

**SECTION 1: PRODUCT INFORMATION**

**Product Identifier:** RATAK+<sup>®</sup> RODENTICIDE PELLETS

**Formulation Number:** A10976W

**Registration Number:** 16064 (Pest Control Products Act)

**Product Use:** Rodenticide. Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

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**SDS prepared by:** Department of Regulatory & Biological Assessment, Syngenta Canada Inc.

**For further information, contact:** 1-87-SYNGENTA (1-877-964-3682)

**In Case of Emergency, Call: 1-800-327-8633 (FAST MED)**

**SECTION 2: HAZARDS IDENTIFICATION**

Classification in accordance with UN GHS Version 5.

**Hazard Classification(s):** Acute Toxicity (Dermal) – Category 3

**Hazard Symbol(s):**



**Signal Word:** DANGER

**Hazard Statement(s):** H311 – Toxic in contact with skin.

**Precautionary Statement(s):**

**Prevention:** P280 – Wear protective gloves/protective clothing.

**Response:** P302+P352 – IF ON SKIN: Wash with plenty of water.  
 P312 – Call a POISON CENTER/doctor if you feel unwell.  
 P321 – Specific treatment: See Section 4 of this SDS.  
 P361+P364 – Take off immediately all contaminated clothing and wash it before reuse.

**Storage:** P405 – Store locked up.

**Disposal:** P501 – Dispose of contents/container to an approved waste disposal plant.

**Other Hazards Which do not Result in GHS Classification:** To avoid risk to human health and the environment, comply with the instructions for use.  
 Contains the allergen wheat.  
 If pet or livestock poisoning is suspected, immediately contact a veterinarian.

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Chemical Name	Common Name	CAS Number	Average % by weight
Kaolin (no asbestos and less than 1% crystalline silica)	Kaolin clay	1332-58-7	1 - 5
3-[3-[4'-bromo[1,1'-biphenyl]-4-yl]-1,2,3,4-tetrahydro-1-naphthalenyl]-4-hydroxy-2H-1-benzopyran-2-one	Brodifacoum	56073-10-0	0.005

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

**SECTION 4: FIRST AID MEASURES**

**IF POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital.** Have the product container, label or Safety Data Sheet with you when calling Syngenta, a poison control centre or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [1-800-327-8633 (1-800-FASTMED)], for further information.

**Eye Contact:** Flush eyes with clean water, holding eyelids apart for a minimum of 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eyes. Call Syngenta, a poison control centre or doctor for treatment advice. Obtain medical attention immediately if irritation persists.

**Skin Contact:** Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with running water for a minimum of 15-20 minutes. Call Syngenta, a poison control centre or doctor for treatment advice.

**Inhalation:** Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth, if possible. Call Syngenta, a poison control centre or doctor for treatment advice.

**Ingestion:** If swallowed, immediately contact Syngenta, a poison control centre, doctor or nearest hospital for treatment advice. Have person sip a glass of water if able to do so. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer water.

**Most Important Symptoms/Effects, Acute and Delayed:**

Toxic if absorbed through the skin.

May be harmful or fatal if swallowed.

Contains the allergen wheat.

The active ingredient, brodifacoum, is designed to cause bleeding after repeated ingestion.

**Indication of Immediate Medical Attention and Special Treatment:**

Treat symptomatically.

This product contains the anticoagulant, brodifacoum, with an effect similar to warfarin, interfering with the synthesis of prothrombin, and reducing clotting ability of the blood and possibly causing hemorrhaging. The specific measure of effect is the prothrombin time. Note that prothrombin time 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. For human cases, Vitamin K1 is initially administered at doses of 10-20 mg. Repeated doses may need to be given for up to two weeks based on monitoring of prothrombin time. In severe cases the use of fresh frozen plasma may be required. The prothrombin time and hemoglobin level should be monitored.

For veterinary cases, Vitamin K1 is antidotal at 2-5 mg/kg.

**SECTION 5: FIRE FIGHTING MEASURES**

**Suitable (and Unsuitable) Extinguishing Media:** Use foam, carbon dioxide, dry powder, halon extinguishant or water fog or mist. Cool closed containers exposed to fire with water spray. Do not use a solid water stream as it may scatter and spread the fire.

**Specific Hazards Arising from the Product:** Can decompose at high temperatures forming toxic gases. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**Special Protective Equipment and Precautions for Fire-Fighters:** Wear full protective clothing and self-contained breathing apparatus. Evacuate non-essential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water run-off can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures:** Control the spill at its source. Clean up spills immediately, observing precautions outlines in Sections 7 and 8. Use adequate ventilation and equipment and wear clothing as described in Section 8 and/or the product label.

**Environmental Precautions:** Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory body.

**Methods and Materials for Containment and Cleaning Up:** Scoop or sweep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into a compatible disposal container. On soils, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal.

**SECTION 7: HANDLING AND STORAGE**

**Precautions for Safe Handling:** KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing vapours, dust or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Protect product, wash or rinse water, and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people.

