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

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MSDS prepared by:
Department of Regulatory & Biology Assessment
Syngenta Canada Inc.

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1-87-SYNGENTA (1-877-964-3682)

SECTION – 1: PRODUCT IDENTIFICATION

Product Identifier: PRINCEP NINE-T® Herbicide Formulation No.: A6119B
Registration Number: 16370 (Pest Control Products Act)
Chemical Class: Triazine Herbicide

Active Ingredient (%): Simazine (89%) and Related Triazines (1%) CAS No.: 122-34-9
Chemical Name: 6-chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine
Product Use: A water dispersible granule for selective weed control. For further details please refer to product label.

SECTION – 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Kaolin Clay	15 mg/m ³ TWA (total); 5 mg/m ³ TWA (respirable)	2 mg/m ³ TWA (respirable)	10 mg/m ³ TWA (total); 5 mg/m ³ TWA (respirable)**	No	Not Established
Simazine (89 %)	Not Established	Not Established	10 mg/m ³ TWA***	No	Not Established

** recommended by NIOSH

*** Syngenta Occupational Exposure Limit (OEL)

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

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: B

SECTION – 3: HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

May cause mild eye and skin irritation.

Hazardous Decomposition Products

Can decompose at high temperatures and form toxic gases.

Physical Properties

Appearance: Light beige to brown grey granules.

Odour: Odourless.

Unusual Fire, Explosion and Reactivity Hazards

This product is a combustible powder and like all combustible powders can ignite, burn and form explosive mixtures with air if not handled correctly. Mixtures of powder in air with flammable solvent vapours should be avoided. This product has a minimum ignition energy between 10 and 30 millijoules. Static electricity, mechanical sparks, open flames, and certain hot surfaces can serve as ignition sources for this material.

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

Potential Health Effects

Relevant routes of exposure: Skin, eyes, lungs.

Adverse health effects from exposure to product or ingredients of product:

Suspected of causing cancer in rodents.

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 Material Safety Data Sheet with you when calling Syngenta, a poison control center 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 eye. Call Syngenta, a poison control center 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 plenty of water for 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 swallow. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control center. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer water.

NOTES TO PHYSICIAN:

There is no specific antidote. Treat symptomatically.

MEDICAL CONDITIONS KNOWN TO BE AGGRAVATED:

None known.

SECTION – 5: FIRE FIGHTING MEASURES

Flash point and method: Not applicable.

Upper and lower flammable (explosive) limits in air: Not available.

Auto-ignition temperature: Not available.

Flammability: Combustible powder.

Hazardous combustion products: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Conditions under which flammability could occur: This product is a combustible powder and like all combustible powders can ignite, burn and form explosive mixtures with air if not handled correctly. Mixtures of powder in air with flammable solvent vapours should be avoided. This product has a minimum ignition energy between 10 and 30 millijoules. Static electricity, mechanical sparks, open flames, and certain hot surfaces can serve as ignition sources for this material.

Extinguishing media: Use foam, carbon dioxide, dry powder or halon extinguishant. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential 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 runoff can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.

Sensitivity to explosion by mechanical impact: See “Conditions under which flammability could occur”, above.

Sensitivity to explosion by static discharge: See “Conditions under which flammability could occur”, above.

SECTION – 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Make sure all personnel involved in the spill cleanup follow good industrial hygiene practices. A small spill can be handled routinely. Use adequate ventilation and wear equipment and clothing as described in Section 8 and/or the product label.

Procedures for dealing with release or spill: Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. 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 compatible disposal container. On soils, small amounts will naturally decompose. For large amounts, 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. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory authority.

SECTION – 7: HANDLING AND STORAGE

Handling practices: This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

In general personnel handling this material and all conducting equipment should be electrically earthed or grounded. Bulk bags (FIBC) used to contain this material should be Type B, Type C or Type D. Type C bags must be electrically grounded or earthed before powder is charged to or discharged from the bag. If metal or fiber drums are used to contain this material, make certain the metal parts are bonded to the filling equipment and grounded.

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 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.

Appropriate storage practices/requirements: Store in original container only in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose containers to temperatures above 40 °C. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

National Fire Code classification: Not applicable.

SECTION – 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Applicable control measures, including engineering controls: This product is intended for use outdoors where engineering controls are not necessary. If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV. Warehouses, production area, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

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 APPLICATIONS AND/OR ON-FARM APPLICATIONS.

