

## Health Effects Division Science Advisory Council for Exposure

### Regarding: **Draft Guidance Document for Developing Protocols Designed to Collect Pet Fur Transferable Residues Using Mannequin Hands**

*Note: The document is intended for the purpose of providing guidance for the development of protocols for those parties intending to conduct a pet fur residue transfer study. Protocols developed using this guidance document are subject to review and approval by the EPA prior to initiation of the exposure study.*

*This guidance document remains in draft form and is subject to change. It is current as of January 2011.*

#### A. General

##### 1. Purpose:

Measure the transferability of the test article (active ingredient) from the haircoats of animals treated with [define] formulation/ product.

##### 2. Quality Assurance:

###### a. The Testing Facility QAU or designee will:

- i. perform phase audits at field and analytical sites as needed to insure the integrity of the study, and
- ii. review the completed field and analytical raw data to insure that data were properly recorded, that amendments and deviations were prepared and submitted, and that the raw data records and report accurately reflect the conduct of the study.

###### b. The Study Director and Study Director's Management will be provided with copies of all reports of QAU inspection findings and reports of actions taken in response to the findings.

##### 3. Test Article:

The test article identification will include the name, batch number, and purity. The Sponsor will also provide information regarding safety, stability, storage conditions, and

disposal. The Sponsor assumes responsibility for purity, stability, identity, synthesis methods and location of documentation.

#### 4. Test System:

The test system will be [cats/dogs] – individual animals will be selected from a suitable source (e.g., veterinary testing laboratory). Characteristics including breed, sex, height, weight, hair length and age will be documented in the raw data.

#### 5. Justification of the Test System:

To fulfill the study objective, the application of the [formulation] represents a scenario for potential transfer of the test substance from the [cat's/dog's] haircoat to a collection device. The test substance is typical end use product.

#### 6. Protocol Amendments and Deviations:

- a. Amendments (planned changes) to the protocol will be prepared by the study director and approved by the sponsor representative or designee. Changes may be implemented prior to obtaining signatures.
- b. Deviations will be reported verbally or in writing to the study director within two business days of the identification of the occurrence, and will be documented in the field or analytical raw data. Deviation will be communicated to the Sponsor Representative in a timely manner.

#### 7. Records:

At a minimum, records to be archived by the Sponsor include the protocol, final report, test site summary reports, correspondence, copies of relevant test site records and all original study-specific raw data as listed in the test site raw data requirements.

These data are intended to be used in the preparation of the final report for submission to regulatory agencies.

#### 8. Final Report:

This report will incorporate the Field Summary Report, the Analytical Report, and other information as appropriate.

The final report will be subjected to a QA audit, and will be reviewed and signed by the sponsor. The final report will be considered complete upon signing by the Study Director.

#### 9. Statistics:

- a. Field portion: [Define, if necessary]
- b. Analytical portion: Statistical methods appropriate to the analytical method should be used, such as calculation of mean analyte recovery, linear regression of a standard calibration curve, and interpolation along the standard curve to quantify residues.
- c. Report: Typical descriptive statistical methods will be used, such as calculation of means, standard deviations, and relative standard deviations of residue and analyte recovery data sets. Means will be arithmetic and standard deviations will be the standard  $\sigma_{n-1}$ . In addition, linear or non-linear regression of residue results over time may be used to estimate site-specific residue decline parameters.

#### 10. Control of Bias

Bias will be controlled through appropriate number of and variability between individual [cats/dogs], representative sampling, concurrent laboratory fortification, analysis of control samples, and appropriate contamination control methods.

#### 11. Confidentiality

All information regarding the identity of the test substance, samples, test areas, and data must be kept strictly confidential. Access to test areas will be restricted, with measures taken to exclude unauthorized persons. No raw data, worksheets, data or information summaries, reports, or other information related to this study may be revealed or released to a third party without prior authorization from the Sponsor.

No data are to be used for publication without written permission from the Sponsor.

## Field Portion

### 1. Test Substance:

- a. Description:   Product:                   [insert]  
                          Formulation               [insert]  
                          Active Ingredient:   [insert]  
                          CAS Number:           [insert]  
                          Expiration Date:      [insert]  
                          Source                   [insert]
- b. Testing: Assay, uniformity and storage stability required for the test substance will be the responsibility of the Sponsor.
- c. Storage: The test substance is to be stored under ambient temperatures in an appropriate pesticide storage area. The air temperature of the storage area will be monitored either continuously or through the use of maximum/minimum thermometers. The amount of test substance received, used and remaining will be documented in the raw data.
- d. Safety: Sponsor's MSDS to be sent with the Test Substance.
- e. Retention: The test substance containers and remaining test material will be returned to the sponsor and will be retained, until completion of the study. Archival of a retention sample will be the responsibility of the Sponsor.

### 2. Field Experiment Design:

- a. Field Site Location: [insert]
- b. Test System Selection Criteria:  
  
[Number] [cats,dogs] will be selected from the population matching the following criteria:
  - i. Good general health.
  - ii. Not exposed to [test substance] for 90 days prior to inclusion in the study.
  - iii. No apparent skin disorders, scrapes, lesions, hair thinning, or other malady which might adversely affect achieving the study objectives.
- c. Identification of the Test System: Each [cat/dog] will be appropriately identified and cross referenced following the standard procedure of the test facility. A description of this identification will be recorded in the raw data.
- d. Maintenance of the Test System: The study protocol will be assessed by an ethics committee following the standard procedure of the test facility.

