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Material Safety Data Sheet

Section 1 CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Product name: Quizalofop-p-ethyl 50G/L EC

General use: Systemic herbicide.

Manufacturer: Zhejiang Hisun Chemical Co., Ltd

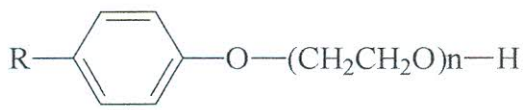
Section 2 COMPOSITION/INFORMATION ON INGREDIENTS

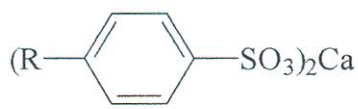
Common Name: Quizalofop-p-ethyl 50G/L EC

Chemical Name: Ethyl(R)-2-[4-(6-chloroquinozxalin-2-yloxy)Phenoxy]propionate

Ingredients and Composition:

Quizalofop-p-ethyl 50g/l min





xylene up to100%

Section 3 HAZARDS IDENTIFICATION

Potential Health Effects

Causes LIGHT eye irritation. May irritate skin, nose, and throat. May be harmful if absorbed through the skin, swallowed, or inhaled.

ANIMAL DATA:

Acute Oral LD50: 1210mg/kg(male mice),1182mg/kg(female mice)

Low level of toxicity by ingestion.

Acute Dermal LD50:>2,000mg/kg (rabbit)

Slightly to moderately toxic by contact.

SKIN IRRITATION AND SENSITIZATION: Product is a moderate skin irritant; but not considered a skin sensitizer.

INHALATION: LC50:0.44mg/L (rats)

EYE CONTACT: light irritant.

Section 4 FIRST AID MEASURES

First Aid

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT: In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

EYE CONTACT: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION: If swallowed, do not induce vomiting. Immediately give 2 glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

Notes to Physicians: Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 ml water and mix thoroughly. Administer 5 ml/kg, or 350 ml for an average adult.

Section 5 FIRE FIGHTING MEASURES

Flammable Properties

Method: Setaflash Vapor forms explosive mixture with air. Heating can release vapors which can be ignited.

Extinguishing Media: Water Spray, Foam, Dry Chemical,CO2.

Fire Fighting Instructions: Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Use water spray. Cool tank/container with water spray.

Section 6 ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel): NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL)sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Initial Containment: Dike spill. Prevent material from entering sewers, water ways, or low areas.

Spill Clean Up: Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

Accidental Release Measures: If spill area is on ground near trees or other valuable plants remove top 2 inches of soil after initial clean up.

Section 7 HANDLING AND STORAGE

Handling (Personnel): Do not get in eyes. Avoid breathing vapors or mist. Avoid contact with skin. Avoid contact with clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material.

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.

Handling(Physical Aspects): Keep away from heat, sparks and flames.

Storage: Store in a well ventilated place. Keep container tightly closed. Do not store or consume food, drink or tobacco in areas where they may become contaminated with this material. Do not subject to temperatures below 32deg F.

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use only with adequate ventilation. Keep container tightly closed.

Personal Protective Equipment: Always follow label instructions when using this product.

Applicators and other handlers must wear:

Long-sleeved shirt and long pants

Chemical-resistant gloves, such as barrier laminate or Viton

Shoes plus socks

Protective eyewear

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls

Chemical-resistant gloves, such as barrier laminate or Viton

Shoes plus socks

Protective eyewear

Exposure Guidelines: NOEL(rat):128mg/kg

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Common name: Quizalofop-P-ethyl

Appearance: Light yellow solid.

Solubility in water: 0.4mg/l at 20 degrees C

Solubility in other solvents: 650g/l in acetone,22g/l in ethanol,5g/l in hexane,360g/l in xylene. All at 20 degrees C

Melting point: 76-77 degrees C

Vapor pressure: 11 nPa at 20 degrees C

Section 10 STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and storage conditions.

Incompatibility with Other Materials: None reasonably foreseeable.

Polymerization: Polymerization will not occur.

Section 11 Toxicological Information

ACUTE TOXICITY

Quizalofop-P-ethyl is a slightly toxic compound by oral exposure. End-use products require the signal word CAUTION be placed on their labels. The oral LD50 of the compound is 1,210 mg/kg in male rats and 1,182mg/kg in female rats. Mice are only slightly less susceptible to the compound. Quizalofop-P-ethyl has an LD50 of 1,753 mg/kg in male mice and 1,805mg/kg in female mice. No reports of sub-acute signs and symptoms were found. Exposure to the compound on the skin of rabbits Indicated that the compound is only slightly toxic by this route as well. The acute percutaneous (absorbed through the skin) LC50 for Quizalofop-p-ethyl in rabbits greater than 2,000mg/kg.No information about the compound toxicity through inhalation was available. Quizalofop-p-ethyl is non-irritating to the skin and only slightly irritating to the eyes in rabbits. It is non-sensitizing to the skin.

CHRONIC TOXICITY

One short-term study (90 days) with rats produced no effects at the moderate dose level of 128mg/kg,This appears to be the highest dose that has been tested for this compound in chronic feeding experiments.

Carcinogenicity.

Opp's Health Effects Division, Carcinogenicity Peer Review Committee (CPRC) has evaluated the rat and mouse cancer studies for quizalofop-p-ethyl ester along with other relevant short-term toxicity, mutagenicity studies, and structure-activity relationships. The CPRC has classified Quizalofop-p-ethyl as a Group D carcinogen(not classifiable as to human cancer potential).The Group D classification is based on an approximate doubling in the incidence of mice liver tumors between controls and the high does. This finding was not considered strong enough to warrant the classification of a Category C (possible human carcinogen):the increase was of marginal statistical significance ,occurred at high dose which exceeded the MTD, and occurred in a study in which the concurrent control for liver tumors was somewhat low as compared to the historical controls, while the high dose control group was at the upper end of previous historical control groups .No new cancer studies are required for quizalofop-p-ethyl ester at this time.

Section 12 ECOLOGICAL INFORMATION

Tests with mallard ducks and bobwhite quail have shown that quizalofop-p-ethyl is practically non-toxic to these organisms. The compound has an eight day feeding(dietary)LC50 of greater than 5,000mg/kg/day in both species, Quizalofop-p-ethyl is toxic to bees, with an LD50 of greater than 0.1mg/kg,No information about the potential to accumulate in the tissues of organisms, mammals or aquatic species was found.

ENVIRONMENTAL FATE

In sterilized soil (no microorganisms), the compound is very rapidly broken down, Half of the initial amount of the compound is lost under these conditions within one day. Soil microorganisms increase the rate at which the compound is broken down. No information about the potential of the compound to leach from soil or about its fate and behavior in aquatic systems was found.

Section 13 DISPOSAL CONSIDERATIONS

Waste Disposal: Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Pesticides, spray

mixture, or rinsate that cannot be used according to label instructions must be disposed of according to applicable Federal, State or Local procedures. Triple rinse (or equivalent) the container and dispose of in a sanitary landfill or by incineration if allowed by State and Local authorities.

Seciton 14 TRANSPORTATION INFORMATION

Shipping Information DOT/IMO
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, POWDER, N.O.S. (QUIZALOFOP-P-ETHYL)
Hazard Class:
Special Information: MARINE POLLUTANT
Packing Group: III

Section 15 OTHER INFORMATION

The information and recommendations contained herein are based on information believed to be correct. However, no guarantee or warranty of any kind, expressed or implied is made with respect to the information provided herein.