



NUFARM AGRICULTURE INC.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIED BY:

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PRODUCT:**OpticaTM Trio Liquid Herbicide****PCP NUMBER:**

29662

DATE PREPARED:

September 20, 2010

PREPARER:

Nufarm Agriculture Inc.; Regulatory Affairs & Research Department

CHEMICAL FAMILY/USE:

Herbicide

FORMULA:

C₁₁H₁₆ClNO₃, C₁₁H₁₅Cl₂NO₃ and C₁₂H₁₈ClNO₃

CHEMICAL SYNONYMS:

MCPA, present as dimethylamine salt: dimethylammonium 4-chloro-o-tolyloxyacetic acid,
MCPA DMA

Dichlorprop-P, present as dimethylamine salt: (R)-2-(2,4-dichlorophenoxy)propionic acid,
dimethylamine salt, 2,4-DP-P DMA

Mecoprop-P, present as dimethylamine salt: (R)-2-(4-chloro-o-tolyloxy)propionic acid,
dimethylamine salt, MCPP-P DMA

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	Wt. %	CAS NO.
MCPA DMA	16 - 18	2039-46-5
Dichlorprop-p DMA	33 - 35	104786-87-0
Mecoprop-p DMA	14 - 16	66423-09-4

Other ingredients are proprietary.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: CAUTION-POISON. DANGER-CORROSIVE TO EYES. Keep out of reach of children. Harmful if swallowed. Risk of serious damage to eyes. May cause sensitization by skin contact. Toxic to aquatic organisms, may cause long-term adverse effect in the aquatic environment.

EFFECTS OF ACUTE EXPOSURE:

INGESTION: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting.

SKIN CONTACT: There may be irritation and redness at the site of contact.

INHALATION: There may be irritation in the throat with a feeling of tightness in the chest.

EYE CONTACT: There may be irritation and redness. The eyes may water profusely.



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MEDICAL CONDITIONS AGGRAVATED: Skin exposure may aggravate preexisting skin conditions. Inhalation of mist may aggravate preexisting respiratory conditions.

SUBCHRONIC (TARGET ORGAN) EFFECTS: (An adverse effect with symptoms that develop slowly over a long period of time): Repeated overexposure is not expected to cause effects.

CHRONIC EFFECTS/CARCINOGENICITY: 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 lifetime feeding studies in rodents did not show carcinogenic potential.

REPRODUCTIVE TOXICITY: No impairment of reproductive function attributable to mecoprop or dichlorprop has been noted in laboratory animal studies. Testicular effects and lower male fertility have been noted in animal studies for MCPA.

DEVELOPMENTAL TOXICITY: Mecoprop, dichlorprop and MCPA are not considered to be developmental toxicants.

GENOTOXICITY: The weight of evidence is that mecoprop, dichlorprop and MCPA are not mutagenic.

PRINCIPLE ROUTES OF EXPOSURE: Eye contact. Skin absorption. Inhalation. Oral.

TOXICOLOGICALLY SYNERGISTIC MATERIALS: None known.

OTHER: None known.

4. FIRST AID MEASURES

INGESTION: Call a poison control centre 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 centre or doctor. Do not give anything by mouth to an unconscious person.

SKIN: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

INHALATION: 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 centre or doctor for further treatment advice.

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

NOTE TO PHYSICIAN: No specific antidote. Employ supportive care. Treatment should be based on judgement of the physician in response to reactions of the patient. High concentrations of MCPA may cause severe irritation to the eyes. Symptoms of overexposure to MCPA could include slurred speech, twitching, jerking and spasms, drooling, low-blood pressure and unconsciousness. Treat symptomatically. Treatment based on sound judgment of physician and individual reactions of patient. Overexposure to materials other than this product may have occurred.

5. FIRE FIGHTING MEASURES

FLASH POINT:>200°C.

CONDITIONS OF FLAMMABILITY:NAp.

FLAMMABLE LIMITS IN AIR - Upper (%):NAp.

FLAMMABLE LIMITS IN AIR - Lower (%):NAp.

AUTOIGNITION TEMPERATURE:NAp.

SENSITIVITY TO MECHANICAL IMPACT (Y/N):NAp.

SENSITIVITY TO STATIC DISCHARGE:NAp.