[Cats/Dogs] will be maintained following the standard procedure of the test facility. All maintenance procedures, including but not limited to feeding and access to water will be recorded in the raw data.

[Cats/Dogs] will not be bathed after application of the test material (unless required by product label directions), and will remain in single occupancy pens until completion of the study.

Daily observations will be made and documented following the standard procedure of the test facility.

Serious adverse effects characterized as significant hazards (immediately life threatening, resulting in death or disability) will be reported to the Study Director. All animal health problems and their relation to treatment will be included in the result section of the field phase of the study report.

Any animal that dies during the study, and if no obvious cause of death could be determined, will be necropsied according the standard procedures of the test facility, and the results, including probable cause of death, will be included in the raw data and reported in the results section of the field phase of the study report.

No drug or vaccine will be administered during the trial without approval of the Study Director. Any concurrent medications given will be recorded in the raw data, giving identity of the materials, reason for use, route of administration, and dosage. Use will be reported in the study report.

Animals will not be sacrificed as part of the study. According to the standard procedure, [cats/dogs] will be included into the veterinary laboratories stock after the completion of this study.

e. Pre-application Procedures:

[Cats/Dogs] will be allowed to acclimatize to, the pen in which they will be housed during the study.

[Cats'/Dogs'] breed, approximate age, sex, height, length, hair length and weight will be documented.

f. Application Parameters:

All [cats/dogs] will be treated on Day 0 with the test substance at a dose according to their individual body weights following formulation specific treatment regimens.

### Collar

Application is defined as placement of the [cat/dog] collar containing [test substance] around the [cat's/dog's] neck according to label instructions.

Individual collars will be weighed before application and when they are removed at the end of the study. Per label directions, if it is necessary to cut a collar to shorten for fitting purposes, the adjustment will be measured and documented. Collars removed at the end of the study should be analyzed to measure the amount of active ingredient remaining.

### Spot-on

Application is defined as the topical treatment of [cat/dog] with spot-on dose volume of formulation according to label directions.

### Dip/Dust/Shampoo

Application is defined as the washing of [cat/dog] with a shampoo or application of a dip product according to label directions. Test substance container should be weighed prior to application to and after application determine total amount/application rate applied to the animal or the amount should be determined by other appropriate means (e.g., volumetric measure for liquids).

#### g. Sample Collection and Handling:

Sampling time points for all [cats/dogs] should be 3 days prior and then at 4 hours after dosing on Study Day 0; and then once at 1, 2, 4, 7, 14, and 28 days. Collar formulations may require additional time points as required due to product active life. Dye free 100% cotton gloves should be used to collect the transferable residues. One cotton glove should be placed over a chemical resistant glove on a mannequin hand and used for sampling.

#### h. Stroking Procedure:

The individual conducting the sampling will manipulate the mannequin hand in order to mimic normal petting actions as described below. The same sampler will be used for all test animals.

The sample from each time interval on each test animal will include 20 petting simulations. The sampler will stroke the specified body surfaces with the mannequin hand (cotton glove over protective glove) with uniform medium pressure using motions which run with the lay of the [cats'/dogs'] hair coat. Three strokes, composing one petting simulation, will be used to cover the whole body surface beginning from the head/neck and ending at the tail base. Petting simulations will be conducted using the

palmar surface of the gloved mannequin hand, with splayed fingers. One petting simulation will consist of the following strokes in the specified order:

- One stroke on the right side (along the ribcage)
- One stroke on the left side (along the ribcage)
- One stroke on the back line (including the application site for spot-on products)

During the petting procedure, if there is an appearance of wetness on the cotton glove covering the mannequin hand it should be recorded in the raw data. Any excessive amount of hair accumulating on the glove due to the petting process should be removed with care so as to not interfere with the transferable assay results. The sampler will remove the cotton glove one at a time by grasping the glove at the wrist and pulling the glove off the mannequin hand in such a manner as to turn the glove inside out. Care should be taken not to contaminate the glove while removing it from the mannequin hand. Each cotton and chemical resistant glove sample should be placed directly into a separate pre-labeled container and sealed tightly with a lid for storage/extraction. Immediately after collection, the samples should be placed on ice for storage and analysis.

### 3. Data Management

Records: The following records will be maintained during the study and transferred to the laboratory archives upon study termination:

- a. Protocol and protocol amendments (if any)
- b. Final report and amendments (if any)
- c. Study correspondence
- d. Test article receipt, identification as supplied by Sponsor, preparation, administration, and disposition
- e. Test animal information: number, sex, source, strain, and age and glove identification information
- f. Pretest body weights
- g. General clinical signs
- h. Other pertinent data

Data Storage: All raw data, the protocol, analytical data and final report will be retained at the laboratory in the archives.

Data Reporting:

The final report will include:

- a. Statement from the Quality Assurance Unit
- b. Signature of the Study Director
- c. Names of scientific personnel involved in the study
- d. Dates of study initiation and termination
- e. Identification, description, preparation, and storage of the test article

- f. All pertinent animal data, animal husbandry, dosing information, and observation methods as well as glove information
- g. Description of the dosing and sampling procedures
- h. Body weights
- i. General clinical signs
- j. Results of cotton gauze pad analysis
- k. The protocol as appendix

Report Submission: A final report will be submitted after termination of the analytical portion of the study.

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