



MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(800) 883-1844

Emergency telephone number: (928) 783-3803

For 24-hour emergency assistance (spill, leak, fire, or exposure), call CHEMTREC®:

Inside the U.S.: (800) 424-9300

Outside the U.S.: (703) 527-3887

For medical emergency: (888) 478-0798

Product: Carzol® SP
Signal Word: DANGER **PCP Registration No.:** 11144
Active Ingredient: Formetanate hydrochloride (92.0%) **CAS No.:** 23422-53-9
Chemical Name: *N,N*-dimethyl-*N'*[3-[[[(methylamino) carbonyl]oxy]phenyl]methanimidamide monohydrochloride
Chemical Class: Carbamate

2. HAZARDS IDENTIFICATION

Physical Properties

Appearance: White crystals
Odour: Odourless

Symptoms of Acute Exposure

Fatal if swallowed. Can cause irreversible eye damage. Overexposure to formetanate hydrochloride produces symptoms associated with cholinesterase inhibition. The symptoms of cholinesterase inhibition are nausea, vomiting, dizziness, tremors, salivation and constricted pupils.

Medical Conditions Likely to be Aggravated by Exposure

No specific conditions are known; may aggravate pre-existing conditions of eyes and the respiratory system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

	Component	CAS No.	% by weight
Active Ingredient:	Formetanate hydrochloride	23422-53-9	92%

Only the identities of the active ingredient(s) and any *hazardous* inert ingredients are listed. Specific information on all of this product's ingredients can be obtained by the treating medical professional or spill emergency responder for the management of exposures, spills, or safety assessments.

4. FIRST AID MEASURES

Fatal if swallowed. Do not breathe spray mist. Can cause irreversible eye damage. May cause skin sensitization. Do not get in eyes, on skin, or on clothing.

If in eyes	<ul style="list-style-type: none">Flush with plenty of water for at least 15 minutes, and obtain medical attention, or contact a poison control centre IMMEDIATELY.
If swallowed	<ul style="list-style-type: none">Induce vomiting by touching back of throat with a finger or a blunt object.Repeat until vomit fluid is clear.Do not induce vomiting if the person is unconscious.Rush patient to hospital, taking this labelled container with you or contact a poison control centre IMMEDIATELY.
If on skin	<ul style="list-style-type: none">Wash immediately with soap and warm water.
If inhaled	<ul style="list-style-type: none">If inhaled, remove patient from the site of exposure.
Take container, label or product name and the Pest Control Product Registration Number with you when seeking medical attention.	
NOTE TO PHYSICIANS	
Carzol SP is a carbamate which acts as a cholinesterase inhibitor. Specific antidote: Atropine. Do not use 2-PAM.	

FOR MEDICAL EMERGENCIES INVOLVING THIS PRODUCT, CALL TOLL FREE: (888) 478-0798

5. FIRE FIGHTING MEASURES

Flashpoint (test method): Not applicable

Flammable Limits (% in air): Not applicable

Fire Fighting Procedures

Wear positive pressure self-contained breathing apparatus.

Extinguishing Media

In case of fire, use dry chemical, foam or carbon dioxide (CO₂).

Hazardous Decomposition Products

May give off poisonous fumes including hydrogen chloride (HCl) and oxides of nitrogen (NO_x).

Unusual Fire, Explosion, and Reactivity Hazards

May give off poisonous fumes including hydrogen chloride and oxides of nitrogen. Dispersion of fine dust in the air may form an explosion mixture.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spills or Leaks

Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

Wear gloves (natural or synthetic rubber) when removing spillage and cleaning up contaminated areas. Carzol SP spilled on the floor may be swept up with a broom and collected in a box, plastic bag, or tin can for further usage. If spilled material is not used immediately, enclose the container in a plastic bag, tie it at the top, and firmly attach a Carzol SP label to the bag. Remove as much as possible of the remaining material using a damp rag. Then scrub the area thoroughly with water containing ammonia and detergent followed by a clean water rinse.

