Manufacturer: **HOWARD JOHNSON'S ENTERPRISES, INC.**
9675 S 60th Street
Franklin, WI 53132
Emergency Phone: (414) 276-1505

MATERIAL SAFETY DATA SHEET

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Howard Johnson's Escalade® Weed & Feed EPA Reg. No. 228-427-32802
Synonyms: Herbicide Mixture of 2,4-D, Fluroxypyr and Dicamba on Fertilizer

2. HAZARDS IDENTIFICATION

Emergency Overview:
Appearance and Odor: Multi-colored to solid colored granular mixture with mild 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: Eye and skin 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 ingested 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:
This product is toxic to fish. Drift or runoff from treated areas may be hazardous to aquatic organisms and
non-target plants.
See Section 12: ECOLOGICAL INFORMATION for more information

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT CAS NO. % BY WEIGHT
Isooctyl (2-ethylhexyl) Ester of 2,4-Dichlorophenoxyacetic Acid 1928-43-4 < 1.10
1-Methylheptyl Ester of Fluroxypyr 81406-37-3 < 0.30
Dicamba (3,6-Dichloro-o-Anisic Acid) 1918-00-9 < 0.10
Fertilizer: see label for N-P-K analysis >95.00

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 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.
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 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. Dike area to prevent runoff and contamination of
water sources. Dispose of fire control water later.
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. ACCIDENTIAL 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 skin, eyes, 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 stack more than two pallets high. Do not store near open containers of fertilizer, seed or other pesticides.

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. An emergency eyewash should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

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:

	OSHA		**ACGIH**	
Component	TWA	STEL	TWA	STEL
Unit 2,4-D 2-ethylhexyl ester	10*	NE	10*	NE mg/m$_3$
Fluroxypyr	NE	NE	NE	NE
Dicamba	NE	NE	NE	NE
Nuisance Dust	15	NE	10	NE mg/m$_3$

*Based on adopted limit for 2,4-D NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Multi-colored to solid colored granular mixture with mild phenolic odor.

Boiling Point: Not applicable
Solubility in Water: Partially soluble
Density: 49 pounds/cubic foot
Specific Gravity: Not determined
Evaporation Rate: Not applicable
Vapor Density: Not applicable
Freezing Point: Not applicable
Vapor Pressure: Not applicable
pH: 3.53 - 4.59 (1% solution)
Viscosity: Not applicable

Note: Physical data are typical values, but may vary from sample to sample. A typical value should notbe 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, may produce gases such as hydrogen chloride, nitrogen oxides, and carbon oxides.

Hazardous Reactions: Hazardous polymerization will not occur

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11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Data from laboratory studies on this product are summarized below:

Oral: Rat LD_{50}: >5,000 mg/kg (female); FIFRA Category IV

Dermal: Rats LD_{50}: >5,000 mg/kg; FIFRA Category IV

Inhalation: Rat 4-hr LC_{50}: >2.08 mg/L; FIFRA Category IV

Eye Irritation: Rabbits (3): Mildly irritating; FIFRA Category III
Skin Irritation: Rabbits (3); Moderately irritating; FIFRA Category III
Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.
Subchronic (Target Organ) Effects: Repeated overexposure may cause effects to liver, kidneys, blood chemistry, testes 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 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). Fluroxypyr did not cause cancer in laboratory animals.
Reproductive Toxicity: No impairment of reproductive function attributable to 2,4-D have been noted in laboratory animal studies. In animal studies, fluroxypyr has been shown not to interfere with reproduction. Dicamba did not interfere with fertility in reproduction studies in laboratory animals.
Developmental Toxicity: Studies in laboratory animals with 2,4-D have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals. Fluroxypyr did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects in the mother. 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 2,4-D is not mutagenic. Animal tests with fluroxypyr and dicamba did not demonstrate 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

Ecotoxicity:
Data on 2,4-D 2EHE
96-hour LC_{50} Bluegill: >5 mg/l Bobwhite Quail Dietary LC_{50}: >5,620 ppm
96-hour LC_{50} Rainbow Trout: 7.2 mg/l Mallard Duck Dietary LC_{50}: >5,620 ppm
48 hour EC_{50} Daphnia: >5 mg/l
*Data on Fluroxypyr 1-Methylheptyl Ester:
Acute LC_{50} Blue Gill: above water solubility Bobwhite Quail Acute Oral LD_{50}: >2,000 mg/kg
Acute LC_{50} Rainbow Trout: above water solubility Mallard Duck Acute Oral LC_{50}: >2,000 mg/kg
Acute Immobilization EC 50 Daphnia Magna: >499 ⌈g/L
*Fluroxypyr 1-Methylheptyl Ester is highly insoluble in water.
Data on Dicamba
96-hour LC_{50} Bluegill: 135 mg/l Bobwhite Quail 8 day Dietary LC_{50}: >10,000 ppm
96-hour LC_{50} Rainbow Trout: 135 mg/l Mallard Duck 8 day Dietary LC_{50}: >10,000 ppm
48 hour EC_{50} Daphnia: 110 mg/l

Environmental Fate:
In laboratory and field studies, 2,4-D 2-ethylhexyl ester rapidly de-esterfied 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. Fluroxypyr has a hydrolysis half-life of 12.8 to 16.5 hours. Under aerobic and anaerobic soil conditions the half-life for Fluroxypyr is 7 days. Dicamba has low bioaccumulation potential, is not persistent in soil,is highly mobile in soil and degrades rapidly.

13. DISPOSAL CONSIDERATIONS

Residential:
If empty – Do not reuse this container. Place in trash or offer for recycling if available. **If partly filled –** If product cannot be used as directed, call your local solid waste agency or 1-800-CLEANUP for disposal instructions. Never place unused product down any indoor (including toilet) or outdoor (including sewer) drain.
Commercial:
Pesticide Disposal: If container is damaged or if pesticide has leaked, contain all spillage. Improper disposal of excess pesticide, spray mixtures, or rinsate is a violation of Federal law. 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 Disposal: Complete 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.
Immediate, Delayed
SARA Hazard Notification/Reporting:
Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):
Section 313 Toxic Chemical(s):
2,4-D 2-ethylhexyl ester (CAS No. 1928-43-4)- < 1.10% by weight in product
Dicamba (CAS No. 1918-00-9), < 0.10% 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 Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.
Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label. Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof Howard Johnson's Enterprises, Inc.. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Howard Johnson's Enterprises, Inc. be responsible for damages of any nature whatsoever resulting from the use or of reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, resulting from the use or of reliance upon

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