

City of Santa Barbara
Integrated Pest Management Advisory Committee
MATERIAL EXEMPTION REQUEST FOR PESTICIDE APPLICATION

Name Simon Herrera Department Parks Phone 805-564-5464

Pesticide Applicator (employee or company) Parks Staff Phone _____

Application Site Alice Keck Specific Location Various planter beds

Date(s) of Application between November 2022 to 2023 Date of Request November 1, 2022

Product Name SedgeHammer Active Ingredient Halosulfuron-methyl

Type: ☒ One-time ☐ Programmatic ☐ Emergency

Number of Applications: ☐ One ☐ Other 1-2 depending on efficacy

Product type: ☒ Herbicide ☐ Insecticide ☐ Fungicide ☐ Other _____

Application: ☒ Ornamental ☐ Sports Field ☐ Golf Course ☐ Vector Control ☐ Park Tree ☐ Street Tree

☐ Airport Runways ☐ Right of Way ☐ City Facility ☐ Other _____

Is the pesticide on the *Approved Materials List*? ☒ No ☐ Yes If yes, provide the color _____

If the pesticide is not on the *Approved Materials List*, provide the following information. Please use the Material Selection Criteria and work with a Certified Pesticide Applicator to determine the estimated color.

EPA Reg # 81880-1-10163 Signal Caution Estimated Color Yellow

Restricted ☒ No ☐ Yes/Describe _____

P Waste _____ PBT _____ WA PBT _____ Persistent _____ Mobil _____

Cancer _____ Repro _____ Neuro _____ Endocrine _____

Bird _____ Fish _____ Bees _____ Wildlife _____

Please attach product label and MSDS to this form.

Describe the pest problem.

Cyperus rotundus – Nutsedge has totally invaded a number of planted beds and is present in all planter beds at Alice Keck.

Describe the overall management goals and objectives for this site.

To keep planter beds weed-free and plant material maintained to high maintenance standards.

What is the damage or action threshold for this pest at this site? (The action threshold is the number of pests or level of damage beyond which management action should be taken.)

Nutsedge is so invasive that in a few months' time the plant can take over large areas of the landscape. Without treatment, nutsedge could eventually take over the whole park planters and turf areas. The action threshold would be the first sign of nutsedge, though the beds we want to treat are totally invaded.

Describe the monitoring of the pest and potential predators that was conducted, and the control methods previously used at the site.

Parks staff has spent endless hours attempting to remove Nutsedge mechanically. Staff has dug down more than 6 inches into the soil to remove the roots and have found roots embedded deeper than the 6 inches. Parks staff has also attempted to torch the grass, but only to keep it under control in areas that are paved where it grows through the cracks, between stone pavers, along curbs, and other non-vegetated areas. Parks staff has also attempted to solarize the grass by first removing a 4 inch matted layer of the grass, installing plastic sheeting over the weedy area, and then mulching on top of the sheeting. This method has been the best so far to suppress grass but we have discovered that due to condensation, and water infiltration into the sheeting, the grass can puncture through the layer of plastic. The nutsedge will also root and spread in the mulch layer and attempt to tap into the soil through the sheeting. Even with this method Parks staff continues to mechanically remove the weed as much as possible.

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Describe how the product would be applied including frequency, concentration, and method of application.

Sedgehammer would be mixed in a backpack sprayer and would be applied one to two times. The second application would be within 6-8 weeks of the first. The material would be sprayed on the foliage. The concentration would be 1.3 grams for every 3 liters of water. Since nutsedge grows year-round the Sedgehammer could be applied at any time of year.

What non-target impacts are anticipated?

None

How does the use of this product help achieve the site management goals? Note if this is curative or preventative.

Parks staff would like to replant beds that have been empty for years due to the infestation of nutsedge. The overall goal is to maintain beds that are free of nutsedge and have healthy, resilient plants. This is a curative treatment.

How will the effectiveness of this product be monitored? Include expected results and indicators of success.

The product begins working 24-48 hours after application, but results may not begin to show until 5-7 days later. In some cases, the product will need to be applied after 6-8 weeks. Effectiveness will be monitored and recorded by staff who inspect the site frequently, at least every other day. The nutsedge will start to yellow and eventually die. The reason for the second application is to kill any remaining nutsedge that survived the first application.

Describe what precautions would be used for application. For example consider restricting access, distance from a creek or body of water, degree of runoff, weather conditions, etc.

