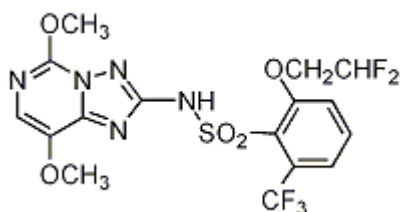


## MATERIAL SAFETY DATA SHEET

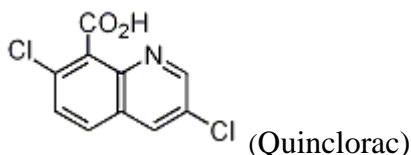
### Penoxsulam 2.5%+Quinclorac 22.5% SC

#### 1. PRODUCT IDENTIFICATION

Product Name: Penoxsulam 2.5%+Quinclorac 22.5% SC  
 Common Name: Penoxsulam+ Quinclorac  
 Chemical Family: triazolopyrimidine+ quinolinecarboxylic acid  
 Chemical Formula: C<sub>16</sub>H<sub>14</sub>F<sub>5</sub>N<sub>5</sub>O<sub>5</sub>S(Penoxsulam); C<sub>10</sub>H<sub>5</sub>Cl<sub>2</sub>NO<sub>2</sub>(Quinclorac)  
 Chemical Structure:



(Penoxsulam)



(Quinclorac)

Chemical Name:

*-(2,2-difluoroethoxy)-N-(5,8-dimethoxy[1,2,4]triazolo[1,5-c]pyrimidin-2-yl)-α,α,α-trifluorotoluene-2-sulfonamide;*  
*2-(2,2-difluoroethoxy)-N-(5,8-dimethoxy[1,2,4]triazolo[1,5-c]pyrimidin-2-yl)-6-(trifluoromethyl)benzenesulfonamide*  
 (Penoxsulam)

3,7-dichloroquinoline-8-carboxylic acid(Quinclorac)

CAS No.: 219714-96-2(Penoxsulam); 84087-01-4(Quinclorac)

Product Use: Herbicide

#### 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient Name</u>	<u>CAS Registry Number</u>	<u>Typical Wt. w/v</u>
Penoxsulam	219714-96-2	2.5%
Quinclorac	4087-01-4	22.5%
Inert	-	to balance

#### 3. HAZARDS IDENTIFICATION

## Emergency Overview

Off white liquid with not distinct odor.

CAUTION!

KEEP OUT OF REACH OF CHILDREN

MAY CAUSED SKIN SLIGHT IRRITATION

MAY CAUSED EYE SLIGHT IRRITATION

## Potential Health effects

Dermal contact, ingest and inhalation of the product are the primary routes to induce potential adverse health effects. Inhalation of aerosol during application of the product as part of its end use is another potential route of entry. Eye and skin irritation may occur from contact with the liquid or spray mixture.

## 4. FIRST AID MEASURES

- If swallowed: If ingestion is suspected. Induce vomiting and wash stomach. Never give anything by mouth to an unconscious person. Should be send to the hospital treatment immediately.
- If in eye: Immediately rinse eyes with a large amount of running water. Hold eyelids apart to rinse the advice of a physician.
- If on skin: Wash with plenty of soap and water, including hair and under fingernails. Do not apply any medicating agents except on the advice of a physician. Remove contaminated clothing and decontaminate prior to use.
- If Inhaled: Move victim from contaminated area to fresh air. Apply artificial respiration if necessary.

Notes to Physician:

There is calcium disodium edentate as specific antidote, Treat symptomatically.

## 5. FIRE FIGHTING MEASURES

### Fire and explosive Properties

Auto-Ignition Temperature      Not applicable



with food, feed stuff and seed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Eye/Face Protection

Goggles and full face shield should be used when needed to prevent liquid from face and getting into the eyes.

### Skin Protection

Avoid skin contact. Use chemical-resistant gloves, and wear long sleeves and trousers to prevent dermal exposure.

