

MOFARNO 160EC

MATERIAL SAFETY DATA SHEET

SECTION 1 Chemical product and Company identification

Product Name: Mofarno 160EC

Active Ingredients: Fomesafen + Quizalofop-p-ethyl

Chemical name:

Fomesafen: 5-(2-chloro-a,a,a-trifluoro-p-tolyloxy)-N-methylsulfonyl-2-nitrobenzamide

Quizalofop-p-ethyl: ethyl (2R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy]propionate

Formula:

Fomesafen: C₁₅H₁₀ClF₃N₂O₆S

Quizalofop-p-ethyl: C₁₉H₁₇ClN₂O₄

Product Use: Commercial Herbicide

SECTION 2 Composition/Information on Ingredients

<u>Product Name</u>	<u>Content</u>	<u>CAS RN</u>
<i>Fomesafen:</i>	125 g/lit	72178-02-0
<i>Quizalofop-p-ethyl:</i>	35 g/lit	100646-51-3

SECTION 3 Hazards Identification

Symptoms of Exposure: Harmful if inhaled or swallowed. Dust, mist or vapor can be irritating to eyes and respiratory tract. It may cause skin irritation.

Hazardous decomposition products: Can decompose at high temperatures forming toxic gases.

SECTION 4 First Aid Measures

Ingestion: Contact a poison control center or doctor for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Have a person sip a glass of water if able to swallow. Do not induce vomiting or give anything by mouth to an unconscious person.

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

Inhalation: Move person to fresh air. If person is not breathing, call an ambulance and then give artificial respiration, preferably mouth to mouth, if possible. Contact a poison control center or doctor.

Skin contact: Take off contaminated clothing and rinse skin immediately with plenty of clean water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Note to Physician: Probable mucosal damage may contraindicate the use of gastric lavage.

SECTION 5 Fire Fighting Measures

Flash Point: >100°C

Flammability: Not Flammable

Unusual Fire, Explosion and Reactivity Hazards: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire: Use dry chemical, foam or CO₂ extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

SECTION 6 Accidental release measures

General and disposal: Use proper protective equipment to minimize personal exposure. Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in compliance with regulations.

In Case of Spill or Leak: Control the spill at its source. Contain the spill to prevent it from spreading, contaminating soil, or entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. If a solid, sweep up material and place in a compatible disposal container. If a liquid, cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent. Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

SECTION 7 Handling and storage

Handling: Avoid contact with eyes or clothing. Do not use near heat or open fire.

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. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage: Store in a cool and dry place, well ventilated and out of reach of children. Keep container tightly closed. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

SECTION 8 Exposure controls/Personal protection

Personal Protective Equipment (PPE): Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants.
- Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton.
- Chemical resistant footwear plus socks.
- Chemical resistant apron when cleaning equipment, mixing or loading.

User Safety Recommendations:

- 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.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SECTION 9 Physical & Chemical properties

Appearance: Tan, Transparent Liquid

pH: 5-10

Water content: <1%

Specific Gravity/Density: 1.1 g/cm³

SECTION 10 Stability & Reactivity

Stability: Stable under normal condition

Hazardous Polymerization: Will not occur

Decomposition products: Can decompose at high temperatures forming toxic gases.

Materials to Avoid: Oxidizing agents.

SECTION 11 Toxicological Information

Acute Toxicity/Irritation Studies

(Technical Product: Fomesafen sodium salt)

- *Oral:* Acute oral LD50 for male rats 1250-2000, female rats 1600mg/kg
- *Dermal:* Acute percutaneous LD50 for rabbits >1000 mg/kg
- *Inhalation:* LC50 (4h) for male rats 4.97 mg/l
- *Skin & Eye contact:* Mild to moderate eye irritant (rabbits)

- *Skin sensitization*: Moderate skin sensitizer in animal tests.

Acute Toxicity/Irritation Studies

(Technical Product: Quizalofop-p-ethyl)

- *Oral*: Acute oral LD50 for male rats 1210-1670 mg/kg
- *Dermal*: Acute percutaneous LD50 for rabbits >2000 mg/kg
- *Inhalation*: LC50 (4h) for male rats 5.8 mg/l
- *Skin & Eye contact*: Moderately eye irritant (rabbits) but not a skin irritant
- *Skin sensitization*: Not a skin sensitizer

SECTION 12 Ecological Information

Fomesafen Sodium Salt: Toxic to fish

Eco-acute toxicity

Fomesafen Acute oral

- *LD50 for chicken* >3000mg/kg.
- *LC50 (96h) for carp* 776mg/l.
- *Bees*: Low oral and contact toxicity to bees. LD50 (oral) >50µg/bee, (contact) >100µg/bee.

Quizalofop-p-ethyl:

- *Effects on birds*: Quizalofop-p-ethyl is practically nontoxic to birds. The reported 8-day feeding (dietary) LC50 is greater than 5000 ppm in bobwhite quail and mallard ducks. The reported LD50 for quizalofop-p-ethyl is greater than 2000 mg/kg in mallard ducks.
- *Effects on aquatic organisms*: Quizalofop-p-ethyl is highly to very highly toxic to fish. Reported 96-hour LC50 values are 10.7 mg/L in rainbow trout and 0.46 to 2.8 mg/L in bluegill sunfish.
- *Effects on other organisms*: Quizalofop-p-ethyl is practically nontoxic to bees, with a 48-hour contact LD50 of greater than 100 mg/bee.

SECTION 13 Disposal Considerations

Do not contaminate water, food, or feed by disposal. Empty containers should be triple rinsed into the spray tank during operation. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary



landfill or incinerating, or if allowed, by burning. If burned, stay out of smoke.

SECTION 14 Transport Information

DOT Classification: Not regulated by DOT.

SECTION 15 Other Information

The information contained in the Material Safety Data Sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification. The information relates only to the product specified and may not be suitable for with other materials or in processes other than those specifically described herein.

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