The treated area would be completely fenced off for 1-2 days even though it is safe to enter the area once the product dries. Parks staff would be able to isolate specific planter beds and would not need to close the entire park. The pond at Alice Keck is approximately 100 feet from the treated areas. This pond is self-contained, the water simply recirculates and is not connected to any watersheds. These areas would be treated during non-rainy or windy conditions and irrigation of these areas would be restricted for three days following application.

List alternatives considered, alternatives implemented and why they were eliminated.

Considered:

Torching the grass with a handheld torch. This method is seasonal and only applicable in different circumstances, ie. season, activity in the park, vegetation, staffing levels (it takes two people to perform the work, one stand by with a fire extinguisher)

Spraying with green material – Weed Rot. Did not make a difference.

Implemented:

Mechanical removal, continuous.

Solarizing, continuous.

Minimizing water in specific planter beds to reduce the growth.

Justification: describe why is applying this pesticide is the best solution and why a less-hazardous chemical, non-chemical option or taking no action is not feasible.

If we do not take any action, all planters will eventually be contaminated. Mechanical removal of nutsedge is not only very time-consuming and difficult, but also is not compatible with growing perennial plants. The nutsedge removal is so invasive that the root structure of any ornamental plant is significantly damaged and the root systems themselves are also invaded with the nutsedge tuber. We would like to improve this important horticultural park and we do not think it is possible without chemical treatment.

Was outside expertise utilized? ☒ No ☐ Yes / Describe

Describe future plans to prevent using the chemical again.

The product would only be used if needed. If nutsedge is not controlled throughout the park, additional applications will be needed.

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Signatures _____
Department IPM Coordinator City IPM Coordinator

Completed by the City of Santa Barbara IPM Staff

Vote Tally _____ Disposition: ☐ Approved ☐ Denied/Reason _____

If approved, follow the attached best management practices.

Comments:

1 Identification

· Product identifier

· Trade name: SedgeHammer® Turf Herbicide

· Article number: US35720

· CAS Number:

EPA Registration No.: 81880-1-10163

Active Ingredient: Halosulfuron-Methyl (75%), CAS:100784-20-1

· Application of the substance / the mixture Turf herbicide

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Gowan Company, LLC.

P.O. Box 5569

Yuma, Arizona 85366-5569

(928) 783-8844

· Information department: sds@gowanco.com

· Emergency telephone number:

Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300

Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (ProPharma Group®): (888) 478-0798

2 Hazard(s) identification

· Classification of the substance or mixture



GHS07

Acute Toxicity - Oral 4 H302 Harmful if swallowed.

· Label elements

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS07

· Signal word Warning

· Hazard statements

H302 Harmful if swallowed.

· Precautionary statements

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Hazard description:

CAUSES MODERATE EYE IRRITATION. HARMFUL IF SWALLOWED. Avoid contact with eyes or clothing.

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Trade name: **SedgeHammer® Turf Herbicide**

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· **Classification system:**· **NFPA ratings (scale 0 - 4)**

Health = 2

Fire = 0

Reactivity = 0

HAZARD INDEX:

4 Severe Hazard

3 Serious Hazard

2 Moderate

1 Slight Hazard

0 Minimal Hazard

· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable in US.· **vPvB:** Not applicable in US.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**· **Description:** Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed.· **Dangerous components:**

CAS: 100784-20-1	Halosulfuron-methyl	75.0%
	Toxic to Reproduction 1B, H360; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

4 First-aid measures

· **Description of first aid measures**· **General information:**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

You may also contact 1-888-478-0798 for emergency medical treatment information.

· **After eye contact:**

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after first 5 minutes, then continue rinsing eyes.
- Call a poison control center or doctor for treatment advice.

· **After swallowing:**

- Call a poison control center or doctor immediately for treatment advice.
- Remove visible particles from mouth.
- Have person rinse mouth thoroughly with water, spit out rinse water.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

· **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
Firefighters and others that may be exposed to vapors, mists, dusts, or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after use.
- **Protective equipment:** Wear self-contained respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
- **Methods and material for containment and cleaning up:**
Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush residual spill area with water. Refer to Section 13 for disposal information and Section 15 for reportable quantity information.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· PAC-1:
None of the ingredients are listed.
· PAC-2:
None of the ingredients are listed.
· PAC-3:
None of the ingredients are listed.