### Respiratory Protection

Under normal handling conditions no respiratory protection is needed. However, if needed to prevent respiratory irritation, either a respirator approved for dusts and mists, or one approved for pesticides.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Off white
Physical state:	Liquid
Odor:	not distinct odor
pH:	4.0~9.0
Persistent test, %:	25max.
Wet sieve test(pass 45 $\mu$ m sieve):	98min.
Melting point	212 °C (tech.) (Penoxsulam) 274 °C (Quinclorac)
Boiling point:	N/A(Penoxsulam, Quinclorac)
Vapor pressure:	$9.55 \times 10^{-11}$ mPa (25 °C) (Penoxsulam) <0.01 mPa (20 °C) (Quinclorac)
Solubility in water and solvents:	In water 0.0049 (distilled), 0.00566 (pH 5), 0.408 (pH 7), 1.46 (pH 9) (all in g/l, 19 °C). In acetone 20.3, methanol 1.48, octanol 0.035, DMSO 78.4, NMP 40.3,

1,2-dichlorethane 1.99, acetonitrile 15.3 (all in g/l, 19 °C). (Penoxsulam)

In water 0.065 mg/kg (pH 7, 20 °C). In acetone <1 g/100 ml (20 °C). Practically insoluble in other organic solvents. (Quinclorac)

## 10. STABILITY AND REACTIVITY

### Stability

Stable to hydrolysis. Photolysis DT50 2 d. Storage stability >2 y. (Penoxsulam)

Stable for 24 months at 50 °C. pKa 4.34 (20 °C) (Quinclorac)

### Hazardous Polymerization

Does not occur.

### Incompatibility

Not available

### Hazardous Decomposition Products

Not available

## 11. TOXICOLOGICAL INFORMATION

### Penoxsulam

**Acute Oral:** Acute oral LD<sub>50</sub> for rats 2680, mice >5000 mg/kg.

**Acute Dermal:** Acute percutaneous LD<sub>50</sub> for rabbits >5000 mg/kg.

**Irritation:** Mild, transient eye irritation; very slight, transient skin irritation (rabbits).

**Sensitisation:** Not a skin sensitiser (guinea pigs).

**Inhalation:** LC<sub>50</sub> for rats >3.50 mg/l (highest attainable concentration).

**Long-term Studies:** for rats 500 mg/kg b.w. daily (maternal), 1000 mg/kg b.w. daily (embryo-foetal). Not mutagenic in Ames, CHO-HGPRT, micronucleus and mouse lymphoma tests.

### Quinclorac

**Acute Oral:** Acute oral LD<sub>50</sub> for rats 2680, mice >5000 mg/kg.

**Acute Dermal:** Acute percutaneous LD<sub>50</sub> for rats >2000 mg/kg.

**Irritation:** Non-irritating to eyes and skin (rabbits).

**Sensitisation:** Not available

**Inhalation:** LC<sub>50</sub> (4 h) for rats >5.2 mg/l.

**Long-term Studies:** (2 y) for rats 533 mg/kg b.w.; (18 mo) for mice 30 mg/kg b.w..

## 12. ECOLOGICAL INFORMATION

### Ecotoxicological Information

#### Penoxsulam

**Birds** LD<sub>50</sub> for mallard ducks >2000, bobwhite quail >2025 mg/kg b.w. Dietary LC<sub>50</sub> (8 d) for mallard ducks >4310, bobwhite quail >4411 ppm.

**Fish** LC<sub>50</sub> (96 h) for common carp >101, bluegill sunfish >103, rainbow trout >102, silverside >129 mg/l. NOEC (36 d) for fathead minnows 10.2 mg/l.

**Daphnia magna** EC<sub>50</sub> (24 h and 48 h) >98.3 mg/l.

**Algae** EC<sub>50</sub> (120 h) for freshwater diatoms >49.6, blue-green algae 0.49 mg/l; (96 h) for freshwater green algae 0.086 mg/l. Other aquatic spp. EC<sub>50</sub> (14 d) for Lemna gibba 0.003 mg/l.

