**Document Title**

# Tier 2 Summary of the Data on Application on the Plant Protection Product

# Sivanto 200 SL

## (Flupyradifurone/BYI 02960) 200 SL

## Specification number 102000021884

## Submission to RMS The Netherlands in the EU

## (Hops (F) and Lettuce (F, GH) as representative uses

**Data Requirements**

## Regulation (EC) No 1107/2009

## Annex IIIA
## Section 1, Point 3
## Document M

**According to OECD format guidance for industry data submissions on plant protection products and their active substances**

**Date**

## 2012-03-27

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# OWNERSHIP STATEMENT

# TABLE OF CONTENTS

## IIIA1 3 Data on Application on the Plant Protection Product

### IIIA1 3.1 Fields of use e.g. forestry

Flupyradifurone (developed by BCS under the product code BYI 02960) and its formulated product Sivanto™ SL200 is proposed as an insecticide in agriculture to control mainly sucking insects after foliar spray application on various crops. Sivanto SL 200 (Spec. 102000021884, 200 g a.i./L) has been tested in field development trials in the European Union, which demonstrated high efficacy against targeted pests and appropriate crop safety.

### IIIA1 3.2 Nature of the effects on harmful organisms e.g. contact action

Flupyradifurone is the active ingredient (active substance) of the new systemic foliar insecticide Sivanto™. It belongs to the chemical class of butenolides, and acts as a nAChR antagonist. Sivanto SL 200 is intended to be used as an insecticide in agriculture on a range of crops such as vegetables, fruits, grapes, hops, cotton, tobacco and coffee and cocoa plantations. Sivanto is a systemic insecticide for foliar spray use and intended mainly for controlling sucking pest such as aphids, hoppers and whiteflies. Sivanto can control important CNI resistant pest populations such as *Bemisia tabaci*, *Phorodon humuli* and *Empoasca sp*. Spectrum extension to mealybugs, leafminer, weevils and (flea) beetles is under examination.
Sivanto can be applied curative and preventive but is most effective when applied at threshold level to the vegetation, and with spray volumes ensuring a good coverage of the targeted plant parts, based on the size and density of the treated crop.

Selectivity towards beneficial insects and predatory mites is a requirement for a modern IPM-compatible product. Side effects of Sivanto on beneficial arthropods have been tested in various semi-field and field trials. So far, Sivanto can be considered safe to most beneficial insects and specifically to pollinators.

### IIIA1 3.3 Details of intended use

#### IIIA1 3.3.1 Details of existing and intended uses

| Crops | Crop Code |
|---|---|
| hop: | HUMLU |
| lettuce | LACSP |

#### IIIA1 3.3.2 Details of harmful organisms against which protection is afforded

| Crops | Crop Code | Pest | Pest Code |
|---|---|---|---|
| hop: | HUMLU | *Phorodon humuli* | PHODHU |
| lettuce | LACSP | *Nasonovia ribis-nigri*<br>*Myzus persicae*<br>*Aphis frangulae*<br>*Aulacorthum solani* | NASORN<br>MYZUPE<br>APHIFG<br>AULASO |

### IIIA1 3.3.3 Effects achieved e.g. sprout suppression

SivantoTM (containing Flupyradifurone 200 g/L as active ingredient) is a new systemic foliar insecticide belonging to the butenolid chemical class for control of various, mainly sucking pests. It acts by contact or after ingestion, and has systemic properties.

The a.i. interacts with insect nicotinic acethylcholine receptors, a class of neurotransmitter-gated cation channels which are involved in excitatory neurotransmission. Like the naturally occurring neurotransmitter acetylcholine, Flupyradifurone acts as an agonist, i.e., the binding of Flupyradifurone to the receptor protein induces a depolarising ion current and causing excitation of the nerve cell which can be measured by electrophysiological methods. In contrast to acetylcholine, Flupyradifurone cannot be inactivated by the acetylcholinesterase. The lasting effect of the product results in a disorder of the nervous system of the insect and subsequently death.

### IIIA1 3.4 Rate of application per unit treated

| Crop | L product/ha | kg as /ha |
|---|---|---|
| hop | 0,75 | 0,150 |
| lettuce, field | 0.625 | 0,125 |
| lettuce, glasshouse | 0.625 | 0,125 |

### IIIA1 3.5 Concentration of active substance in material used

Sivanto (Flupyradifurone) SL 200 contains 200 g. active substance/L finished product.
The concentration of active substance in the spray solution applied is as follows:

hop: 0.0045% - 0,0075% (water rate 2000 – 3300 L/ha)
Lettuce: 0.0125% - 0.0250% (water rate 500 – 1000 L/ha)

### IIIA1 3.6 Description of the method of application

hop: Overall spray application with standard tractor mounted field sprayers with spray volumes of 2000 up to 3300 L/ha

Lettuce, field: Overall spray application with standard tractor mounted field sprayers or knapsack sprayers with spray volume of 500-1000 L/ha

Lettuce, greenhouse Overall spray application with knapsack sprayers with spray volume of 500-1000 l/ha

## IIIA1 3.7 Number and timing of applications and duration of protection

### IIIA1 3.7.1 Maximum number of applications and their timing

| Crop | number of applications | timing of applications |
|---|---|---|
| hop: | 1 | The spray is performed only when the relevant pest is present and when the Economic Threshold Level (ETL) is reached. |
| lettuce, field | 1 | |
| lettuce, glasshouse | 1-2 | |

### IIIA1 3.7.2 Growth stages of the crop or plants to be protected

| Crop | timing of applications |
|---|---|
| hop: | BBCH 31 75 |
| lettuce, field | BBCH 12-49 |
| lettuce, glasshouse | BBCH 12-49 |

### IIIA1 3.7.3 Development stages of the harmful organism concerned

Flupyradifurone is active against adult and larval insects. The product should be applied at infestation, irrespectively of the development stage. The label instructions must be followed at any time.

### IIIA1 3.7.4 Duration of protection afforded by each application

| Crop | duration of protection |
|---|---|
| hop: | min. 21 days |
| lettuce, field | min. 10 days |
| lettuce, glasshouse | min. 10 days |

### IIIA1 3.7.5 Duration of protection afforded by the maximum number of applications

See point IIIA1 3.7.4

## IIIA1 3.8 Necessary waiting periods or other precautions

### IIIA1 3.8.1 Minimum waiting periods

A safe re-entry or handling of treated crops is possible when spray deposit has dried.

The Pre Harvest Intervals (PHIs) are 21 days for hop, 10 days for lettuce in the field and 3 days for lettuce in greenhouse.

### IIIA1 3.8.2 Limitations on choice of succeeding crops

There are no limitations

### IIIA1 3.8.3 Description of damage to rotational crops

Rotational crops sown at the appropriate time will not be damaged.

## IIIA1 3.9 Proposed instructions for use as printed, or to be printed, on labels

Please refer to attached label proposal.

## IIIA1 3.10 Other/special studies

No other or special study was carried out.