7 Handling and storage

- **Handling:**
 - **Precautions for safe handling**
Avoid contact with eyes or clothing. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.
 - **Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:**
Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Store under cool, dry conditions (below 120°F). Do not store under moist conditions.
 - **Information about storage in one common storage facility:** Store away from foodstuffs.
 - **Further information about storage conditions:** None.

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· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.· **Control parameters**· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:**

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing.

· **Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

· **Breathing equipment:** Not required.· **Protection of hands:**

Protective gloves

· **Material of gloves**

chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Body protection:**

Applicators and other handlers must wear:

• Long-sleeved shirt and long pants

• Coveralls

• Shoes plus socks

• Chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**· **Form:** Granulate· **Color:** Beige· **Odor:** Slightly Vanilla· **Odor threshold:** Not determined.· **pH-value at 20 °C (68 °F):** 6.6

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· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not determined.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
· Lower:	Not determined.
· Upper:	Not determined.
· Vapor pressure:	Not applicable.
· Density at 20 °C (68 °F):	0.656 g/cm ³ (5.47432 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
· Water:	Dispersible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· Dynamic:	Not applicable.
· Kinematic:	Not applicable.
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
This product should be stable for at least two years under normal conditions of warehouse storage. Store in a cool, well-ventilated place away from foodstuffs, reducing agents and acids.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Store under cool, dry conditions (below 120°F). Do not store under moist conditions.
- **Incompatible materials:** Reducing agents and acids
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
Oral	LD50	1,287 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/4 h	>5.7 mg/l (rat)

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- **Primary irritant effect:**
 - **on the skin:** Slightly irritating
 - **on the eye:** Moderately Irritating
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** Harmful
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

None of the ingredients are listed.

· NTP (National Toxicology Program)
--

None of the ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administration)
--

None of the ingredients are listed.

12 Ecological information

- **Toxicity**

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
- **Other information:**

Ecotoxicity data shown is for the active ingredient, halosulfuron-methyl.

48-hr EC50 Daphnia magna: >107 mg/L; practically nontoxic.

96-hr LC50 Bluegill sunfish: >118 mg/L; practically nontoxic.

96-hr LC50 Rainbow trout: >131 mg/L; practically nontoxic.

5-day EC50 Algae (Selenastrum capricornutum): 0.0041/L; very highly toxic.

- **Ecotoxical effects:**

- **Other information:**

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

- **Additional ecological information:**

- **General notes:**

Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
 - **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:**

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill for pesticide disposal or in accordance with applicable Federal, state or local procedures.

- **Uncleaned packagings:**

- **Recommendation:**

Nonrefillable container. Do not reuse or refill this container. Triple rinse container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

14 Transport information

- **UN-Number**

- **DOT**

Void

- **ADR, IMDG, IATA**

UN3077

- **UN proper shipping name**

- **DOT**

Void

- **ADR**

3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halosulfuron-methyl)

- **IMDG**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halosulfuron-methyl), MARINE POLLUTANT

- **IATA**

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halosulfuron-methyl)

- **Transport hazard class(es)**

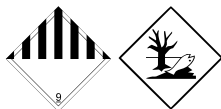
- **DOT**

Not Regulated

- **Class**

Void

- **ADR, IMDG, IATA**



- **Class**

9 Miscellaneous dangerous substances and articles

- **Label**

9

- **Packing group**

- **DOT**

Void

- **ADR, IMDG, IATA**

III

- **Environmental hazards:**

Product contains environmentally hazardous substances: Halosulfuron-methyl

- **Marine pollutant:**

Yes

- **Special marking (ADR):**

Symbol (fish and tree)

- **Special marking (IATA):**

Symbol (fish and tree)

Symbol (fish and tree)

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<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): 90 · EMS Number: · Stowage Category · Stowage Code 	<p>Warning: Miscellaneous dangerous substances and articles</p> <p>F-A, S-F</p> <p>A</p> <p>SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code 	Not applicable
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	<p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 g</p> <p>Maximum net quantity per outer packaging: 1000 g</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>5 kg</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 g</p> <p>Maximum net quantity per outer packaging: 1000 g</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>US DOT:</p> <p>Not regulated</p> <p>All Others:</p> <p>UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (HALOSULFURON-METHYL), 9, III</p>

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture

EPA /FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency (EPA) and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· Marketing authorization number:

· SARA Title III

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients are listed.

· TSCA (Toxic Substances Control Act):

None of the ingredients are listed.

