

CHILD-RESISTANT PACKAGING REVIEW
Technical Review Branch

IN 07/08/09 OUT 09/02/09

Reviewed by Rosalind L. Gross 09/02/09

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Type Product(s) Insecticide

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Product Mgr./Chemical Review Mgr./Contact Person RM 10 (Bonaventure Akinlosotu)
Division RD

Product Name(s) Frontline Spray Treatment

Company Name(s) Merial Limited

Submission Purpose Review CR Protocol Trigger Sprayer Information

Active Ingredient(s), PC code, & % Fipronil 0.29%

Summary of Findings

The proposed approach is acceptable with the changes provided:

- The 250ml and 500ml bottle have the same neck finish.
- The trigger sprayer is permanently attached to the bottle (If not the Agency should be contacted).
- The leakage test is on the 500ml bottle.
- The definitions for open, properly resecured, and failure in the Senior Adult Use Effectiveness Test and Child-Resistant Effectiveness Test used are similar to

those specified in this document. Their final version is in the final report.

- Directions for opening and properly reclosing the package in the Senior Adult Use Effectiveness Test are in the final report.
- The number of activations of the trigger per child up to 10 activations is recorded during the Child-Resistant Effectiveness Test and in the final report.

Note the registrant will need to submit a **CRP certification** for their product with the test data per 40 CFR Part 157 and **revised labeling with the directions for opening and properly reclosing the package used in the Senior Adult Use Effectiveness Test. The CRP certification must be signed by the registrant.** The directions for opening and properly reclosing the package on the label, any package insert and/or outer packaging **must be identical** to those used in the Senior Adult Use Effectiveness Test.

Company Submission

The registrant submitted a protocol testing request for a Spray Plast S. p. A. Vela CR trigger sprayer ASTM Type IXB (1). The same size neck finish Vela CR trigger sprayer would be used for both a 250 and 500ml spray bottle. Once assembled the Vela CR trigger sprayer would be permanently attached to the container neck finish by continuous threading and engagement of matching ratchets in the closure and two sets of ratchets on the container neck finish. The registrant provided samples of the Spray Plast S. p. A. Vela CR trigger sprayer. A leakage test similar to MRID 448277-01 will be performed.

The Vela CR trigger sprayer would be tested with placebo (purified water) filled samples for both the **Senior Adult Effectiveness (SAUE) and the Child-Resistant Effectiveness (CRE) tests.** The samples used for the CRE test will have the trigger sprayer primed. Both the CRE and SAUE tests would be conducted per 16 CFR 1700.20. Should the package not pass the CRE test the registrant **requests the package be treated as a unit dose package with a failure defined as access to 28.5mg of fipronil** (equivalent to 8 activations of the trigger at 1.48ml (product) per activation and a product density of 854mg/ml).

Package

The package is a Spray Plast S. p. A. Vela CR trigger sprayer ASTM Type IXB (1). The trigger sprayer closure is a **28mm/400** (per the manufacturer's internet listing) and it is **"permanently" attached by continuous threading and engagement of matching ratchets in the closure and two sets of ratchets 180° apart on the container neck finish.** The package is opened by pressing and holding down a tab on the trigger shroud and rotating the nozzle counterclockwise (nozzle facing you) to the spray position and activating the trigger. The package is **properly reclosed by**

rotating the nozzle clockwise until the tab on the trigger shroud clicks into the stop position, which means the tab is in the notch in the trigger nozzle. **In the properly reclosed position a primed trigger sprayer upon trigger activation will not dispense any product.** The Vela CR trigger sprayer sample (this reviewer received) required 3 activations of the trigger to spray product.

The Vela CR is designed to deliver **1.3ml per trigger activation** according to the manufacturer's internet listing (http://www.sprayplast.it/Mainpage.asp?pag=prodo_professional.asp) and email from K. Mardis of Merial (7/9 & 10/2009). Per a **Spray Plast S. p. A. internal procedure TP 120** provided in the email from K. Mardis of Merial (7/10/2009) the Vela CR delivers **1.48ml of product EPA Reg No. 65331-1 per activation.**

Analysis of Information and Conclusion

Leakage Test

The leakage test described by the registrant as being similar to that done for MRID 448277-01 would be acceptable, to demonstrate no leakage for the life of the product. The leakage test should involve the use of 10 samples, 500ml each filled with placebo of the same density as the actual product. Each sample should be sprayed until empty. The amount of leakage of each sample should be reported. The 500ml size is the worst case scenario and would also cover the 250ml size.

