



## **MATERIAL SAFETY DATA SHEET**

### **SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

**Other Names:** Barnelaceli 70  
**Use:** An agricultural herbicide for selective weed control.  
**Company:** Crownbridge Management L.P.  
**Address:** Suite 260,2323 - 32 Avenue N.8.,  
Calgary, Alberta T2E623,  
Canada  
**Emergency Number:** 8004249300

### **SECTION 2 HAZARDS IDENTIFICATION**

**Risk phrases:** R22 Harmful if swallowed.

**Safety Phrases:** S2 Keep out of reach of children.  
S13 Keep away from food, drink and animal feeding stuffs.  
S24 Avoid contact with skin.  
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
S46 If swallowed, seek medical advice immediately and show this container or label.

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

**Ingredients:**

<b>CHEMICAL</b>	<b>CAS NUMBER</b>	<b>PROPORTION</b>
Metribuzin	21087-64-9	700 g/kg
Other ingredients (considered non-hazardous)		10 - 30%

### **SECTION 4 FIRST AID MEASURES**

**Ingestion:** If swallowed do NOT induce vomiting.

The above first aid instructions are mandated by the Commonwealth Department of Health and Ageing via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 10 g) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.

**Eye:** If in eyes, gently brush granules away and rinse with water. Seek medical advice if irritation develops or persists.

**Skin:** Gently brush granules away. Wash skin with soap and water. If irritation occurs and persists, seek medical advice. Irritation is not expected.



**SECTION 4 | FIRST AID MEASURES (Continued)**

**Inhaled:** Remove affected person to fresh air until recovered. If symptoms develop or persist, seek medical advice.

**Advice to Doctor:** Treat symptomatically.

**SECTION 5 | FIRE FIGHTING MEASURES**

**Extinguishing media:** CO<sub>2</sub>, Foam or dry chemical. Soft stream water fog or fine water spray if no alternatives. Contain all runoff.

**Hazards from combustion products:** There is no risk of an explosion from this product under normal circumstances if involved in a fire. If involved in a fire, it will emit toxic fumes of oxides of carbon, nitrogen or sulfur. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk to of exposure to vapour or smoke.

**Precautions for fire-fighters and special protective equipment:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

**SECTION 6 | ACCIDENTAL RELEASE MEASURES**

**Emergency procedures:** Isolate and post spill area. As a minimum, wear overalls, goggles and gloves. Large spills should be dyked or covered to prevent dispersal. Vacuum, shovel or pump spilled material, without raising dust, into an approved container and dispose of as listed below. Keep out unprotected persons and animals. This product is a herbicide and spills can damage crops, pastures and desirable vegetation.

**Material and methods for containment and cleanup procedures:** To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

**SECTION 7 | HANDLING AND STORAGE**

**Precautions for Safe Handling:** Ensure containers are kept closed until using product. Harmful if swallowed. May irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale dust or spray mist. Wash hands after use. Avoid generating dusts whilst handling the product and mixing. If dust is generated it is advisable to wear a dust mask.

**Conditions for Safe Storage:** DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers. Not classified as a Dangerous Good. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

**SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION**

**National Exposure Standards:**

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m <sup>3</sup> )
Dusts	10 mg/m <sup>3</sup>	Not set

TWA = Time-Weight Average    STEL = Short Term Exposure Limit



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## **SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)**

### **Biological Limit Values:**

No biological limit allocated.

### **Engineering controls:**

Use in ventilated areas only. Use local exhaust at all process locations. Ventilate all transport vehicles prior to unloading. Keep containers closed when not in use.

### **Personal Protective equipment (PPE):**

General: Harmful if swallowed. May irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale dust or spray mist. Wash hands after use.

Respiratory Protection: Generally not required. Do not inhale dust or spray mist. Avoid generating dusts whilst handling the product and mixing. If dust is generated it is advisable to wear a dust mask.

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

## **SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES**

<b>Form:</b>	Solid
<b>Appearance:</b>	Off white/tan granules.
<b>Solubility in Water:</b>	Disperses in water. Solubility of metribuzin is low, 1.2 mg/L.
<b>Vapour Pressure:</b>	0.121 mPa @ 25°C for metribuzin.
<b>Octanol/Water</b>	
<b>Partition Coefficient:</b>	Kow Log P is 1.75 @ 25°C for metribuzin.
<b>Poison Schedule:</b>	This product is a schedule 6 (S6) poison.

## **SECTION 10 | STABILITY AND REACTIVITY**

**Chemical Stability:** Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

**Conditions to avoid:** Do not store for prolonged periods in direct sunlight.

**Incompatible materials:** Keep away from strong acids, strong bases and strong oxidising agents.

**Hazardous decomposition products:** Hazardous decomposition products include carbon dioxide, carbon monoxide and nitrogen oxides when product is involved in a fire.