· Hazardous Air Pollutants

None of the ingredients are listed.

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients are listed.

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· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenicity categories
· EPA (Environmental Protection Agency)

None of the ingredients are listed.

· TLV (Threshold Limit Value)

None of the ingredients are listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

· GHS label elements

Not applicable

· Hazard pictograms

Not applicable

· Signal word

(US EPA) CAUTION

· Hazard statements

Causes moderate eye irritation.

Harmful if swallowed.

Avoid contact with eyes or clothing.

Wash thoroughly with soap and water after handling.

H302 Harmful if swallowed.

· Precautionary statements

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Systems Design and Control

· Contact: sds@gowanco.com

· Date of preparation / last revision 09/27/2022

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· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Toxic to Reproduction 1B: Reproductive toxicity – Category 1B

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

· **Sources** SEDGEHAMMER® is a registered trademark of Gowan Company, LLC.

US



SEDGEHAMMER® is a selective herbicide for the control of nutsedge and other weeds in turfgrass and landscaped areas.

ACTIVE INGREDIENT:

Halosulfuron-methyl, methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl)

-1-methylpyrazole-4-carboxylate.....75.0%

OTHER INGREDIENTS:.....25.0%

Total: 100.0%

KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se las explique a usted en detalle.
(If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"> Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call poison control center or doctor for treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center, doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-888-478-0798.	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- shoes plus socks.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands thoroughly before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

NET CONTENTS



EPA Reg. No. 81880-1-10163
EPA EST No.

Distributed by:
Gowan Company, LLC
P.O. Box 5569
Yuma, AZ 85366-5569

ENVIRONMENTAL HAZARD SECTION OF PRECAUTIONARY STATEMENTS

GROUNDWATER ADVISORY

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

SURFACE WATER ADVISORY

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of halosulfuron-methyl from runoff water and sediment. Runoff of this product will be greatly reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry into treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Chemical resistant gloves made of any waterproof material
- Shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

- Keep people off treated areas until spray solution has dried.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

WINDBLOWN SOIL PARTICLES

SEDGEHAMMER has the potential to move off-site due to wind erosion. Soils that are subject to wind erosion usually have a high silt and/or fine to very fine sand fractions and low organic matter. Other factors which can affect the movement of windblown soil include the intensity and direction of prevailing winds, vegetative cover, site slope, rainfall, and drainage patterns. Avoid applying SEDGEHAMMER if prevailing local conditions may be expected to result in off-site movement.

NON-TARGET ORGANISM ADVISORY

This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in areas adjacent to the treated area. Protect the forage and habitat of non-target organisms by minimizing spray drift.

PRODUCT INFORMATION

SEDGEHAMMER is a water dispersible granule (WDG) that selectively controls broadleaf weeds and nutsedges such as purple and yellow nutsedge in established lawns, ornamental turfgrass, and landscaped areas. SEDGEHAMMER can be applied to commercial and residential turf and on other non-crop sites including: airports, campgrounds, cemeteries, fairgrounds, fence rows, fallow areas, fuel storage areas, golf courses, landscaped areas, established woody ornamentals in landscape areas, lumberyards, public recreation areas, race tracks, residential property, rights-of-way, roadsides, school grounds, sod or turf seed farms, sports fields, tank farms and tennis courts.

WEED RESISTANCE STATEMENT

SEDGEHAMMER contains a (Group 2) herbicide. Any weed population may contain or develop plants naturally resistant to (Group 2) Halosulfuron-methyl herbicides. Weed species with acquired resistance to (Group 2) Halosulfuron-methyl may eventually dominate the weed population if (Group 2) Halosulfuron-methyl herbicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by SEDGEHAMMER or other (Group 2) herbicides. Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

To delay herbicide resistance consider:

- Rotate the use of (Sedgehammer Herbicide) or other Group (2) herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.

- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner.
- Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout before and after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include:
 - (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds;
 - (2) a spreading patch of non-controlled plants of a particular weed species;
 - (3) surviving plants mixed with controlled individuals of the same species.
- If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes. For further information or to report suspected resistance or lack of performance, you may contact Gowan Company at 1-800-883-1844.
- For mixtures of herbicides remind the user that each listed weed may not be controlled by multiple mechanisms of action.

SPRAY DRIFT

Boom-less Ground Applications:

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 10 miles per hour at the application site.
- Do not apply during temperature inversions.