EXTINGUISHING MEDIA: Water fog, alcohol foam, carbon dioxide, dry chemical.

SPECIAL FIREFIGHTING PROCEDURES: Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.

6. ACCIDENTAL RELEASE MEASURES



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ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Use safety equipment and procedures appropriate to the size of the spill. Keep potential ignition sources and unnecessary people away. Avoid runoff to natural waters and sewers. Surround and absorb spills with inert material such as perlite, clay granules, vermiculite, sand or dirt. Contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials. Clean contaminated area such as hard surfaces with detergent and water, collecting cleaning solution for proper disposal. Large spills to soil or similar surfaces may necessitate removal of top soil.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep away from food and feed products. Keep from freezing. Store at temperatures above 0°C. If subjected to freezing temperatures, warm to at least 5°C and mix thoroughly. Avoid storage in close proximity to insecticides, fungicides, fertilizers, plants and seeds. Avoid contact with eyes, skin and clothing. Keep container tightly closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS:

Hazardous Ingredients	TWA*	ACGIH TLV®	STEL	Units
MCPA DMA	N/E	N/E	N/E	NAp
Dichlorprop-p DMA	10	N/E	20	mg/M ³
Mecoprop-p DMA	10	N/E	20	mg/M ³

*8-hour TWA unless otherwise noted.

ENGINEERING CONTROLS: Use in a well ventilated area. General ventilation with a good source of make-up air recommended as minimum for indoor situations. Ventilation should be adequate to maintain air concentrations below exposure limits and flammable limits.

RESPIRATORY PROTECTION EQUIPMENT: Use an approved pesticide respirator if ventilation is not adequate or exposure to sprays, mists or vapours is likely.

PROTECTIVE GLOVES: All types of chemical-resistant gloves for handling chemicals are acceptable, provided that they can be cleaned. Rinse gloves before removal. Gloves are not required for applicator in enclosed tractor or airplane cockpit.

EYE AND FACE PROTECTION: Goggles or face shield when handling concentrate.

OTHER PROTECTIVE EQUIPMENT: Long sleeved shirt, long pants, socks and shoes are minimum work clothing. Coveralls or a chemical-resistant apron should also be worn when open pouring from containers greater than 5L. Use other equipment appropriate to specific situation.

VENTILATION: Use only in well ventilated area.

9. PHYSICAL AND CHEMICAL PROPERTIES

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.

- BOILING POINT:**>100
- VAPOR PRESSURE:**N A.
- VAPOR DENSITY (air = 1):**NA.
- FREEZING POINT:**NA.



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MELTING POINT:NA.
PHYSICAL STATE:Liquid.
ODOUR:Characteristic phenolic.
COLOUR:Reddish Yellow.
ODOR THRESHOLD (ppm):NA.
EVAPORATION RATE (butyl acetate = 1):NA.
SPECIFIC GRAVITY (water = 1):1.17
DENSITY @ 20°C:1.17
pH:8-10 (1% dilution)
SOLUBILITY IN WATER (20°C):Product is mixable in water.
COEFFICIENT OF WATER/OIL DISTRIBUTION:NA.

10. STABILITY AND REACTIVITY

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS: Hydrogen chloride, other chlorine compounds, carbon dioxide, carbon monoxide, oxides of nitrogen and other potentially toxic combustion products may be present.

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with strong acidic, basic or oxidizing agents.

CONDITIONS TO AVOID: None known.

11. TOXICOLOGICAL INFORMATION

Data on this product or a similar formulation:

ACUTE ORAL LD₅₀ (mg/kg):1083 (Rat)

ACUTE DERMAL LD₅₀ (mg/kg):>4000 (Rat)

ACUTE INHALATION LC₅₀ (mg/l):>5.2 mg/l (Rat, 4-hour)

OTHER: Tested as severely irritating to the eye and slightly irritating to skin (Rabbit).

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

96-HOUR LC₅₀ (mg/L): >1000 (Rainbow Trout)

72-HOUR LC₅₀ (mg/L): 1170 (Algae)

48-HOUR EC₅₀ (mg/L): 825 (Daphnia)

CHEMICAL FATE INFORMATION: Readily absorbed into soil. No bioaccumulation potential.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Disposal should be made in accordance with federal, provincial and local regulations. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not reuse container for any purpose. If applicable, return container in accordance with return program. If a recyclable

