

FLUAZIFOP-P-BUTYL

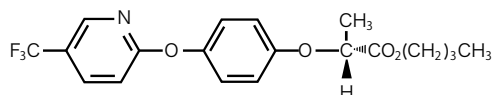
Systemic grass herbicide

Fluazifop-P-butyl has been developed and commercialized by ISK since the 1980's. It has been widely used in various countries.

Fluazifop-P-butyl is highly effective against not only annual grasses but also perennial grasses and it is very safe to broad leaf crops such as soybean, peanut, cotton, oil palm, citrus, vegetable, etc. These benefits appeal growers to use this molecule.

Physico-Chemical Properties

Chemical structure



Class : aryloxyphenoxypropionate

IUPAC name :

butyl (*R*)-2-[4-(5-trifluoromethyl
-2-pyridyloxy)phenoxy]propionate

Molecular weight : 383.4

Molecular formula : C₁₉H₂₀F₃NO₄

Vapour pressure : 5.5×10⁻²mPa (25°C)

Water solubility : 1.75 mg/L (25°C)

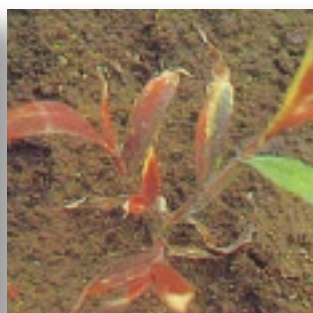
Form : Colourless liquid

Development code : SL-118

Visual effect of herbicidal activity



2 days after application



7 days after application



21 days after application
Weed: *Digitaria ciliaris*

Application

Uses Post-emergence application provides control of wild oats, volunteer cereals, and annual and perennial grass weeds in soybean, oilseed rape, sugar beet, fodder beet, potatoes, vegetables, cotton, pome fruit, stone fruit, bush fruit, vines, citrus fruit, pineapples, bananas, strawberries, sunflowers, alfalfa, ornamentals, and other broad-leaved crops. Applied at the dosage of 125-375 g/ha.

Phytotoxicity Non-phytotoxic to broad-leaved crops

Mode of Action

Plant Uptake Fluazifop-P-butyl is quickly absorbed into the leaf surface, hydrolysed to fluazifop-P and translocated through the phloem and xylem, accumulating in the rhizomes and stolons of perennial grasses and the meristems of annual and perennial grasses.

Fluazifop-P-butyl inhibits acetyl CoA carboxylase (ACCase), an essential plant enzyme, which acts fatty acid synthesis.

Symptoms Following post-emergent application of fluazifop-P-butyl, 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 2 to 3 weeks.

Selectivity The selectivity of fluazifop-P-butyl is due to the difference of the enzyme sensitivity between gramineae and non-gramineae plants.

Characterisitcs

Easy and convenient to use

A selective systemic herbicide for post-emergence use

Control not only annual grass weeds, but also difficult perennial grass weeds

Quite safety to broadleaved crops

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 : 3,680 mg/kg (m) 2,451 mg/kg (f)

Rat LD₅₀ dermal : >2,000 mg/kg (m/f)

Rat LC₅₀ inhalation : toxicity : > 6.06 mg/L (m/f)

Skin irritation : slight irritant

Eye irritation : mild irritant

Skin sensitization : not a sensitizer

Fish : LC₅₀ : (96 h, trout) 6.83 mg/L

Bees : LD₅₀ (oral and contact) >0.2 mg/bee

Daphnia magna : EC₅₀ 11.1 mg/L



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Weed Spectrum

Fluazifop-P-butyl has excellent efficacy against annual and perennial grass weeds.

Application rate and timing by each weed species

Weed Species	Application timing	Application rate(L/ha)
<i>Setaria viridis</i> <i>Eleusine indica</i> <i>Digitaria ciliaris</i> <i>Echinochloa sp.</i>	2-6 L	0.75-1
<i>Bromus catharticus</i> <i>Cynodon dactylon</i> <i>Paspalum thunbergii</i>	About 20 cm height	1-1.5
<i>Imperata cylindrica</i> <i>Miscanthus sinensis</i> <i>Lolium perenne</i>	About 30 cm height	1.5
<i>Phragmites australis</i>	Shorter than 100 cm	1.5

Product

Trade names	Countries
FUSILADE 2000	Austria, Belgium, Denmark, Italy
FUSILADE 250	Brazil, UK
FUSILADE 133	Italy
FUSILADE 125	Spain
FUSILADE EXTRA SUPER	Bulgaria, Czech, Romania
FUSILADE FORTE	Bulgaria, Czech, Poland, Russia, Ukraine
FUSILADE SUPER	Serbia
FUSILADE MAX	Germany
HACHE UNO 35	Ecuador
HACHE UNO SUPER	Peru, Chili
LISTO	Argentina, Paraguay, Bolivia
ONECIDE	Uruguay, Vietnam
ワンサイド	Japan

● Formulation types: EC, EW