SPRAY DRIFT ADVISORIES

Boom-less Ground Applications:

Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

APPLICATION EQUIPMENT AND INSTRUCTIONS

Calibrate application equipment prior to application of this product. Application should be uniform and of sufficient volume to avoid streaking or skips. Spray the target weeds thoroughly and wet the entire leaf surface of the undesirable plants. Avoid excessive overlap of the spray.

Instructions for water dispersible granule in 1.3 oz bottle: Mix 0.9 gram of this product (using the 0.9 gram measuring scoop provided) in one or two gallons of water to treat 1000 square feet. Add 2 teaspoons (1/3 fluid ounce) of nonionic surfactant per gallon of water. Ensure the product is measured as a level scoop and not rounded.

ADJUVANTS

Always use 0.25-0.5 percent v/v of a nonionic surfactant (1-2 quarts per 100 gallons of spray solution) for broadcast applications. For high volume applications, DO NOT exceed 1 quart of surfactant per acre. Use only nonionic surfactants that contain at least 80 percent active material.

MIXING INSTRUCTIONS

This product can be tank mixed with Glyphosate herbicide for application as a directed spray in landscaped or fallow areas. Tank mix with Glyphosate herbicide in landscape and fallow areas and turf renovation. Do not exceed the specified amount of surfactant due to the potential for turf injury at higher rates. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

USE PRECAUTIONS

- For best results, do not mow turf for 2 days before or 2 days after application.
- For best results, use the lower rate in light infestations and the higher rate in heavy infestations.
- Avoid applications when rainfall is forecasted to occur within 4 hours.
- This product can be used on seeded, sodded, or sprigged turfgrass that is well established. Allow the turf to develop a good root system and uniform stand before application.
- Treated areas can be overseeded with annual or perennial ryegrass or bermudagrass, 2 weeks after application.
- Color plants or herbaceous ornamentals may be injured when transplanted into landscaped areas treated with SEDGEHAMMER.
- Avoid application of SEDGEHAMMER when turfgrass or nutsedge is under stress since turf injury and poor nutsedge control may result.

USE RESTRICTIONS

- No more than 4 applications can be made per year with a minimum of 14 days between applications.
- Do not exceed 5 1/3 oz by weight of this product (0.25 lb active ingredient) per acre per 12 month period.
- Do not apply as an over-the-top spray to desirable flowers, ornamentals, vegetables, shrubs or trees.
- Do not apply this product to golf course putting greens.
- Do not apply this product through any type of irrigation system.
- Do not apply this product by air.
- Do not exceed the specified amount of surfactant due to the potential for turf injury at higher rates. Refer to the surfactant label and observe all precautions, mixing and application instructions.

WEEDS CONTROLLED BY SEDGEHAMMER

C = Control, S = Suppression, NA = No Activity

WEED SPECIES	POSTEMERGENT ACTIVITY	WEED SPECIES	POSTEMERGENT ACTIVITY
Burcucumber <i>Sicyos angulatus</i>	S	Morningglory, tall & Ivyleaf <i>Ipomoea spp.</i>	S
Cocklebur, common <i>Xanthium strumarium</i>	C	Mustard, wild <i>Sinapis arvensis</i>	C
Corn Spurry <i>Spergula arvensis</i>	C	Nutsedge, yellow <i>Cyperus esculentus</i>	C
Flatsedge, rice <i>Cyperus iria</i>	C	Nutsedge, purple <i>Cyperus rotundus</i>	C
Fleabane, Philadelphia <i>Erigeron philadelphicus</i>	C	Pigweed, redroot <i>Amaranthus retrofractus</i>	C
Galinsoga <i>Galinsoga</i>	C	Pigweed, smooth <i>Amaranthus hybridus</i>	C
Groundsel, common <i>Senecio vulgaris</i>	NA	Pokeweed, common <i>Phytolacca Americana</i>	C
Jimsonweed <i>Datura stramonium</i>	NA	Purslane <i>Portulaca oleracea</i>	NA
Kyllinga, annual <i>Kyllinga sesquiflorus</i>	C	Radish, wild <i>Raphanus raphanistrum</i>	C
Kyllinga, green <i>Kyllinga breviflora</i>	C	Ragweed, common <i>Ambrosia artemisiifolia</i>	C
Kochia <i>Kochia scoparia</i>	S	Ragweed, giant <i>Ambrosia trifida</i>	C
Ladysthumb <i>Polygonum persicaria</i>	C	Shepherds purse <i>Capsella bursa-pastoris</i>	S
Lambsquarter, common <i>Chenopodium album</i>	NA	Smartweed, Pennsylvania <i>Polygonum pennsylvanicum</i>	C
Mallow, Venice <i>Hibiscus trionum</i>	C	Sunflower, common <i>Helianthus annuus</i>	C
Milkweed, common <i>Asclepias syriaca</i>	S	Velvetleaf <i>Abutilon theophrasti</i>	C
Milkweed, honeyvine <i>Ampelamus albidus</i>	S		