7. HANDLING AND STORAGE

Handling

DANGER, POISON. FATAL IF SWALLOWED. DO NOT BREATHE SPRAY MIST. CAN CAUSE IRREVERSIBLE EYE DAMAGE. MAY CAUSE SKIN SENSITIZATION. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. Use recommended equipment while handling this product. (See EXPOSURE CONTROLS/PERSONAL PROTECTION, Section 8.)

Storage

Store in a cool, dry place and away from food or feed products. Do not contaminate water, food or feed by storage or disposal. Avoid exposure of Carzol SP to excess moisture or physical damage during handling or storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection

Recommendations for manufacturing, commercial blending, and packaging workers:

Mixers, loaders, flaggers, applicators (other than air-blast applicators) and other handlers must wear:

- a long-sleeved shirt and long pants
- shoes plus socks
- protective eyewear
- waterproof gloves
- chemical resistant apron when mixing, loading or cleaning of equipment

Applicators involved in air-blast applications must wear:

- coveralls worn over long-sleeved shirt and long pants
- waterproof gloves
- protective eyewear
- chemical-resistant footwear plus socks
- chemical-resistant headgear
- dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White crystals
Odour:	Odourless
Melting Point:	190–202°C
Specific Gravity/Density:	Approximately 0.3 g/cm ³
Partition Coefficient:	Water/n-octanol: <0.002
Solubility in H₂O	
Formetate hydrochloride:	82.2 g/100 mL
Vapour Pressure	
Formetate hydrochloride:	3.7 x 10 ⁽⁻⁴⁾ Pa at 25°C (68°F)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal handling and storage conditions described in Section 7 HANDLING AND STORAGE.
Hazardous Polymerization:	Will not occur.
Decomposition Products:	May give off poisonous fumes including hydrogen chloride and oxides of nitrogen.
Conditions to Avoid:	None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies

Acute Percutaneous:	Dermal LD ₅₀ (rat):	>5600 mg/kg
	Dermal LD ₅₀ (rabbit):	>10200 mg/kg
Acute Oral Effects:	Highly toxic. Fatal if swallowed.	
	Oral LD ₅₀ (rat):	15–26 mg/kg body weight
Acute Inhalation:	Inhalation LC ₅₀ (rat):	0.15 mg/L air – 4 hours
	Toxic	
Eye Contact:	Irritation	
Skin Sensitization:	May be a skin sensitizer	

12. ECOLOGICAL INFORMATION

Summary of Effects

This pesticide is toxic to wildlife. For terrestrial uses, do not apply directly to water, or 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. Cover or incorporate spills. This product is toxic to bees exposed to direct treatment. Do not apply this product while bees are actively visiting the treatment area. Do not allow animals to graze in orchard areas treated with Carzol SP.

13. DISPOSAL CONSIDERATIONS

Pesticide Disposal

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable federal, provincial or municipal regulations.

Container Disposal

Completely empty bag into application equipment. Then dispose of the container and empty water soluble bags in accordance with applicable federal, provincial or municipal regulations. **DO NOT REUSE THE EMPTY BAGS.**

14. TRANSPORT INFORMATION

TDG Classification

UN2757, CARBAMATE PESTICIDE, SOLID, TOXIC, 6.1, PGII

International Maritime Organization

UN 2757, CARBAMATE PESTICIDE, SOLID, TOXIC, (contains formetanate hydrochloride 92%), 6.1, PGII, MARINE POLLUTANT

International Civil Aviation Organization

UN2757, CARBAMATE PESTICIDE, SOLID, TOXIC, (contains formetanate hydrochloride), 6.1, PGII

15. REGULATORY INFORMATION

WHMIS Classification

This product is registered under the Pest Control Products Act and has been prepared in accordance with the WHMIS requirements.

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 4
Flammability: 1
Reactivity: 0

0	Least
1	Slight
2	Moderate
3	High
4	Severe

Prepared by:

Gowan Company
(800) 883-8844

Notice: The information and recommendations contained herein are provided in good faith and are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information herein.

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