**Conditions for Safe Storage, Including Any Incompatibilities:** Store in original container in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C. Refer to the product label for specific storage recommendations, including minimum storage temperature and freeze/thaw stability. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

**SECTION 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.**

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

**Control Parameters:**

Component	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Kaolin clay	15 mg/m <sup>3</sup> (total dust); 5 mg/m <sup>3</sup> (respirable dust)	2 mg/m <sup>3</sup> (respirable)	10 mg/m <sup>3</sup> TWA (total)**; 5 mg/m <sup>3</sup> TWA (respirable)**; 2 mg/m <sup>3</sup> TWA (respirable) (AB/BC/ON); 5 mg/m <sup>3</sup> TWA (respirable) (QC)	No	Not established
Sucrose	15 mg/m <sup>3</sup> (total); 5 mg/m <sup>3</sup> (respirable)	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> TWA (total)**; 5 mg/m <sup>3</sup> TWA (respirable)**; 10 mg/m <sup>3</sup> TWA (AB/BC/ON/QC)	No	Not established
Propylene glycol	Not established	Not established	10 mg/m <sup>3</sup> TWA AIHA WEEL****; 50 ppm (155 mg/m <sup>3</sup> ) TWA (total vapour & particulates) (ON)	No	Yes
Brodifacoum	Not established	Not established	0.002 mg/m <sup>3</sup> TWA***	No	Not established

\* Recommended by Manufacturer

\*\* Recommended by NIOSH

\*\*\* Syngenta Occupational Exposure Limit (OEL)

\*\*\*\* Recommended by AIHA (American Industrial Hygiene Association)

† Material listed in Ingredient Disclosure List under the Hazardous Products Act

**Appropriate Engineering Controls:** If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV (threshold limit value). Warehouses, production areas, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

**Individual Protection Measures:**

**General:** Avoid breathing dust, vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling and before eating, drinking, applying cosmetics or handling tobacco.

**Ingestion:** Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

**Eyes:** Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

**Skin:** Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

**Inhalation:** A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH certified respirator with any N, R, P or HE filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Green pellets.

**Formulation Type:** Solid.

**Physical State:** Solid.

**Odour:** Slight cereal odour.

**Odour Threshold:** Not available.

**pH:** Not available.

**Melting Point:** 228 – 232 °C (Brodifacoum).

**Freezing Point:** Not applicable.

**Initial Boiling Point and Boiling Range:** Not applicable.

**Flash Point:** > 190 °C (paraffin wax) (Pensky-Martens CC).

**Evaporation Rate:** Not applicable.

**Flammability (solid/gas):** Not applicable.

**Lower Explosive Limit:** Not applicable.

**Upper Explosive Limit:** Not applicable.

**Vapour Pressure:** Brodifacoum: < 7.50 x 10<sup>-9</sup> mmHg @ 20 °C.

**Vapour Density:** Not applicable.

**Relative Density:** 1.15 g/mL @ 20 °C.

**Solubility(ies):** Brodifacoum: 0.24 mg/L @ 20 °C, pH 7 (water).

**Partition Coefficient (n-octanol water):** Brodifacoum: 8.5

**Auto-Ignition Temperature:** Not available.

**Decomposition Temperature:** Not available.

**Viscosity:** Not applicable.

**Other Information:** Not applicable.

**SECTION 10: STABILITY AND REACTIVITY**

**Reactivity:** Not reactive.

**Chemical Stability:** Stable under normal use and storage conditions.

**Possibility of Hazardous Reactions:** No hazardous reactions with normal handling and storage according to the label directions.

**Conditions to Avoid:** No decomposition if used as directed.

**Incompatible Materials:** No substances are known which lead to the formation of hazardous substances or thermal reactions.

**Hazardous Decomposition Products:** Can decompose at high temperatures forming toxic gases. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Likely Routes of Exposure:** Dermal, inhalation, oral.

**Symptoms of Acute Exposure:** Toxic if absorbed through the skin.

**Potential Health Effects:** May be harmful or fatal if swallowed. The active ingredient, brodifacoum, is designed to cause bleeding after repeated ingestion. Contains the allergen wheat.

**Acute Toxicity/Irritation Studies (Finished Product):**

Ingestion:	<u>Low Acute Toxicity</u> Oral (LD50 Rat)	> 5,000 mg/kg body weight
Dermal:	<u>Mildly Acutely Toxic</u> Dermal (LD50 Rat)	> 500 mg/kg body weight
Inhalation:	<u>Not applicable.</u> Inhalation (LC50 Rat)	Not applicable to the product form.
Eye Contact:	See "Other Toxicity Information" in Sect. 11, below.	
Skin Contact:	See "Other Toxicity Information" in Sect. 11, below.	
Skin Sensitization:	Not available.	

**Specific Target Organ Toxicity (STOT) Single Exposure:**

Brodifacoum: Not classified as a specific target organ toxicant, single exposure.

**Specific Target Organ Toxicity (STOT) Repeated Exposure:**

Brodifacoum: Causes damage to organs through prolonged or repeated exposure.

**Carcinogenicity:**

Brodifacoum: Did not show carcinogenic effects in animal experiments.

**Reproductive Toxicity:**

Brodifacoum: Did not show reproductive or teratogenic effects in animal experiments.

