

MATERIAL SAFETY DATA SHEET

Howard Johnson's Viper™ Granular Weed Control

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Howard Johnson's Viper™ Granular Weed Control

Synonyms: Herbicides

EPA Reg. No.: 228-401-32802

Company Name: Howard Johnson's Enterprises Inc.

700 west Virginia Street

Milwaukee WI 53217

Date of Issue: March 2010

2. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odor: Light tan granular mixture with slight phenolic odor.

Warning Statements: Keep out of reach of children. **CAUTION.** Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

Potential Health Effects:

Likely Routes of Exposure: Skin and eye contact.

Eye Contact: This product is minimally irritating.

Skin Contact: This product is no more than slightly toxic and no more than moderately irritating based on toxicity studies.

Ingestion: This product is no more than slightly toxic if inhaled based on toxicity studies.

Inhalation: This product is no more than slightly toxic if inhaled based on toxicity studies.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information

Potential Environmental Effects:

Drift or runoff of this product may adversely affect non-target plants.

See Section 12: ECOLOGICAL INFORMATION for more information

3. COMPOSITION / INFORMATION ON INGREDIENTS COMPONENT

3. COMPOSITION / INFORMATION ON INGREDIENTS COMPONENT	CAS NO.	% BY WEIGHT
Isooctyl (2-ethylhexyl) ester of 2,4-Dichlorophenoxyacetic Acid	1928-43-4	1.346
2,4-Dichlorophenoxyacetic Acid	94-75-7	0.182
Mecoprop-p: (+)-R-2-(2- Methyl-4-Chlorophenoxy) propionic Acid	16484-77-8	0.359
Dicamba (3,6-Dichloro-o- Anisic Acid)	1918-00-9	0.090

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.

Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a 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 the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable

Autoignition Temperature: Not applicable **Flammability Limits:** Not applicable

Extinguishing Media: Use extinguishing media suitable for surrounding materials. Dry chemical, carbon dioxide, foam, water spray or fog.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear.

Unusual Fire and Explosion Hazards: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later.

Hazardous Decomposition Materials (Under Fire Conditions): Under fire conditions, this product may produce oxides of carbon, hydrogen chloride, hydrogen fluoride, oxides of nitrogen, ammonia, oxides of phosphorus, oxides of sulfur and hydrogen sulfide.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Contain spill, sweep or scoop up and place in container for possible land application according to label directions or for proper disposal.

Methods for Clean-Up and Disposal: Wash entire spill area with a detergent slurry, absorb and sweep into container for disposal. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:

Avoid contact with eyes, skin or clothing. After using this product, remove clothing and launder separately before reuse, and promptly and thoroughly wash hands and exposed skin with soap and water. Do not allow people (other than applicator) or pets on treatment area during application. Do not enter treatment areas until dust has settled.

Storage:

Always use original container to store pesticides in a secured warehouse or storage building. Do not store near open containers of fertilizer, seed, or other pesticides. Do not stack more than two pallets high. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes.

Respiratory Protection: Not normally required. In poorly ventilated area or dusty atmospheres, use NIOSH approved dust mask or respirator with pesticide cartridges.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

Component	OSHA		ACGIH		
	TWA	STEL	TWA	STEL	Unit
2,4-Dichlorophenoxyacetic Acid	10	NE	10	NE	mg/m ³
Mecoprop-p	NE	NE	NE	NE	
Dicamba	NE	NE	NE	NE	
Nuisance Dust	15	NE	10	NE	mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES Appearance and Odor:

Light tan granular mixture with slight phenolic odor.

Boiling Point:	Not applicable	Solubility in Water:	Partially soluble
Density:	41.7 pounds/cubic foot	Specific Gravity:	Not determined
Evaporation Rate:	Not applicable	Vapor Density:	Not applicable
Freezing Point:	Not applicable	Vapor Pressure:	Not applicable
pH:	6.7	Viscosity:	Not applicable

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids.

Hazardous Decomposition Products: Under fire conditions, this product may produce oxides of carbon, hydrogen chloride, hydrogen fluoride, oxides of nitrogen, ammonia, oxides of phosphorus, oxides of sulfur and hydrogen sulfide.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION**Toxicological Data:**

Data from laboratory studies conducted on this product:

Oral: Rat LD50: >5,000 mg/kg; FIFRA Category IV

Dermal: Rabbit LD50: >5,000 mg/kg; FIFRA Category IV

Inhalation: Rat 4-hr LC50: Not Applicable. Test concentration could not be generated; FIFRA Category IV

Eye Irritation: Rabbits (6): Corneal opacity and conjunctivitis resolving by day 4; FIFRA Category III

Skin Irritation: Rabbits (6): Slight irritant. Very slight to well defined erythema was noted at 5 of 6 test sites one hour after patch removal. All sites were free of dermal irritation by 24 hours; FIFRA Category IV

Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to phenoxy herbicides may cause effects to liver, kidneys, blood chemistry, and gross motor function. Rare cases of peripheral nerve damage have been reported, but extensive animal studies have failed to substantiate these observations, even at high doses for prolonged periods.

