

RATAK+

Version 1.0 Revision Date: 01/27/2023 SDS Number: S169930370 This version replaces all previous versions.

SECTION 1. IDENTIFICATION

Product name : RATAK+
Design code : A10976W
Product Registration number : 16064
Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Syngenta Canada Inc.
Address : 140 Research Lane, Research Park
Guelph ON N1G 4Z3
Canada
Telephone : 1-87-SYNGENTA (1-877-964-3682)
Telefax : 1-519-823-0504
E-mail address :
Emergency telephone number : 1-800-327-8633 (FAST MED)

Recommended use of the chemical and restrictions on use

Recommended use : Rodenticide

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the Hazardous Products Regulations**

Not a hazardous substance or mixture.

GHS label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
kaolin	kaolin	1332-58-7	$\geq 1 - < 5$ *
sucrose, pure	sucrose, pure	57-50-1	$\geq 1 - < 5$ *

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propane-1,2-diol	propane-1,2-diol	57-55-6	$\geq 1 - < 5$ *
brodifacoum (ISO)	brodifacoum (ISO)	56073-10-0	0.005

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : Take victim immediately to hospital.
Do NOT induce vomiting.
- Most important symptoms and effects, both acute and delayed : Symptoms of poisoning are typical of anticoagulants. In severe cases there may be bruising, haematomas of the joints, blood in the faeces and urine
- Notes to physician : This product contains anticoagulants with an effect similar to warfarin in that they act by interfering with the synthesis of prothrombin.
- The specific measure of effect is the prothrombin time. Note this may not become prolonged until 12-18 hours after ingestion.
- The specific antidote is vitamin K1 (Phytomenandione). Initially, antidote should be given by injection (10-20mg, or 0.25mg/kg for children), by slow intravenous infusion at a rate not exceeding 1mg/minute. In severe cases the use of fresh frozen plasma may be required.
Maintenance treatment is given orally (40mg/day in divided doses for adults; up to 20mg/day in divided doses for children).
- The prothrombin time and the haemoglobin should be monitored.

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tored. Patients should be kept under medical supervision until the prothrombin time has been normal for 3 consecutive days.

Oral treatment may need continuing for several months (20mg/day in divided doses for adults and up to 20mg/day in divided doses for children). (For animal cases the dose is 2-5mg/kg).

SECTION 5. FIREFIGHTING MEASURES

- | | | |
|---|---|--|
| Suitable extinguishing media | : | Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray |
| Unsuitable extinguishing media | : | Do not use a solid water stream as it may scatter and spread fire. |
| Specific hazards during fire-fighting | : | As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health. |
| Further information | : | Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray. |
| Special protective equipment for firefighters | : | Wear full protective clothing and self-contained breathing apparatus. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

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|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Refer to protective measures listed in sections 7 and 8.
Avoid dust formation. |
| Environmental precautions | : | Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : | Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
Do not create a powder cloud by using a brush or compressed air.
Clean contaminated surface thoroughly.
Clean with detergents. Avoid solvents.
Retain and dispose of contaminated wash water. |

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SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.
- Conditions for safe storage : No special storage conditions required.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
kaolin	1332-58-7	TWA (Respirable)	2 mg/m ³	CA AB OEL
		TWA (Respirable)	2 mg/m ³	CA BC OEL
		TWAEV (respirable dust)	2 mg/m ³	CA QC OEL
		TWA (Respirable particulate matter)	2 mg/m ³	ACGIH
sucrose, pure	57-50-1	TWA	10 mg/m ³	CA AB OEL
		TWAEV	10 mg/m ³	CA QC OEL
		TWA (Total dust)	10 mg/m ³	CA BC OEL
		TWA (respirable dust fraction)	3 mg/m ³	CA BC OEL
		TWA	10 mg/m ³	ACGIH
propane-1,2-diol	57-55-6	TWA (Vapour and aerosols)	50 ppm 155 mg/m ³	CA ON OEL
		TWA (aerosol)	10 mg/m ³	CA ON OEL
brodifacoum (ISO)	56073-10-0	TWA	0.002 mg/m ³	Syngenta

- Engineering measures** : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

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Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.

Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : No special protective equipment required.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Dust impervious protective suit

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : No data available

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Colour : No data available

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Density : No data available

Solubility(ies)

Water solubility : No data available

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : No data available

Oxidizing properties : No data available

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Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: None reasonably foreseeable.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reaction known under conditions of normal use.
Conditions to avoid	: No decomposition if used as directed.
Incompatible materials	: None known.
Hazardous decomposition products	: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity**Components:****brodifacoum (ISO):**

Acute oral toxicity	: LD50 (Rat, male): 0.418 mg/kg
Acute inhalation toxicity	: LC50 (Rat, female): 0.00305 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rat, female): 3.16 mg/kg

Skin corrosion/irritation**Components:****brodifacoum (ISO):**

Species	: Rabbit
Result	: No skin irritation

Serious eye damage/eye irritation**Components:****brodifacoum (ISO):**

Species	: Rabbit
Result	: No eye irritation

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Respiratory or skin sensitisation**Components:****brodifacoum (ISO):**

Test Type	: Buehler Test
Species	: Guinea pig
Result	: The product is a skin sensitiser, sub-category 1B.

Germ cell mutagenicity**Components:****brodifacoum (ISO):**

Germ cell mutagenicity - Assessment	: Animal testing did not show any mutagenic effects.
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Carcinogenicity**Components:****kaolin:**

Carcinogenicity - Assessment	: No evidence of carcinogenicity in animal studies.
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brodifacoum (ISO):

Carcinogenicity - Assessment	: No evidence of carcinogenicity in animal studies.
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Reproductive toxicity**Components:****brodifacoum (ISO):**

Reproductive toxicity - Assessment	: Some evidence of adverse effects on development, based on animal experiments.
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STOT - repeated exposure**Components:****brodifacoum (ISO):**

Target Organs	: Blood
Assessment	: The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Further information**Components:****brodifacoum (ISO):**

Remarks	: Excessive exposure slows blood clotting time and can cause
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bleeding, shock and death.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****brodifacoum (ISO):**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.04 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.45 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.27 mg/l Exposure time: 72 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.01 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
M-Factor (Chronic aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 30 min

Persistence and degradability**Components:****brodifacoum (ISO):**

Biodegradability	:	Result: Not rapidly biodegradable
Stability in water	:	Degradation half life: ca. 300 d Remarks: Persistent in water.

Bioaccumulative potential**Components:****brodifacoum (ISO):**

Bioaccumulation	:	Remarks: bioaccumulative
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Mobility in soil**Components:****brodifacoum (ISO):**

Distribution among environmental compartments : Remarks: Low mobility in soil.

Stability in soil : Dissipation time: 157 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects

No data available

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 re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

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TDG

Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

Read the label, authorised under the Pest Control Products Act, prior to using or handling the pest control product

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

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. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

Warning

Skull and crossbones

poison

NPRI Components : C.I. pigment green 7
2,2'-iminodiethanol
ethanediol

The components of this product are reported in the following inventories:

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

brodifacoum (ISO)

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	:	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	:	Canada. British Columbia OEL
CA ON OEL	:	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL	:	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA	:	8-hour, time-weighted average
CA AB OEL / TWA	:	8-hour Occupational exposure limit

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CA BC OEL / TWA	:	8-hour time weighted average
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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Date format	:	mm/dd/yyyy

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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