

Product Name: Havoc® Rodenticide Pellets
 Issue Date: June 1st, 2016
 Replaces: June 1st, 2015
 SDS Number: SYN0063 - HAC

1. PRODUCT IDENTIFICATION

Product Name: **Havoc® Rodenticide Pellets**
 Product Number(s): 116360, 116373
 Use: Rodenticide
 Manufacturer: Syngenta Crop Protection, LLC.
 Post Office Box 18300
 Greensboro, NC 27419
 Manufacturer Phone: 1-800-334-9481
 Distributor: HACCO, Inc.
 110 Hopkins Drive
 Randolph, WI 53956
 Distributor Phone: 1-920-326-5141
 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.

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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.

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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.

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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.

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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

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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

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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 : 100-1052-61282
 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

HMS 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

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