



For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
Call CHEMTREC Day or Night: 1-800-424-9300.
For Medical Emergencies Only, Call 1-877-325-1840.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Riverdale[®] MCPA L.V. 4 Ester
Synonyms: MCPA 2EHE; MCPA, IOE; 2-methyl-4-chlorophenoxyacetic acid, isooctyl (2-ethylhexyl) ester
EPA Reg. No.: 228-156
Company Name: Nufarm Americas Inc.
1333 Burr Ridge Parkway, Suite 125A
Burr Ridge, IL 60527
Date of Issue: October 24, 2005
Sections Revised: All - new ANSI format
Supersedes: June 11, 2004

2. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odor: Amber colored liquid with aromatic odor.

Warning Statements: Keep out of reach of children. WARNING. May be fatal if absorbed through skin. Harmful if swallowed. Do not get in eyes, on skin, or on clothing.

Potential Health Effects:

Likely Routes of Exposure: Inhalation, eye and skin contact.

Eye Contact: Minimally irritating. Vapors and mist may cause irritation.

Skin Contact: Moderately irritating. Overexposure by skin absorption may cause symptoms similar to those for ingestion.

Ingestion: Harmful if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation, weakness and central nervous system depression. The petroleum hydrocarbon component, if aspirated into the respiratory system during ingestion or vomiting, may cause mild or severe pulmonary injury, possibly progressing to death.

Inhalation: Low inhalation toxicity. May cause symptoms similar to those from ingestion. Overexposure to petroleum hydrocarbon component may cause irritation to respiratory tract, headaches, anaesthesia, drowsiness, unconsciousness and other central nervous system effects, possibly including death.

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 run-off may adversely affect non-target plants.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	% BY WEIGHT
2-methyl-4-chlorophenoxyacetic acid, isooctyl (2-ethylhexyl) ester	29450-45-1	68.7

Other Ingredients Including
Petroleum distillates

31.3
64742-47-8

4. FIRST AID MEASURES

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 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 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.

Note to Physician: Contains a petroleum distillate. Vomiting may cause aspiration pneumonia.

5. FIRE FIGHTING MEASURES

Flash Point: 250°F (121°C) TCC/NA

Autoignition Temperature: Not determined

Flammability Limits: Not determined

Extinguishing Media: Recommended for large fires: foam or water spray. Recommended for small fires: dry chemical or carbon dioxide.

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: Containers will burst from internal pressure under extreme fire conditions. If water is used to fight fire or cool containers, dike to prevent runoff contamination of municipal sewers and waterways.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as hydrogen chloride, other chlorine compounds, nitrogen oxides, and carbon oxides.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 2 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: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Clean-Up and Disposal: Pump any free liquid into an appropriate closed container. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

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

7. HANDLING AND STORAGE

Handling:

Do not get in eyes, on skin, or on clothing. Users should 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.

Storage:

Always store pesticides in a secured warehouse or storage building. Do not store near open containers of fertilizer, seed or other pesticides. Containers should be opened in well-ventilated areas. Keep container tightly sealed when not in use. Do not stack cardboard cases 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 safety glasses with front, brow and temple protection. An emergency eyewash should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear coveralls over short-sleeved shirt and short pants, chemical-resistant gloves and chemical-resistant footwear plus socks. For overhead exposure, wear chemical-resistant headgear. Wear a chemical-resistant apron when cleaning equipment, mixing, or loading. 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:

Component	OSHA		ACGIH		Unit
	TWA	STEL	TWA	STEL	
MCPA 2EHE	NE	NE	NE	NE	

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Amber colored liquid with aromatic odor.

Boiling Point: Not determined

Density: 8.12 pounds/gallon

Evaporation Rate: Not determined

Freezing Point: Not determined

pH: 4.7

Solubility in Water: Emulsifiable

Specific Gravity: Not determined

Vapor Density: Not determined

Vapor Pressure: Not determined

Viscosity: Not determined

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, may produce gases such as hydrogen chloride, nitrogen oxides, and carbon oxides.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicological Data:

Data from laboratory studies on this product are summarized below:

Oral: Rat LD₅₀: 1,800 mg/kg (female); FIFRA Category III

Dermal: Rabbit LD₅₀: 1,400 mg/kg (male); FIFRA Category II

Inhalation: Rat 4-hr LC₅₀: >6.18 mg/L; FIFRA Category IV

Eye Irritation: Rabbit: Minimally irritating; FIFRA Category IV

Skin Irritation: Rabbit: 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 of MCPA 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, newer rat and mouse lifetime feeding studies did not show carcinogenic potential for MCPA.

Reproductive Toxicity: Testicular effects and lower male fertility have been noted in animal studies.

Developmental Toxicity: MCPA studies in laboratory animals have shown decreased fetal body weights and delayed development in the offspring at doses toxic to mother animals.

Genotoxicity: There have been some positive and some negative studies, but the weight of evidence is that MCPA is not mutagenic.

Assessment Carcinogenicity:

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

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

See Section 2: HAZARDS IDENTIFICATION for more information.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Data on MCPA 2EHE:

96-hour LC ₅₀ Bluegill:	3.9 " 0.7 mg/l	Bobwhite Quail Dietary LC ₅₀ :	>5,620 ppm
96-hour LC ₅₀ Rainbow Trout:	3.2 mg/l	Mallard Duck 8-day Dietary LC ₅₀ :	>5,620 ppm
48-hour EC ₅₀ Daphnia:	0.28 mg/l		

Environmental Fate:

MCPA 2EHE rapidly de-esterified to parent MCPA acid in the environment. In soil, MCPA is microbially degraded with a typical half-life of approximately 10 to 14 days.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Method:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. If container is damaged or if pesticide has leaked, contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed, labeled container for proper disposal.

Container Handling and Disposal:

Triplet rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities.

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): None

Reportable Quantity (RQ) under U.S. CERCLA: None

RCRA Waste Code: None

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.

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