Personal protective equipment for each exposure route:

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 using 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 a 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 respirator is not normally required when handling this substance. A combination gas/vapour/particulate respirator should be used until effective engineering controls are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH certified respirator with a combination acid gas/organic vapour cartridge or canister and any N, P or R prefilter and/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: Light beige to brown grey granules.

Formulation Type: Water dispersible granule.

Odour: Odourless.

pH: 7 - 10 (10 % suspension in water @ 25 °C).

Vapour pressure and reference temperature: 2.2×10^{-2} mmHg @ 25 °C (Simazine Technical).

Vapour density: Not available.

Boiling point: Not available.

Melting point: 225 – 227 °C (Simazine Technical).

Freezing point: Not applicable.

Specific gravity or density: 370-430 g/L

Evaporation Rate: Not available.

Water/oil partition coefficient: Not applicable.

Odour threshold: Not available.

Viscosity: Not applicable.

Solubility in Water: 6.2 mg/L @ 22 °C (Simazine Technical).

SECTION – 10: STABILITY AND REACTIVITY

Chemical stability: Stable under normal use and storage conditions. Active ingredient stable in neutral, weakly acidic, weakly alkaline media. Hydrolysed by stronger acids and bases.

Conditions to avoid: See “**Conditions under which flammability could occur**” (Section 5), above.

Incompatibility with other materials: Strong acids and bases.

Hazardous decomposition products: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Hazardous polymerization: Will not occur.

SECTION – 11: TOXICOLOGICAL INFORMATION**Acute toxicity/Irritation Studies (Finished Product):**

Ingestion:	<u>Low Acute Toxicity</u> Oral (LD50 Rabbit):	> 5,000 mg/kg body weight
Dermal:	<u>Low Acute Toxicity</u> Dermal (LD50 Rat):	> 2,000 mg/kg body weight
Inhalation:	<u>Low Acute Toxicity</u> Inhalation (LC50 Rat):	> 2.5 mg/L air - 4 hours

Eye Contact: Minimally Irritating (Rabbit)

Skin Contact: Slightly Irritating (Rabbit)

Skin Sensitization: Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects

Simazine Technical: None observed.

Chronic/Subchronic Toxicity Studies

Simazine Technical: Decreased survival at high doses (rats).

Carcinogenicity

Simazine Technical: Increased incidence of mammary tumors (female Sprague-Dawley rats) sex and species specific effect.

Other Toxicity Information:

None.

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

Long term exposure to high concentrations of this dust may produce x-ray evidence of dust in the lungs. Continued long term overexposure may affect respiratory function in some individuals.

Other materials that show synergistic toxic effects together with the product: None known.

Target Organs

Active Ingredients

Simazine Technical: Mammary gland.

Inert Ingredients

Kaolin Clay: Lung.

SECTION – 12: ECOLOGICAL INFORMATION

Summary of Effects

The active ingredient, simazine, is non-toxic to birds, but moderately toxic to aquatic life.

Eco-Acute Toxicity

Simazine Technical:

Green Algae 24-Day EC ₅₀	2.0 ppm
Invertebrate (<i>Daphnia magna</i>) 48-hour EC ₅₀	1.1 ppm
Fish (Rainbow Trout) 96-hour LC ₅₀	> 10 ppm
Bird (Mallard Duck) 8-day Dietary LD ₅₀	> 4,640 mg/kg

Environmental Fate

Simazine is moderately persistent in soil and is moderately to highly mobile in soil.

SECTION – 13: DISPOSAL CONSIDERATIONS

Waste disposal information: Do not reuse empty containers unless they are specifically designed to be re-filled. Empty container retains product residue. Dispose of empty containers in accordance with local regulations. Consult provincial environment ministry for advice on waste disposal. Industrial/commercial waste may be handled at licensed facilities only. Waste shipments must be securely packaged and properly labelled. Only licensed carriers may be used, and proper documents

must accompany the shipment.

SECTION – 14 : TRANSPORT INFORMATION

Shipping information such as shipping classification:

TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION - ROAD/RAIL

Not Regulated.

SECTION – 15: REGULATORY INFORMATION

WHMIS classification for product: Exempt

This MSDS has been prepared in accordance with WHMIS requirements, but the data are presented under 16 headings.

Pest Control Products (PCP) Act Registration No.: 16370

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 Material Safety Data Sheet is valid for three years. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant MSDS. Hazardous properties of all ingredients have been considered in the preparation of this MSDS. Read the entire MSDS for the complete hazard evaluation of this product.

Prepared by: Syngenta Canada Inc.
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