**Mutagenicity:**

Brodifacoum: Did not show mutagenic effects in animal experiments.

**Aspiration Hazard:**

Brodifacoum: Not classified as an aspiration hazard.

**Other Toxicity Information:**

Brodifacoum: Systemically toxic concentrations of this product will probably not be absorbed through human skin. Because this product is a solid, inhalation is not expected to be a normal route of exposure. No irritation is likely to develop following contact with human eyes. Irritation will probably not develop following contact with human skin.  
Excessive exposure slows blood clotting time and can cause bleeding, shock and death.

**Toxicity of Other Components:**

The acute toxicity test results reported in Section 11, above, for the finished product take into account any acute hazards related to the “other components” in the formulation.

Kaolin clay: May cause eye and respiratory tract irritation. Long term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs. Continued long term exposure may affect respiratory function in some individuals.

Sucrose: The acute toxicity test results reported in Section 11, above, for the finished product take into account any acute hazards related to the sucrose in the formulation.

Propylene glycol: Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

**SECTION 12: ECOLOGICAL INFORMATION**

**Eco-Acute Toxicity:**

Brodifacoum:

Invertebrates (Water Flea) 48-hour LC <sub>50</sub> /EC <sub>50</sub>	0.98 ppm
Fish (Rainbow Trout) 96-hour LC <sub>50</sub> /EC <sub>50</sub>	0.015 ppm
Birds (40-day dietary – Mallard Duck) LC <sub>50</sub> /EC <sub>50</sub>	2.0 ppm

**Persistence & Degradability:**

Brodifacoum: Moderately persistent in soil.

**Bioaccumulation Potential:**

Brodifacoum: BCF < 500; does not bioaccumulate.

**Mobility in Soil:**

Brodifacoum: Low mobility in soil.

**Other Adverse Effects:** Not applicable.

**SECTION 13: DISPOSAL CONSIDERATIONS****Disposal Methods:**

Waste from residues: Refer to the product label for specific disposal/recycling information.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Do not dispose of waste into sewer.  
Where possible recycling is preferred to disposal or incineration.  
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Refer to the product label for specific disposal/recycling information.  
Empty remaining contents  
Triple rinse containers  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Do not reuse empty containers.

**SECTION 14: TRANSPORT INFORMATION****TDG Classification – Road/Rail:**

Not regulated as a dangerous good.

**Water Transport – International (IMDG):**

Not regulated as a dangerous good.

**Air Transport (IATA-DGR):**

Not regulated as a dangerous good.

**Special Precautions for User:**

Not applicable.

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:**

Not applicable.

**SECTION 15: REGULATORY INFORMATION**

There are Canada-specific environmental requirements for handling, use and disposal of this pest control product that are indicated on the product label.

**Hazardous Products Act Information:**

This product has been classified in accordance with the amended Hazardous Products Act and the Hazard Criteria of the Hazardous Products Regulations (HPR), and the SDS contains all the information required by the HPR.

**Hazardous Products Act Information: WHMIS 2015 Classification**

This product is exempt under WHMIS 2015.

**Pest Control Products Act (PCPA) Registration No.:** 16064



Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.



This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act (PCPA). These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control products label:

**PCPA Label Hazard Communications:**

Read the label and pamphlet before using.  
 Keep out of reach of children.  
 Warning: Poison.  
 Warning, contains the allergen wheat.

<b>PCPA Hazard on Label:</b>	<b>Poison</b>	<b>GHS Hazard Classification:</b>	<b>Acute Toxicity (Dermal) – Category 3</b>
PCPA Precautionary Symbol:		GHS Hazard Symbol:	
PCPA Signal Word(s):	Warning	GHS Signal Word:	Danger
PCPA Hazard Statement:	Not applicable.	GHS Hazard Statement:	H311 – Toxic in contact with skin.

**Allergens Contained in the Pest Control Product:**

Contains the allergen wheat.

**NPRI Components:**

Not applicable.

**SECTION 16: OTHER INFORMATION**

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Syngenta will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant SDS. Hazardous properties of all ingredients have been considered in the preparation of this SDS. Read the entire SDS for the complete hazard evaluation of this product.

**Full Text of Abbreviations:**

AB – Province of Alberta  
 BC – Province of British Columbia  
 BCF – Bioconcentration factor  
 EC<sub>50</sub> – Effective concentration, 50%  
 GHS – Globally Harmonized System of Classification and Labeling of Chemicals  
 LC<sub>50</sub> – Lethal concentration, 50%  
 LD<sub>50</sub> – Lethal dose, 50%  
 IARC – International Agency for Research on Cancer  
 IATA-DGR – International Air Transport Association Dangerous Goods Regulations

IMDG – International Maritime Code for Dangerous Goods  
 NTP –National Toxicology Program  
 ON – Province of Ontario  
 OSHA – Occupational Safety & Health Administration  
 PEL – Permissible Exposure Limit  
 TDG – Transportation of Dangerous Goods  
 TLV – Threshold Limit Value  
 QC – Province of Quebec  
 SDS – Safety Data Sheet  
 WHMIS – Workplace Hazardous Materials Information System

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END OF SAFETY DATA SHEET.