Carcinogenicity / Chronic Health Effects: The International Agency for Research on Cancer (IARC) lists exposure to chlorophenoxy herbicides as a class 2B carcinogen, the category for limited evidence for carcinogenicity in humans. However, more current 2,4-D lifetime feeding studies in rats and mice, as well as an MCPP lifetime feeding study in rats, did not show carcinogenic potential. The U.S. EPA has given 2,4-D and dicamba a Class D classification (not classifiable as to human carcinogenicity).

Reproductive Toxicity: No impairment of reproductive function attributable to 2,4-D have been noted in laboratory animal studies. Animal tests with dicamba have not demonstrated reproductive effects.

Developmental Toxicity: Studies in laboratory animals with 2,4-D and MCPP have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals. Animal tests with dicamba have not demonstrated developmental effects.

Genotoxicity: There have been some positive and some negative studies, but the weight of evidence is that neither 2,4-D nor MCPP is mutagenic. Animal tests with dicamba have not demonstrated mutagenic effects.

Assessment Carcinogenicity:

This product contains substances that are considered to be probable or suspected human carcinogens as follows:

Regulatory Agency Listing As Carcinogen				
Component	ACGIH	IARC	NTP	OSHA
Chlorophenoxy Herbicides	No	2B	No	No

See Section 2: HAZARDOUS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Drift or runoff may adversely affect non-target plants. 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 disposing of equipment washwaters.

Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D and MCPP-p have been associated with mixing/loading and disposal sites. Caution should be exercised when handling these phenoxy pesticides at such sites to prevent contamination of groundwater supplies. Use a closed system for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

Ecotoxicity:

Data on 2,4-D Dimethylamine Salt
96-hour LC50 Bluegill: 524 mg/l
96-hour LC50 Rainbow Trout: 250 mg/l
48 hour EC50 Daphnia: 184 mg/l
Bobwhite Quail Oral LD50: 500 mg/kg

Data on Dicamba
96-hour LC50 Bluegill: 135 mg/l
96-hour LC50 Rainbow Trout: 135 mg/l
48 hour EC50 Daphnia: 110 mg/l
Bobwhite Quail 8 day Dietary LC50: >10,000 ppm

Mallard Duck 8 day
LC50: >5620 ppm

Mallard Duck 8 day
Dietary LC50: >10,000 Dietary ppm

Data on Mecoprop-p
96-hour LC50 Bluegill: >100 mg/l (literature)
48 hour EC50 Daphnia: >270 mg/l (literature)
72 Hour EC50 Green Algae: >270 mg/l (literature)

Environmental Fate:

In laboratory and field studies, 2,4-D 2-ethylhexyl ester rapidly de-esterified to parent acid in the environment. The typical half-life of the resultant 2,4-D acid ranged from a few days to a few weeks. In soil, mecoprop-p is microbially degraded with a typical half-life of approximately 11 to 15 days. Dicamba has low bioaccumulation potential, is not persistent in soil, is highly mobile in soil and degrades rapidly.

13. DISPOSAL CONSIDERATIONS

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

Waste Disposal Method:

Pesticide wastes are toxic. If container is damaged or if pesticide has leaked, clean up all spilled material. Improper disposal of excess pesticide, spray mixtures or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

Container Handling and Disposal:

Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay away from smoke.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS. For Department of Transportation (DOT) regulatory information, if required, consult transportation regulations, product-shipping papers or call Nufarm's DOT Manager at 708-755-2104, Monday through Friday, 8:00 AM to 5:00 PM Central Time.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Immediate, Delayed

Section 313 Toxic Chemical(s):

2,4-D 2-ethylhexyl ester (CAS No. 1928-43-4)- 1.346 % by weight in product
Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7), 0.182% by weight in product
Dicamba (CAS No. 1918-00-9), 0.090% by weight in product

Reportable Quantity (RQ) under U.S. CERCLA:

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) 100 pounds
Dicamba (CAS No. 1918-00-9) 1,000 pounds

RCRA Waste Code:

Acetic Acid, (2,4-Dichlorophenoxy)- (CAS No. 94-75-7) U240

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not listed

16. OTHER INFORMATION

This information is believed to be accurate at the time of publication. No warranty, guarantee or representation, expressed or implied, is made with regard to this information. Because this information may not be adequate for every application, the user must determine the suitability of the information, and may need additional information due to the manner/conditions of use, storage, state or local regulations.

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