**Bees** LD<sub>50</sub> (48 h, oral) for honeybees >110 µg/bee; (48 h, contact) >100 µg/bee.

**Worms** LC<sub>50</sub> (7 d and 14 d) >1000 mg/kg.

#### Quinclorac

**Birds** Acute oral LD<sub>50</sub> for bobwhite quail >2000 mg/kg. Dietary LD<sub>50</sub> (8 d) for mallard ducks and bobwhite quail >5000 mg/kg.

**Fish** LC<sub>50</sub> (96 h) for rainbow trout, bluegill sunfish and carp >100 mg/l.

**Daphnia** LC<sub>50</sub> (48 h) 113 mg/l.

**Algae** Moderate to non-toxic.

Other aquatic spp. LC<sub>50</sub> (96 h) for mysid shrimps (*Mysidopsis bahia*) 69.9 ppm, blue crabs >100 mg/l; (48 h) for Quahog clams >100 mg/l.

**Bees** Non-toxic by contact or ingestion.

**Worms** Non-toxic in formulated product.

## **Environmental fate:**

### **Penoxsulam**

**Animals** Rapidly excreted, with low potential to accumulate.

**Plants** Following post-emergence foliar application to glasshouse plants, DT<sub>50</sub> in indica rice 0.6 d, japonica rice 1.4 d, Echinochloa 4.4 d. Penoxsulam is first metabolised to the 5-hydroxy derivative, which is inactive. No penoxsulam residues are found in harvested rice grain (limit of determination 0.002 mg/kg).

**Soil/Environment** In water, degradation is mainly by photolysis and by biological means. Aqueous photolysis DT<sub>50</sub> 2 d; soil photolysis DT<sub>50</sub> 19 d. Under global water-seeded rice field conditions, DT<sub>50</sub> (ave.) 6.5 d (4–10 d); under dry-seeded rice conditions, DT<sub>50</sub> (ave.) 14.6 d (13–16 d). In EU, under water-seeded field conditions, DT<sub>50</sub> (ave.) 5.9 d (5.6–6.1 d). In soil, degradation is mainly microbiological; lab. DT<sub>50</sub> (aerobic, 20 °C) 32 d (22–58 d), (anaerobic, 20 °C) 6.6 d. Likely to be very mobile, but not very persistent, in either aqueous or terrestrial environments; produces 11 major degradation products, some of which are more persistent than penoxsulam (EPA Fact Sheet).

### **Quinclorac**

**Animals** More than 90% of radiolabelled quinclorac, administered orally to rats, is excreted in the urine within 5 days.

**Plants** In plants, systemically translocated to the roots and to the leaves.

**Soil/Environment** Only slightly adsorbed by the soil. Depending on soil type and organic matter content, the chemical is relatively mobile, this mobility increasing with higher percolation rates in fields. Quinclorac is degraded by micro-organisms, 3-chloro-8-quinolinecarboxylic acid being a major metabolite. Water regimes causing changes in moisture content in rice soils enhance the microbial degradation. Photolytic decomposition in active paddy water occurs in the presence of sunlight and dissolved humic acids.

## 13. DISPOSAL CONSIDERATIONS

### **Waste Disposal**

Dispose in a safe manner in accordance with local/national regulations. Dispose of in a pesticide approved landfill in a chemical incinerator equipped with scrubbers

## 14. TRANSPORT INFORMATION

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S.

Hazard Class : 9

UN No : 3082

Packing Group : III

## 15. REGULATORY INFORMATION

This product is not listed as carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer(IARC), or the Occupational Safety and Health Administration (OSHA).

## 16. OTHER INFORMATION

The information contained herein relates only to the specific material identified. We believe that such information is accurate and reliable as of the date of this material safety data sheet, but no representation, guarantee or warranty, express or implied, is made as to the reliability or completeness of the information. Urge persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application.

Chico Crop Science Co., Ltd.

Date: Jan., 18, 2022