

Product Name: Havoc[®] Rodenticide Bait
 Issue Date: June 1st, 2016
 Replaces: June 1st, 2015
 SDS Number: HAC0135

1. PRODUCT IDENTIFICATION

Product Name: **Havoc[®] Rodenticide Bait**
 Product Number(s): 116395
 Use: Rodenticide
 Manufacturer: HACCO, Inc.
 110 Hopkins Drive
 Randolph, WI 53956
 Manufacturer Phone: 1-920-326-5141
 Distributor: Neogen Corporation – Animal Safety
 944 Nandino Boulevard
 Lexington, KY 40511
 Distributor Phone: 1-800-477-8201
 Emergency Phone: **Medical: 1-800-498-5743 (United States and Canada)**
Spill: 1-800-424-9300 (United States and Canada)

2. HAZARDS IDENTIFICATION

Classifications: Not Applicable Based on Toxicity Information.
 Signal Word (EPA): CAUTION
 Signal Word (OSHA): DANGER
 Hazard Statements: Causes damage to organs through prolonged or repeated exposure (anticoagulant)



Hazard Symbols:
 Precautionary Statements: Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Wash hands and face thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Wear barrier laminate gloves, protective clothing, and eye protection.
 If on skin: Wash with plenty of soap and water.
 If exposed or concerned: Get medical advice/attention.
 Call a poison control center, doctor or 1-800-489-5743 (ProPharma) if you feel unwell.
 Take off immediately all contaminated clothing and wash it before reuse.
 Dispose of contents and container in accordance with local regulations.
 Other Hazard Statements: This product presents no significant hazards under normal conditions of use.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Chemical Name</u> | <u>Common Name</u> | <u>CAS Number</u> | <u>Concentration</u> |
|---|--------------------|-------------------|----------------------|
| 3-[3-(4 ⁺ -bromo[1,1'-biphenyl]4-4y-yl)-1,2,3,4-tetrahydro-1-naphthalenyl]-4-hydroxy-2H-1-benzopyran-2-one | Brodifacoum | 56073-10-0 | 00.005% |
| Other Ingredients | Other Ingredients | Not Applicable | 99.995% |

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

Product Name: Havoc[®] Rodenticide Bait
Issue Date: June 1st, 2016
Replaces: June 1st, 2015
SDS Number: HAC0135

4. FIRST AID MEASURES

Have the product container, label, or Safety Data Sheet with you when calling 1-800-489-5743, a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call 1-800-489-5743, a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 1-800-489-5743 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call 1-800-489-5743, a poison control center or doctor for treatment advice.

Skin Contact: If on skin or clothing: Take off contaminated clothing. Wash skin with soap and water.

Inhalation: Not applicable.

Most Important Symptoms/Effects:

Anticoagulant effects.

Indication of immediate medical attention and special treatment needed:

This product contains anticoagulants with an effect similar to warfarin in that they act by interfering with the synthesis of prothrombin. The specific measure is the prothrombin time. Note this may not become prolonged until 12-18 hours after ingestion. The specific antidote is Vitamin K₁ (Phytomenandione BP).

Antidote must be administered under medical supervision. Initially, antidote should be given by injection (10-20 mg, or 0.25 mg/kg for children, by slow intravenous infusion at a rate of 1 mg/minute. In severe cases the use of fresh frozen plasma may be required). Maintenance treatment is given orally (40 mg/day in divided doses for adults; up to 20 mg/day in divided doses for children). The prothrombin time and the hemoglobin should be monitored. Patients should be kept under medical supervision until the prothrombin time has been normal for 3 consecutive days. Oral treatment may need to be continued for several weeks. (20 mg/day in divided doses for adults, and up to 20 mg/day in divided doses for children). (For animal cases the dose is 2-5 mg/kg).

Further information is available from the ProPharma Emergency Number (1-800-489-5743) provided in this document.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO₂ extinguishing media. If water is to be used to fight fire, dike and collect run-off.

Specific Hazards:

During a fire, irritating and possible toxic gases may be generated by thermal decomposition of combustion.

Special protective equipment and precautions for firefighters:

Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or product of combustion.

Product Name: Havoc® Rodenticide Bait
 Issue Date: June 1st, 2016
 Replaces: June 1st, 2015
 SDS Number: HAC0135

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

Control the spill at its source. Clean up spills immediately, observing precautions outlines in Section 8. Sweep up material and place in a compatible disposal container. Once all material is collected, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Precautions for safe handling:

Store the material in a well-ventilated, secure rea out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Conditions for safe storage, including any incompatibilities:

Store locked up.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING, AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Occupational Exposure Limit

| <u>Chemical Name</u> | <u>OSHA PEL</u> | <u>ACGIH TLV</u> | <u>OTHER</u> | <u>SOURCE</u> |
|--|-----------------|------------------|-----------------|----------------|
| 3-[3-(4'-bromo[1,1'-biphenyl]4-4y-yl)-1,2,3,4-tetrahydro-1-naphthalenyl]-4-hydroxy-2H-1-benzopyran-2-one | Not Established | Not Established | Not Established | Not Applicable |
| Other Ingredients | Not Established | Not Established | Not Established | Not Applicable |

Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact: Eye protection is not required for normal handling. Where eye contact is likely, wear tight-fitting chemical goggles.

