

FLAZASULFURON

Wide spectrum herbicide

Flazasulfuron is a sulfonylurea herbicide discovered and developed by ISK in the late 1980's.

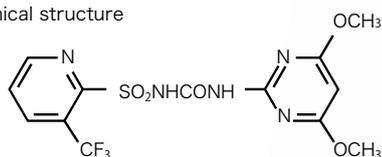
Flazasulfuron controls a wide range of weeds, including not only annual but also perennial species.

Particularly, Flazasulfuron is a selective systemic herbicide for pre-emergence and early post-emergence uses.

Flazasulfuron has been registered for use on warm season turf grass, grapevine, sugarcane, non-crop area, etc, in various countries.

Physico-Chemical Properties

Chemical structure



Class : sulfonylurea

IUPAC name : 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-trifluoromethyl-2-pyridylsulfonyl)urea

Molecular weight : 407.36

Molecular formula : C₁₃H₁₂F₃N₅O₅S

Vapor pressure : < 0.013 mPa(25 °C)

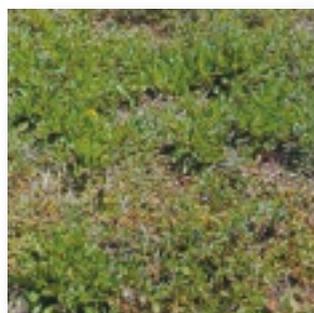
Water solubility : 2.1 g/L (25 °C,pH7)

Form : white powder

Development code : SL-160

Visual effect of herbicidal activity

Weed: *Erigeron philadelphicus*



At application



7 days after application



20 days after application

Application

Uses Pre- and post-emergence application controls grasses and broad-leaf weeds and sedge in warm season turf at the dosage of 25-100 g a.i./ha, and also used in grapevines and sugarcane at 25-75 g a.i./ha.

Phytotoxicity

Flazasulfuron may cause yellow bands on leaves for the rare occasion. Research has shown that this symptom is transient and does not affect the yield.

Mode of Action

Plant Uptake Flazasulfuron is rapidly absorbed into the weed leaves and is translocated through the xylem and phloem towards the meristematic zone. In this zone, Flazasulfuron inhibits acetolactate synthase(ALS), a key enzyme for branched-chain amino acids synthesis, which results in cessation of cell division and plant growth.

Symptoms Following post-emergent application of Flazasulfuron, treated weeds stop growing within a few hours and show gradual discoloration on the newly developed leaves. This is followed by leaf necrosis, desiccation and ultimate death of the plants. The visual symptoms appear within three to four days after treatment and the whole plants are normally killed within 20 to 25 days.

Selectivity The selectivity of Flazasulfuron is due to the capacity that the crop has to metabolize the herbicide and transform it into inactive metabolites.

Characteristics

Easy and convenient to use

A selective systemic herbicide for pre-emergence and early post-emergence use

Broad spectrum of activity against grasses, broadleaf weeds and sedges

Effective against its target weeds at low rates

Selective to warm season turf, grapevine and most varieties of sugarcane

Resistant to wash-off by rain, due to its systemic activity

Safe to birds, fish, bee and other beneficial insects

Toxicology & Ecotoxicology

Rat LD₅₀ oral : >5,000 mg/kg bw (m/f)
Rat LD₅₀ dermal : >2,000 mg/kg bw (m/f)
Rat LC₅₀ inhalation : >5.99 mg/L (m/f)

Skin irritation : non irritant
Eye irritation : non irritant
Skin sensitization : not a sensitizer

Birds :
Acute toxicity : LD₅₀ (quail) >2,000 mg/kg

Fish : LC₅₀ : (trout 96 h) 22 mg/L

Bees : Acute contact toxicity LD₅₀ >100µg/bee

Daphnia magna : EC₅₀ (48 h) 106 mg/L



ISHIHARA SANGYO KAISHA, LTD.

1-3-15 Edobori,Nishi-ku,Osaka 550-0002

TEL +81-6-6444-7154

URL : <http://www.iskweb.co.jp>

E-mail : isk.bio@iskweb.co.jp

Weed Control

Weed Stage

Weed Type	Optimum Stage for Control
Grasses	Up to 3 tillers
Broadleaf Weeds	Up to 6 leaves
Cyperus	5 to 8 leaves

Controlled Weeds

Grasses

<i>Brachiaria decumbens</i>	<i>Leptochloa virgate</i>
<i>Brachiaria plantaginea</i>	<i>Panicum maximum</i> (Only Pre-emergence)
<i>Cenchrus echynatus</i>	<i>Panicum fasciculatum</i>
<i>Digitaria horizontalis</i>	<i>Paspalum conjugatum</i>
<i>Digitaria sanguinalis</i>	<i>Poa annua</i>
<i>Echinochloa colonum</i>	<i>Rottboellia cochinchinensis</i>
<i>Echinochloa crus-galli</i>	<i>Setaria viridis</i>
<i>Eleusine indica</i> (Only Pre-emergence)	

Broadleaf Weeds

<i>Acanthospermum spp.</i>	<i>Galinsoga paviflora</i>
<i>Ageratum conyzoides</i>	<i>Hybanthus attenuatus</i>
<i>Amaranthus mexicana</i>	<i>Hydrocotyle spp.</i>
<i>Anda cristate</i>	<i>Ipomoea spp.</i> (Only Pre-emergence)
<i>Argemone mexicana</i>	<i>Melampodium divaricatum</i>
<i>Bidens pilosa</i>	<i>Oxalis corniculata</i>
<i>Borreria latifolia</i>	<i>Parthenium hysterophorus</i>
<i>Capsella bursa-pastoris</i>	<i>Polygonum lapathifolium</i>
<i>Cassia tore</i>	<i>Portulaca oleracea</i>
<i>Cerastium spp.</i>	<i>Raphanus rashanastum</i>
<i>Croton lobatus</i>	<i>Richardia scabra</i>
<i>Desmodium spp.</i>	<i>Rumex spp.</i>
<i>Emilia sonchifolia</i>	<i>Senecio brasiliensis</i>
<i>Equisetum arvensis</i>	<i>Solidago altissima</i>
<i>Erigeron spp.</i>	<i>Stellaria media</i>
<i>Euphorbia spp.</i>	<i>Xanthium cavanillesii</i>

Cyperus

<i>Cyperus esculentus</i>	<i>Cyperus rotundus</i>
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Product

Trade names	Countries
CHIKARA	Belgium, Bulgaria, France, Germany, Hungary, Italy Romania, Serbia, South Africa, Switzerland
KATANA	Brazil, Colombia, France, Mexico, Portugal, Spain
Mission	France
Aikido	France
Epsilon	France
Palma	France
PARANDOL	South Korea
芝草原	Taiwan
シバゲン	Japan

● Formulation types : WG, WP

