

Material Safety Data Sheet

Ingenious Quinclorac Dry Flowable Herbicide

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1. Product and Company Identification

Use: Herbicide, Crop Protection

Advantage Crop Protection Inc.
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Regina, Saskatchewan
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1-888-931-2530

24 Hour Emergency Response Information
CANUTEC (collect): (613) 996-6666

Molecular formula: $C_{10}H_2O_2NCl_2$
Chemical family: quinoline derivative
Synonyms: quinclorac

SECTION - 2: COMPOSITION / INFORMATION ON INGREDIENTS

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Hazardous ingredients</u>
84087-01-4	75.0 %	Quinclorac
36290-04-7	<= 10 %	2-naphthalenesulfonic acid
7447-40-7	<=5 %	KCl

SECTION - 3: HAZARDS IDENTIFICATION

State of matter: solid
Colour: tan
Odour: mild,

Potential health effects

Irritation / corrosion:
Irritating to eyes, respiratory system and skin.

Potential environmental effects

Aquatic toxicity: High probability that the product is not acutely harmful to aquatic organisms based on technical data information.

Degradation / environmental fate:
Not readily biodegradable (as assessed by OECD criteria).

SECTION – 4: FIRST AID MEASURES

General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then provide artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

If on skin:

Rinse skin immediately with plenty of water for 15 - 20 minutes. If irritation develops, seek medical attention.

If in eyes:

Flush with copious amounts of water for at least 15 minutes. If irritation develops, seek medical attention.

If swallowed:

Rinse mouth immediately and then drink plenty of water, induce vomiting, seek medical attention. Call a poison control center or physician for treatment advice.

SECTION – 5: FIRE FIGHTING MEASURES

Flash point: not applicable

Suitable extinguishing media:

foam, dry powder, carbon dioxide, water spray

Hazards during fire-fighting:

Oxides of carbon and nitrogen, Hydrogen chloride, halogenated hydrocarbons, Hydrocarbons. If product is heated above decomposition temperature, toxic vapours will be released. Those substances/groups of substances mentioned above may be released if this product is involved in a fire.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

SECTION – 6: ACCIDENTAL RELEASE MEASURES

Personal precautions:

Always take appropriate protective measures when handling this product. Clear area of personnel. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation for enclosed environments. Wear suitable personal protective clothing and equipment.

Environmental precautions:

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

Cleanup:

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

SECTION – 7: HANDLING AND STORAGE

Handling

General advice:

Ensure adequate ventilation. Keep away from sources of ignition -No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. The substance/ product may be handled only by appropriately trained personnel. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours.

Storage

Storage incompatibility:

General advice: Separate from incompatible substances. Separate from foods and animal

feeds. Separate from textiles and similar materials.

Temperature tolerance

Protect from temperatures above: 40 °C. Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

SECTION – 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Users of pesticides should always refer to the product label for personal protective equipment requirements.

Advice on system design:

Ensure adequate ventilation.

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection:

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:

Keep away from food, drink and animal feeding stuffs. Take off immediately all contaminated clothing.

SECTION – 9: PHYSICAL AND CHEMICAL PROPERTIES

Form:	granules, solid
Odour:	mild, characteristic
Odour threshold:	No data available.
Colour:	tan

pH value: 3.2 (10 g/l)
Melting point: not applicable. The substance/product decomposes at elevated temperatures.

Information on: quinclorac

Melting range: 272.4 - 274.9 °C
Boiling point: The product is a non-volatile solid., not applicable
Vapour pressure: negligible
Bulk density: 565 - 593 g/l
Viscosity, dynamic: not applicable
Viscosity, kinematic: not applicable
Solubility in water: 64 mg/l (approx. 20 °C)
Molar mass: 239.04 g/mol

SECTION – 10: STABILITY AND REACTIVITY

Conditions to avoid:

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

This product may form an explosive mixture if:

1. the dust is suspended in the atmosphere as a dust cloud AND
2. the concentration of the dust is above the lower explosion limit (LEL) AND
3. the limiting oxygen concentration (LOC) is exceeded.

Substances to avoid:

No substances known that should be avoided.

Hazardous reactions:

The product is chemically stable. Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

Decomposition products:

Prolonged thermal loading can result in products of degradation being given off., No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION – 11: TOXICOLOGICAL INFORMATION

Acute toxicity

Oral:

Type of value: LD50 Species: rat (male/female)
Value: > 2,200 mg/kg No mortality was observed.

Inhalation:

Type of value: LC50 Species: rat

Value: > 6.1 mg/l Exposure time: 4 h No mortality was observed.

Dermal:

Type of value: LD50 Species: rat

Value: > 2,000 mg/kg No mortality was observed.

Irritation / corrosion

Skin:

Species: rabbit

Result: Irritating.

Eye:

Species: rabbit

Result: moderately irritating

Sensitization:

modified Buehler test Species: guinea pig

Result: Non-sensitizing.

Genetic toxicity

Information on: quinclorac

Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. From information gathered from these tests there is no indication that the substance is mutagenic.

SECTION – 12: ECOLOGICAL INFORMATION

Fish

Information on: quinclorac Acute: EPA 72-1 static *Oncorhynchus mykiss*/LC50 (96 h): > 100 mg/l EPA 72-1 static *Lepomis macrochirus*/LC₅₀ (96 h): > 100 mg/l

Aquatic invertebrates

Information on: quinclorac Acute: OECD Guideline 202, part 1 static *Daphnia magna*/EC₅₀ (48 h): > 100 mg/l

Aquatic plants

Information on: quinclorac Toxicity to aquatic plants: OECD Guideline 201 static green algae/EC₅₀ (96 h): > 100 mg/l OECD Guideline 201 Algae/EC₅₀ (96 h): > 100 mg/l

Bioaccumulation

Information on: quinclorac

Because of the resultant n-octanol/water distribution coefficient (log P_{ow}) accumulation in organisms is not expected.

SECTION – 13: DISPOSAL CONSIDERATIONS

Waste disposal of substance:

See product label for disposal and recycling instructions.

SECTION - 14: TRANSPORT INFORMATION

Land transport TDG	Not classified as a dangerous good under transport regulations.
Sea transport IMDG	Not classified as a dangerous good under transport regulations.
Air transport IATA/ICAO	Not classified as a dangerous good under transport regulations.

SECTION - 15: REGULATORY INFORMATION

Federal Regulations

Registration status:

Chemical	DSL, CA	released / listed
Crop Protection	DSL, CA	released / exempt

WHMIS does not apply to this product.

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION - 16: OTHER INFORMATION

MSDS Prepared by:

Advantage Crop Protection Inc.

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