RATES AND TIMING OF APPLICATION

CROP	RATE OZ/A	DIRECTIONS FOR USE
TURFGRASSES (INCLUDING COMMERCIAL AND RESIDENTIAL TURFGRASS, GOLF COURSES, ESTABLISHED LAWNS, ORNAMENTAL TURFGRASS AND LANDSCAPED AREAS)	2/3 – 1 1/3 (0.031 to 0.062 lb ai/A)	<p>Broadcast Applications: Apply SEDGEHAMMER as a postemergence spray at 2/3 - 1 1/3 oz by weight of this product per acre (0.031 - 0.062 lb ai/A) after nutsedge has reached the 3 - 8 leaf stage of growth, for control of purple and yellow nutsedge and control and/or suppression of listed broadleaf weeds found in established turfgrass.</p> <p>A second treatment can be applied 6 - 10 weeks after the initial treatment.</p> <p>Spot Treatments: Mix 0.9 g of this product in 1 or 2 gal of water to treat 1000 sq ft. Add 2 tsp (1/3 fl oz) of nonionic surfactant per gallon of water.</p>

	When applied as directed under the conditions described, the following established turfgrasses are tolerant to this product:																							
	<table><tr><th colspan="3">Cool-Season Grasses</th></tr><tr><td>Bentgrass, creeping (<i>Agrostis stolonifera</i>)</td><td>Fescue, Fine (<i>Festuca arundinacea</i>)</td><td>Ryegrass, Perennial (<i>Lolium perenne</i>)</td></tr><tr><td>Bluegrass, Kentucky (<i>Poa pratensis</i>)</td><td>Fescue, tall (<i>Festuca arundinacea</i>)</td><td></td></tr></table> <table><tr><th colspan="3">Warm-Season Grasses</th></tr><tr><td>Bahiagrass (<i>Paspalum notatum</i>)</td><td>Kikuyugrass (<i>Pennisetum clandestinum</i>)</td><td>Zoysiagrass (<i>Zoysia japonica</i>)</td></tr><tr><td>Bermudagrass (<i>Cynodon dactylon</i>)</td><td>Seashore paspalum (<i>Paspalum vaginatum</i>)</td><td></td></tr><tr><td>Centipedegrass (<i>Eremochloa ophiuroides</i>)</td><td>St. Augustine grass (<i>Stenotaphrum secundatum</i>)</td><td></td></tr></table>			Cool-Season Grasses			Bentgrass, creeping (<i>Agrostis stolonifera</i>)	Fescue, Fine (<i>Festuca arundinacea</i>)	Ryegrass, Perennial (<i>Lolium perenne</i>)	Bluegrass, Kentucky (<i>Poa pratensis</i>)	Fescue, tall (<i>Festuca arundinacea</i>)		Warm-Season Grasses			Bahiagrass (<i>Paspalum notatum</i>)	Kikuyugrass (<i>Pennisetum clandestinum</i>)	Zoysiagrass (<i>Zoysia japonica</i>)	Bermudagrass (<i>Cynodon dactylon</i>)	Seashore paspalum (<i>Paspalum vaginatum</i>)		Centipedegrass (<i>Eremochloa ophiuroides</i>)	St. Augustine grass (<i>Stenotaphrum secundatum</i>)	
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ESTABLISHED WOODY ORNAMENTALS IN LANDSCAPE AREAS	2/3 – 1 1/3 (0.031 to 0.062 lb ai/A)	Broadcast Applications: Apply SEDGEHAMMER as a postemergence spray at 2/3 - 1 1/3 oz by weight of this product per acre (0.031 - 0.062 lb ai/A) around any established woody ornamental species in landscaped areas. This product will control purple and yellow nutsedge and control and/or suppress listed broadleaf weeds (see weeds controlled chart for additional information). A second treatment can be applied 6 to 10 weeks after the initial treatment. Spot Treatments: Mix 0.9 g of this product in 1 or 2 gal of water to treat 1000 sq ft. Add 2 tsp (1/3 fl oz) of nonionic surfactant per gallon of water. For transplanted woody ornamentals, allow 3 months after transplanting before applying this product. Avoid contact of this product to leaves of desirable plants since foliar injury, discoloration or death may result.																						
FALLOW AREAS	2/3 – 1 1/3 (0.031 to 0.062 lb ai/A)	Broadcast Applications: Apply SEDGEHAMMER as a postemergence spray at 2/3 - 1 1/3 oz by weight of this product per acre (0.031 - 0.062 lb ai/A) to fallow areas prior to the establishment of turfgrass or woody ornamental plants. This product will control purple and yellow nutsedge and control and/or suppress listed broadleaf weeds (see weeds controlled chart for additional information). A second treatment can be applied 6 to 10 weeks after the initial treatment. Spot Treatments: Mix 0.9 g of this product in 1 or 2 gal of water to treat 1000 sq ft. Add 2 tsp (1/3 fl oz) of nonionic surfactant per gallon of water. For Fallow areas, allow 4 weeks between applications and seeding or sodding of turfgrass, or transplanting woody ornamentals.																						
FENCE ROWS, FUEL STORAGE AREAS, LUMBERYARDS, TANK FARMS, RIGHT-OF WAY AND ROADSIDES	2/3 – 1 1/3 (0.031 to 0.062 lb ai/A)	Broadcast Applications: Apply SEDGEHAMMER as a postemergence spray at 2/3 - 1 1/3 oz by weight of this product per acre (0.031 to 0.062 lb ai/A) to roadsides and other industrial sites. A second treatment can be applied 6 to 10 weeks after the initial treatment. Spot Treatments: Mix 0.9 g of this product in 1 or 2 gal of water to treat 1000 sq ft. Add 2 tsp (1/3 fl oz) of nonionic surfactant per gallon of water. This product will control purple and yellow nutsedge and control and/or suppress listed broadleaf weeds (see weeds controlled chart for additional information). NOTE: This product can be tank mixed with Glyphosate herbicide. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.																						