Skin Contact: Gloves are not required for normal handling. Where heavy contact is likely, wear barrier laminate gloves.

Inhalation: Respiratory protection is not required for normal handling. In the event of an unusual dust exposure, use engineering controls or a NIOSH-approved particulate respirator (N, P, R, or HE filter) to keep exposure below the Occupational Exposure Limit.

Product Name: Havoc® Rodenticide Bait
Issue Date: June 1st, 2016
Replaces: June 1st, 2015
SDS Number: HAC0135

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------------|---|
| Appearance: | Green Pellets |
| Odor: | Faint grain-like |
| pH: | Not Available |
| Melting Point: | Not Available |
| Freezing Point: | Not Available |
| Boiling Point and Boiling Range: | 442 – 446°F (Brodifacoum) |
| Flash Point (Test Method): | >375°F (Paraffin Wax), Method: PMCC |
| Flammable Limits (% in air): | Not Available |
| Flammability: | Not Available |
| Vapor Pressure: | 6 x 10 ⁻⁶ mmHg @ 86°F (20°C) |
| Vapor Density: | Not Available |
| Relative Density: | 40.00 lbs/ft ³ |
| Solubility (ies): | Insoluble (Brodifacoum Technical) |
| Partition Coefficient: | Not Available |
| Viscosity: | Not Available |
| Other: | Not Available |

10. STABILITY AND REACTIVITY

| | |
|-----------------------------------|--|
| Reactivity: | Not reactive |
| Chemical Stability: | Stable under normal use and storage conditions |
| Possible Hazardous Reactions: | Will not occur |
| Conditions to Avoid: | None known |
| Incompatible Materials: | None known |
| Hazardous Decomposition Products: | None known |

11. TOXICOLOGICAL INFORMATION

Health Effects Information

| | |
|---|-----------------------|
| Likely routes of exposure: | Dermal, inhalation |
| Symptoms of exposure: | Anticoagulant effects |
| Delayed, immediate and chronic effects of exposure: | Anticoagulant effects |

Numerical Measures of Toxicity (Acute Toxicity/Irritation Studies – Finished Product)

| | | |
|---------------------|--|--|
| Ingestion: | Oral LD ₅₀ (Rat): | >5,000 mg/kg body weight |
| Dermal: | Dermal LC ₅₀ (Rat): | >500 mg/kg body weight |
| Inhalation: | Inhalation LC ₅₀ (Rat): | See “Other Toxicity Information, Section 11” |
| Eye Contact: | See “Other Toxicity Information, Section 11” | |
| Skin Contact: | See “Other Toxicity Information, Section 11” | |
| Skin Sensitization: | Not Available | |

Reproductive/Developmental Effects

Brodifacoum Technical: Not teratogenic, embryotoxic or fetotoxic in rats or rabbits at doses up to 0.02 mg/kg/day – the dose causing excessive maternal toxicity.
Non-genotoxic in a range of assays.

Product Name: Havoc[®] Rodenticide Bait
Issue Date: June 1st, 2016
Replaces: June 1st, 2015
SDS Number: HAC0135

Chronic/Subchronic Toxicity Studies

Brodifacoum Technical: The biological half-life for brodifacoum in body tissue in rats is >100 days. Adverse clinical effects can develop from body accumulation. Prolonged prothrombin time, depression, pallor, subcutaneous hemorrhage, bleeding of nose or gums, gastrointestinal hemorrhage, cerebral hemorrhage, shock and death can develop following exposures.
No neurotox studies have been conducted.

Carcinogenicity

Brodifacoum Technical: Unlikely to be carcinogenic.

Other Toxicity Information

Effects of overexposure are those of anticoagulant overdose, i.e., reduced blood clotting ability with spontaneous bleeding in various organs. Body accumulation can result from repeated exposures since the half-life of brodifacoum is > 100 days. Individuals with blood clotting disorders may be more susceptible to overexposure effects.

Systemically toxic concentrations of this product will probably not be absorbed through human skin.

No toxic effects are known to be associated with inhalation of dust from this material.

No irritation is likely to develop following contact with human eyes.

Irritation will probably not develop following contact with human skin.

Toxicity of Other Components

Oat Flour: In normal use this product does not present a serious health risk and ingestion has no adverse effects.

Paraffin Wax: Inhalation may cause eye, skin and respiratory tract irritation.

Target Organs

Active Ingredients

Brodifacoum Technical: Blood

Other Ingredients

Oat Flour: Not Applicable

12. ECOLOGICAL INFORMATION

Eco-Acute Toxicity

Brodifacoum Technical:

| | |
|---|----------------------------------|
| Fish (Rainbow Trout): | 96-hr LC ₅₀ 0.02 ppm |
| Invertebrates (Water Flea) Daphnia Magna: | 48-hr EC ₅₀ 0.98 ppm |
| Birds (Mallard Duck): | 21-day LD ₅₀ 0.26 ppm |

Environmental Fate

Brodifacoum Technical:

The information presented here is for the active ingredient brodifacoum.