**Hazardous reactions:** No special considerations. Hazardous polymerisation is not possible.

## **SECTION 11 | TOXICOLOGICAL INFORMATION**

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

### **Potential Health Effects:**

#### **ACUTE EFFECTS**

**Ingestion:** No specific symptoms. Possible generalised symptoms include nausea and vomiting. LD<sub>50</sub> = 2365 mg/kg (male rat) and 1449 mg/kg (female rat); 700 mg/kg in mice and 245 to 274 mg/kg in guinea pigs.

**Skin:** May irritate the skin. The dermal LD<sub>50</sub> rabbit > 5000 mg/kg. Not a skin sensitiser.

**Eye:** May irritate the eyes.

**Inhalation:** May cause irritation to the respiratory tract if dusts are inhaled.

**Acute Toxicity:** Metribuzin is harmful orally. It is practically non-toxic dermally and moderately toxic via the inhalation route. Metribuzin technical has been shown not to irritate the skin or eyes of rats, rabbits, guinea pigs, or human volunteers, however the formulated product may be irritating to the eyes and skin. Effects of high acute exposure in Metribuzin poisoned rats included narcosis (stupor) and laboured breathing. Deaths occurred within 24 hours, and survivors recovered slowly without permanent effects.



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## **SECTION 11 TOXICOLOGICAL INFORMATION (Continued)**

**Chronic Effects:** Liver and kidney damage has been noted in laboratory animals that have been fed excessive doses of metribuzin.

**Reproductive**

**Toxicity:** At dose toxic to maternal animals, metribuzin has been shown to produce developmental toxicity in a number of species.

**Mutagenicity:** The weight of evidence indicates that metribuzin does not present a mutagenic risk.

**Carcinogenicity:** Data indicates no carcinogenic effects.

## **SECTION 12 ECOLOGICAL INFORMATION**

**Environmental Toxicology:** No data is available on this product. The active ingredient, metribuzin has moderate toxicity to birds. The LD<sub>50</sub> in bobwhite quail = 164 mg/kg and mallard duck = 460-680 mg/kg. Metribuzin is very toxic to fish and other aquatic organisms. The 96-hour LC<sub>50</sub> in rainbow trout = 74.6 mg/L and golden orfe = 141.6 mg/L, Daphnia 48-hour LC<sub>50</sub> = 49.6 mg/L. Metribuzin is highly toxic to algae EC<sub>50</sub> green algae = 0.021 mg/L.

**Environmental Properties:** *Breakdown in soil and groundwater:* Metribuzin is of moderate persistence in the soil environment. The half-life of Metribuzin varies according to soil type and climatic conditions. Soil half-lives of 30 to 120 days have been reported; a representative value may be approximately 60 days. Metribuzin is poorly bound to most soils and soluble in water, giving it a potential for leaching in many soil types. Soil mobility is affected by many site-specific variables, including the amount of soil organic matter, particle size distribution, porosity, rainfall, and application rates. Metribuzin has been detected in some rivers, wells and groundwater in the USA. The major mechanism by which Metribuzin is lost from soil is microbial degradation. Losses due to volatilization or photodegradation are not significant under field conditions. *Breakdown in water:* The half-life of Metribuzin in pond water is approximately 7 days. If present, Metribuzin would most likely be found in the water column rather than the sediment, due to its low binding affinity and high water solubility. *Breakdown in vegetation:* Metribuzin is absorbed through the leaves when plants are given surface treatment, but the primary route for uptake is through the root system. From the roots, it is translocated upward, becoming concentrated in the roots, stems, and leaves of treated plants. In non-susceptible plants it is deaminised to more water-soluble conjugates; in susceptible plants it is not metabolized and disrupts photosynthesis in the chloroplast.

## **SECTION 13 DISPOSAL CONSIDERATIONS**

**Spills & Disposal:** Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked and covered to prevent dispersal. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

**Disposal of empty containers:** Shake empty bag into spray tank. Single rinse plastic bags before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals onsite. Puncture or shred and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and products not be burnt.

## **SECTION 14 TRANSPORT INFORMATION**

Marine and Air Transport: Product is classified as a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies



<b>SECTION 14</b>	<b>TRANSPORT INFORMATION (Continued)</b>
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If transporting by sea or air the following Dangerous Goods Classification applies:-

UN 3077, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains Metribuzin). Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Hazchem code 2Z. Hazard Identification Number (HIN) 90.

<b>SECTION 15</b>	<b>REGULATORY INFORMATION</b>
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**Requirements concerning special training:**

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

<b>SECTION 16</b>	<b>OTHER INFORMATION</b>
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Issue Date: 17 December 2015. Valid for 5 years. (First issue).

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

*End of MSDS*