	2 2/3 (0.125 lb ai/A)	FOR CONTROL OF HORSETAIL (<i>Equisetum arvense</i>). Apply SEDGEHAMMER as a postemergence at 2 2/3 oz by weight of this product per acre (0.125 lb ai/A) after horsetail has leafed out. This rate of product will control horsetail that is less than 6 inches tall and suppress horsetail that is greater than 6 inches tall. Herbicide symptoms are likely to show within 2 weeks as a necrotic ring at the base of the plant, even though the leaves and stems remain green and a deep leathery green in color.
OTHER NON-CROP SITES (INCLUDING AIRPORTS, CAMPGROUNDS, CEMETERIES, FAIRGROUNDS, PUBLIC RECREATION AREAS, RACE TRACKS, RESIDENTIAL PROPERTY, SCHOOL GROUNDS, SPORTS FIELDS, AND TENNIS COURTS)	2/3 – 1 1/3 (0.031 to 0.062 lb ai/A)	Broadcast Applications: Apply SEDGEHAMMER as a postemergence spray at 2/3 - 1 1/3 oz by weight of this product per acre (0.031 to 0.062 lb ai/A) after nutsedge has reached the 3 to 8 leaf stage of growth to other non-crop sites. This product will control purple and yellow nutsedge and control and/or suppress listed broadleaf weeds (see weeds controlled chart for additional information). A second treatment can be applied 6 to 10 weeks after the initial treatment. Spot Treatments: Mix 0.9 g of this product in 1 or 2 gal of water to treat 1000 sq ft. Add 2 tsp (1/3 fl oz) of nonionic surfactant per gallon of water.
SOD OR TURF SEED FARMS	2/3 – 1 1/3 (0.031 to 0.062 lb ai/A)	Broadcast Applications: Apply SEDGEHAMMER as a postemergence spray at 2/3 - 1 1/3 oz by weight of this product per acre (0.031 to 0.062 lb ai/A) after nutsedge has reached the 3 to 8 leaf stage of growth to sod or turf seed farms. This product will control purple and yellow nutsedge and control and/or suppress listed broadleaf weeds (see weeds controlled chart for additional information). A second treatment can be applied 6 to 10 weeks after the initial treatment. Spot Treatments: Mix 0.9 g of this product in 1 or 2 gal of water to treat 1000 sq ft. Add 2 tsp (1/3 fl oz) of nonionic surfactant per gallon of water.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: Store under cool, dry conditions (below 120°F). Do not store under moist conditions.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state, or local procedures, or in such other method as approved under those procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is destroyed.