Not persistent in soil. Stable in water. Immobile in soil. Sinks in water (after 24 hours).

13. DISPOSAL CONSIDERATIONS

Disposal: Do not reuse empty container except for holding additional product.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

Product Name: Havoc[®] Rodenticide Bait
Issue Date: June 1st, 2016
Replaces: June 1st, 2015
SDS Number: HAC0135

14. TRANSPORT INFORMATION

DOT Classification

Proper Shipping Name: Exterminator, Vermin, O/T Poison
Hazard Class: Not Applicable
UN Number: Not Applicable
Packing Group: Not Applicable
Label: Not Applicable
Special Instructions: Not Applicable

IMDG Classification

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (brodifacoum)
Hazard Class: 9
UN Number: 3077
Packing Group: III
Label: Not Applicable
Special Instructions: Not Applicable

IATA Classification

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (brodifacoum)
Hazard Class: 9
UN Number: 3077
Packing Group: III
Label: Not Applicable
Special Instructions: Not Applicable

Canadian Classification

Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (brodifacoum)
Hazard Class: 9
UN Number: 3077
Packing Group: III
Label: Not Applicable
Special Instructions: Not Applicable

Product Name: Havoc® Rodenticide Bait
 Issue Date: June 1st, 2016
 Replaces: June 1st, 2015
 SDS Number: HAC0135

15. REGULATORY INFORMATION

Pesticide Registration

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

Caution: Harmful if swallowed or absorbed through skin. Keep away from children, domestic animals and pets. Do not get in eyes, on skin or on clothing. All handlers (including applicators) must wear shoes plus socks, and barrier laminate gloves. Any person who retrieves carcasses or unused bait following application of this product must wear barrier laminate gloves.

EPA Registration Number : 61282-28

EPA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65 : Not Applicable

CERLA/SARA 302 Reportable Quantity (RQ) : None

RCRA Hazardous Waste Classification (40 CFR 261): Not Applicable

TSCA Status: Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1
 Flammability: 1
 Instability: 0

HMIS Hazard Ratings

Health: 1*
 Flammability: 1
 Reactivity: 0
 Other:

0 - Minimal
 1 - Slight
 2 - Moderate
 3 - Serious
 4 - Extreme
 * - Chronic

For Non-Emergency Questions About This Product Call:
 1-800-621-8829
 Neogen Corporation
 Lexington, KY

Havoc® is a Registered Trademark of a Syngenta Group Company.

ALTHOUGH THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN (HEREINAFTER "INFORMATION") ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE CORRECT, HACCO, INC., THE MANUFACTURER OR THE SELLER MAKES NO REPRESENTATIONS AS TO THE COMPLETENESS OR ACCURACY THEREOF. INFORMATION IS SUPPLIED UPON THE CONDITION THAT THE PERSONS RECEIVING IT WILL MAKE THEIR OWN DETERMINATION AS TO ITS SUITABILITY FOR THEIR PURPOSES PRIOR TO USE.

THE PRODUCT COVERED BY THIS INFORMATION SHEET IS FURNISHED "AS IS" BY HACCO, INC., THE MANUFACTURER OR THE SELLER, AND IS SUBJECT ONLY TO THE WARRANTIES, IF ANY, THAT APPEAR ON THE PRODUCT'S LABEL OR ARE OTHERWISE EXPRESSLY PROVIDED HEREIN.

EXCEPT AS EXPRESSLY PROVIDED ON THE PRODUCT'S LABEL OR OTHERWISE PROVIDED HEREIN, NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, ARE MADE BY HACCO, INC., THE MANUFACTURER OR THE SELLER WITH REGARD TO THE PRODUCT OR USE OF THE PRODUCT, INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE.

EXCEPT AS EXPRESSLY STATED HEREIN, HACCO, INC., THE MANUFACTURER OR THE SELLER MAKES NO WARRANTY OF RESULTS TO BE OBTAINED BY USE OF THE PRODUCT COVERED BY THIS INFORMATION. BUYER'S OR USER'S EXCLUSIVE REMEDY, AND THE TOTAL LIABILITY OF HACCO, INC., THE MANUFACTURER OR THE SELLER, SHALL BE LIMITED TO DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT. NO AGENT OR EMPLOYEE OF HACCO, INC., THE MANUFACTURER OR THE SELLER IS AUTHORIZED TO AMEND THE TERMS OF THIS WARRANTY DISCLAIMER OR THE PRODUCT'S LABEL OR TO MAKE A REPRESENTATION OR RECOMMENDATION DIFFERENT FROM OR INCONSISTENT WITH THE LABEL OF THIS PRODUCT.

IN NO EVENT SHALL HACCO, INC., THE MANUFACTURER OR THE SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES AND THE BUYER AND USER WAIVE ANY RIGHT THEY MAY HAVE TO SUCH DAMAGES.