed before me on this 11 day
of February 1999 by Larry D Nance
Notary Public Donna M Pequignot

330 Sun Valley Circle
Fenton, MO 63026

(314) 343-0200
(800) 325-9568
(314) 343-1318 Fax

E-Mail: sabre@stlnet.com
http://home.stlnet.com/~sabre

N/FT

B

Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060.

EPA

United States
Environmental Protection Agency
Washington, DC 20460

[X] Registration
[ ] Amendment
[ ] Other

OPP Identifier Number
262533

Application for Pesticide - Section I

1. Company/Product Number
EPA File Symbol: 72265-R

2. EPA Product Manager
~~Dan Peacock~~

3. Proposed Classification
[X] None [ ] Restricted

4. Company/Product (Name)
Frontiersman® Bear Attack Deterrent

PM# 91

5. Name and Address of Applicant ~~(Include ZIP Code)~~
SECURITY EQUIPMENT CORPORATION
c/o RegWest Company
P.O. Box 2220; Greeley, CO 80632-2220

[ ] *Check if this is a new address*

6. **Expedited Review.** In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:
EPA Reg. No. _____
Product Name _____

Section - II

[ ] Amendment - Explain below.
[X] Resubmission in response to Agency letter dated _____
[ ] Notification - Explain below.
[ ] Final printed labels in response to Agency letter dated _____
[X] "Me Too" Application.
[ ] Other - Explain below.

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
[ ] Yes*	[ ] Yes	[ ] Yes	[X] Metal
[X] No	[X] No	[X] No	[ ] Plastic
Certification must be submitted	If "Yes" Unit Packaging wgt. / No. per container	If "Yes" Package wgt / No. per container	[ ] Glass
			[ ] Paper
			[ ] Other (Specify) _____

3. Location of Net Contents Information
[X] Label [ ] Container

4. Size(s) Retail Container
9.17 fl. oz.

5. Location of Label Directions
[X] On Label
[ ] On Labeling accompanying product

6. Manner in Which Label is Affixed to Product
[X] Lithograph
[ ] Paper glued
[ ] Stenciled
[ ] Other _____

Section - IV

1. Contact Point *(Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)*

Name	Title	Telephone No. (Include Area Code)
Kim Davis, CC, APC	Consultant/Agent	(970) 353-0611

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature

3. Title
Consultant/Agent

4. Typed Name
Kim Davis, CC, APC

5. Date
February 19, 1999

6. Date Application Received
(Stamped)

EPA Form 6570-1 (Rev. 8-94) Previous editions are obsolete. White - EPA File Copy (original) Yellow - Applicant Copy

PAPERWORK REDUCTION ACT NOTICE and INSTRUCTIONS

PAPERWORK REDUCTION ACT NOTICE: Public reporting burden for this collection of information is estimated to average 0.85 hour per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, DC 20460.

INSTRUCTIONS: This form is to be used for all applications for new registration, end use reregistration, amendment, resubmission, to applications for notifications, final printed labeling, reregistration, etc. In order to process an application for a new registration submitted on this form, the following material must accompany the application:

1. Certification with Respect to Citation of Data (EPA Form 8570-29). [If not exempted by 40 CFR 152.81 (b) (4)];
2. Confidential Statement of Formula (EPA Form 8570-4);
3. Formulator's Exemption Statement (EPA Form 8570-27);
4. Five copies of draft labeling;
5. Three copies of any data submitted;
6. Authorization letter where applicable;
7. Matrices where applicable.

Submission of Labeling - Labeling should first be submitted in the form of draft labels with all applications for new registration. Such draft labels may be in the form of typed label text on 8.5 x 11 inch paper for submission or a mockup of the proposed label. If prepared for mockup, it should be constructed in a way as to facilitate storage in an 8.5 x 11 inch file. Mockup labels significantly smaller than 8.5 x 11 inches should be mounted on 8.5 x 11 inch paper for submission.
Submission of Data - Data submitted in support of this application must be submitted in accordance with PR Notice 86-5.

SPECIFIC INSTRUCTIONS: Please read the instructions listed below before completing this application. First determine the type of registration action, listed in Block A, for which you are submitting this application. For applications submitted in connection with New Registration actions, Sections I, III, and IV must be completed by the applicant. For applications submitted in connection with amended reregistration actions, resubmissions, notifications, reregistrations, etc., Sections I, II, and IV must be completed by the applicant.
Block A - Check the appropriate action for which you are submitting this form.

SECTION I - This section must be completed, as applicable, for all registration actions.

1. Company/Product Number - Insert your Company Number, if one has been assigned by EPA. This number may have been assigned to you as a basic registrant, a distributor, or as an establishment. If your product is registered, insert the Product Number.
2. EPA Product Manager - If known, fill in the name and PM number of the EPA Product Manager.
3. Proposed Classification - Specify the proposed classification of this product.
4. Product Name - Enter the complete product name of this pesticide as it will appear on the label. The name must be specific to this product only. Duplication of names is not permitted among products of the same company. Do not include any brand name or company line designations.
5. Name and Address of Applicant - The name of the firm or person and address shown in your application is the person or firm to whom the registration will be issued. If you are acting in behalf of another party, you must submit authorization from that party to act for them in registration matters. An applicant not residing in the United States must have an authorized agent residing in the United States to act for them in all registration matters. The name and complete mailing address of such an agent must accompany this application.
6. Expedited Review - FIFRA section 3 (c) 3 (B) provides for expedited review of applications for registration, or amendments to existing registrations, that are similar or identical to other pesticide products that are currently registered with the EPA. In order for your application to be eligible for expedited review, you must provide us with the EPA Registration Number and product name of the product you believe is similar to or identical to your product. The product must be similar or identical in both formulation and labeled uses.

SECTION II - This section must be completed for all applications submitted to amend the registration only of a currently registered product (Amendment), for a resubmission in response to an Agency letter, for notifications to the Agency, for the submission of final printed labeling, for reregistration and for any other action that pertains to a specific EPA-registered product. This section is not to be used for a new application for registration.

1. Subject of submission - Check the applicable block and provide the Agency letter date if appropriate. Provide a brief explanation of the purpose(s) for the submission, such as "the addition of a site, pest or crop (specify)"; "amend the Confidential Statement of Formula by..."; "reregistration submission"; "general label revision of use directions." Attach a separate page if additional space is needed.

SECTION III (Packaging and Container Information) - This Section must be completed for all applications submitted in connection with new registration or applicable amendments.

1. Type of Packaging - Check the appropriate block if your product will be packaged in the indicated packaging types. Indicate the size of the individual packets and number per retail container.
2. Type of Retail Container - Indicate type of container in which product will be marketed.
3. Location of Net Contents - Indicate the location of the net contents information for your product.
4. Size(s) of Retail Container - Specify the net contents of all retail containers for your product.
5. Location of Use Directions - Indicate the location of the use directions for your product.
6. Manner in which label is affixed to product - Indicated the method product label is attached to retail container.

SECTION IV (Contact Point) - This Section must be completed for all applications for Registration actions, i.e., new products registration, resubmission, "me-too," reregistration, etc.

1-5. Self-explanatory.
6. EPA Use Only.