CONTAINER HANDLING:

INSTRUCTIONS FOR WATER DISPERSIBLE GRANULE IN 1.3 OUNCE BOTTLE:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. Do not burn unless allowed by state and local ordinances.

DISPOSAL AUTHORITIES: If none of the foregoing procedures is permitted by state and local authorities, then contact your State Pesticide or Environmental control Agency, or your local Hazardous Waste Disposal office, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK OR FIRE), CALL CHEMTREC® (800) 424-9300.
For more product information, call toll-free 1-800-883-1844.

NOTICE OF CONDITIONS OF SALE AND WARRANTY AND LIABILITY LIMITATIONS

Important: Read the entire Directions for Use and Notice of Conditions of Sale and Warranty and Liability Limitations before using this product. If terms are not acceptable return the unopened container for a full refund.

Our directions for use of this product are based on tests believed to be reliable. However, it is impossible to eliminate all risk associated with the use of this product. Crop injury, inadequate performance, or other unintended consequences may result due to soil or weather conditions, off target movement, presence of other materials, method of use or application, and other factors, all of which are beyond the control of Gowan Company. All such risks shall be assumed by the Buyer and User.

Gowan Company warrants that this product conforms to the specifications on the label when used in strict conformance with Direction for Use, subject to the above stated risk limitations. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, GOWAN COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, GOWAN COMPANY'S EXCLUSIVE LIABILITY FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, OR ANY OTHER LEGAL THEORY IS STRICTLY LIMITED TO THE PURCHASE PRICE PAID OR REPLACEMENT OF PRODUCT, AT GOWAN COMPANY'S SOLE DISCRETION.

SEDGEHAMMER® is a registered trademark of Gowan Company L.L.C.
Chemtrec® is a registered trademark of American Chemistry Council, Inc.
Product is protected by U.S. Patent No. 4,668,277.

02-R0621EPA

City IPM Policy - Material Selection Criteria

Material: Sedge Hammer

Tier Level Conclusion: Yellow

BT Brattle 10/25/22

Criteria	Tier 1 Red	Tier 2 Yellow	Tier 3 Green		
EPA Categories	I - Danger	II or III, Warning or Caution	II or III, Warning or Caution		
Restricted use	Yes	No	No		
Prop 65	Yes	No	No		
EPA Carcinogen	Known, likely or probable	Possible or EPA D	No evidence of carcinogenicity		
Endocrine Disruptor	Known or Probable	Suspect	No known, probable or suspect		
Environmental	Highly or extremely toxic to birds, aquatic species, bees or wildlife	Toxic or moderately toxic	Not toxic		
Persistence	Soil half lives greater than 100 days	Soil half lives less than 100 days but more than 30 days	Soil half lives less than 30 days		
Mobility	Rated high or very high, or label warning	Not high or very high, no label warnings	Not high or very high, no label warnings		
OMRI					
Cholinesterase inhibitor	-	-	-		
Dev or repro toxin	-	-	-		

Sources:

<https://www.pesticideinfo.org/>

Ecological Criteria

EPA

	Toxic	Highly Toxic	Extremely Toxic
Birds	LD50 - 100 mg/kg LC50 - 500 ppm	NA	May result in fatalities
Aquatic	LC50 1ppm	NA	May result in fatalities
Bees	LD50 2-11 ug/bee (II)	LD50 - 2ug/bee (I)	
Other Wildlife and Animals	LD50 - 100 mg/kg	NA	May result in fatalities

EXTOXNET

	Practically Non-Toxic	Slightly Toxic	Moderately Toxic	Highly Toxic	Very Highly Toxic
Birds, LD50	>2,000	>500	>50	>10	<10
Aquatic, LD50	>100	>10	>10	>1	<.1
Bees	Few precautions		Kills if applied over them	Kills on contact for a few days	

According to the EPA-540-9-85-006

LC50 (mg/L) Category Description

- <0.1 Very highly toxic
- 0.1 – 1 Highly toxic
- 1 – 10 Moderately toxic
- 10 – 100 Slightly toxic
- >100 Practically non-toxic