Senior Adult Use Effectiveness (SAUE) Test and Child-Resistant Effectiveness (CRE) Test

For the SAUE and CRE testing either the 250ml or the 500ml size may be used provided they both have the same size neck finish. Testing the package (trigger sprayer and bottle) in terms of whether the seniors can open and properly reclose the trigger sprayer is acceptable provided the trigger sprayer once assembled is permanently attached to the container neck finish. **If this is not true then the protocol should be modified and the Agency contacted, accordingly.**

SAUE

The **definition of open** is push the tab on the trigger shroud, rotating the nozzle to the spray position, and activating the trigger once. The **definition of properly resecured** includes turning the trigger nozzle so the tab on the trigger shroud clicks into the stop position, the tab is in the notch in the trigger nozzle, a primed trigger sprayer will not dispense any product upon activation, and a visual examination of the package does not reveal any unusual failures. **A senior failure** will be a senior unable to open the package during the first 5 minute test period or unable to open and properly resecure

the package in the 1 minute test period. A **senior failure also includes** access to the contents through an incorrect mechanism e.g. removal of the trigger sprayer from the bottle (regardless of whether or not the trigger sprayer is put back on the bottle), leakage, and any unusual failures. Note the final report should include the definitions of open, properly resecure, and senior failure. Based on telephone discussions with Merial and Perritt Laboratories on August 25, 2009 and September 1, 2009 it is recommended that the directions for the SAUE should be similar to:

To Open:

1. To open push down tab on top and turn nozzle.
2. Turn the nozzle until the tab is lined up with the picture of spray coming out.
3. Pull trigger to spray product.

Note: the test clock should be stopped and the tester should ask the subject to please spray the trigger sprayer into a container until water is seen and then stop spraying. Then the tester should say please close the package properly. [This is similar to 16 CFR 1700.20(a)(3) Test Instructions for Senior Test numbers 7 and 10 regarding emptying the pills from a package.] The rationale for this instruction, which is **not part of the opening or properly resealing directions**, is to ensure the trigger is primed and dispensing product in order to determine if it is properly resealed.

To Close:

1. Turn back nozzle tightly until it clicks into the "Stop" position.

Directions for the SAUE may change from this recommendation based on the results of testing and what set of directions are necessary for a passing SAUE per 16 CFR 1700.20. Whatever **set of directions are used** for the SAUE passing data should be a **part of the final report** submitted to the Agency. Further, this set of **directions must be the same in all locations associated with the retail package** e.g. the bottle label, package insert, and outer package.

CRE

Generally, a **trigger sprayer is a multiple use package and not a single use/unit dose package**. Consequently, per 16 CFR 1700.20 a child failure is any child who opens the package or gains access to any amount of its contents.

The **definition of a child failure** will include pushing the tab on the trigger shroud, rotating the nozzle and activating the trigger; using teeth to turn the nozzle and spray product; access to any amount of product by any means (e.g. removal of trigger sprayer from bottle, leakage, chew hole in bottle, etc.). Once a child has activated the trigger sprayer once (which is a failure) the total number of activations up to a maximum of ten

will be recorded during the ten minute test period per telephone discussions with Merial and Perritt Laboratories on August 25, 2009. This is to facilitate any future discussions Merial may wish to have should the package not pass the CRE test.

Note the registrant will need to submit a CRP certification for their product with the test data per 40 CFR Part 157 and revised labeling with the directions for opening and properly reclosing the package used in the Senior Adult Use Effectiveness Test. **The CRP certification must be signed by the registrant.** The directions for opening and properly reclosing the package on the label, any package insert and/or outer packaging **must be identical** to those used in the Senior Adult Use Effectiveness Test.