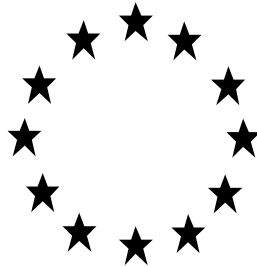


Draft Renewal Assessment Report
under Regulation (EC) 1107/2009



FORAMSULFURON

Volume 3 – B.3 (PPP) – Equip OD

Rapporteur Member State : Finland
Co-Rapporteur Member State : Slovakia

March 2015

Volume 1

Level 1: Statement of subject matter and purpose for which this report has been prepared and background information on the application

Level 2: Summary of active substance hazard and of product risk assessment

Level 3: Proposed decision with respect to the application

Appendix 1: Guidance documents used in this assessment

Appendix 2: Reference list

Volume 2

Annex A: List of the tests, studies and information submitted

Volume 3

Annex B (Active Substance): Summary, evaluation and assessment of the data and information

Annex B.1 (AS): Identity

Annex B.2 (AS): Physical and chemical properties of the active substance

Annex B.3 (AS): Data on application

Annex B.4 (AS): Further information

Annex B.5 (AS): Methods of analysis

Annex B.6 (AS): Toxicology and metabolism data

Annex B.7 (AS): Residue data

Annex B.8 (AS): Environmental fate and behaviour

Annex B.9 (AS): Ecotoxicology data

Volume 3

Annex B (Plant Protection Product): Summary, evaluation and assessment of the data and information

Annex B.1 (PPP): Identity

Annex B.2 (PPP): Physical and chemical properties of the plant protection product

Annex B.3 (PPP): Data on application and efficacy

Annex B.4 (PPP): Further information

Annex B.5 (PPP): Methods of analysis

Annex B.6 (PPP): Toxicology and metabolism data and assessment of risks to humans

Annex B.7 (PPP): Residue data

Annex B.8 (PPP): Environmental fate and behaviour and environmental exposure assessment

Annex B.9 (PPP): Ecotoxicology data and assessment of risks for non-target species

Volume 4

Annex C: Confidential information and, where relevant, details of any task force formed for the purpose of generating tests and studies submitted

List of Endpoints

Version History

When	What
2015/March	First draft RAR

Table of contents

B.3. DATA ON APPLICATION AND EFFICACY	5
B.3.1. FIELD OF USE ENVISAGED	5
B.3.2. EFFECTS ON HARMFUL ORGANISMS	5
B.3.3. DETAILS OF INTENDED USE	6
B.3.4. APPLICATION RATE AND CONCENTRATION OF THE ACTIVE SUBSTANCE	7
B.3.5. METHOD OF APPLICATION	7
B.3.6. NUMBER AND TIMING OF APPLICATIONS AND DURATION OF PROTECTION	7
B.3.7. NECESSARY WAITING PERIODS OR OTHER PRECAUTIONS TO AVOID PHYTOTOXIC EFFECTS ON SUCCEEDING CROPS	8
B.3.8. PROPOSED INSTRUCTIONS FOR USE	8
B.3.9. EFFECTIVENESS	8
B.3.10. INFORMATION ON THE DEVELOPMENT OF RESISTANCE	12
B.3.11. ADVERSE EFFECTS ON TREATED CROPS	13
B.3.12. OBSERVATIONS ON OTHER UNDESIRABLE OR UNINTENDED SIDE-EFFECTS	13
B.3.13. REFERENCES RELIED ON	14

B.3. DATA ON APPLICATION AND EFFICACY

For the renewal of an active substance no summary document is required according to the Guidance document for applicant for the preparation of renewal dossiers (SANCO/10181/2013). However, the Guidance SANCO/2012/11251 states that for the renewal a summary document should be provided in the format outlined in appendix 2 of the guidance. A list of the studies present in the baseline dossier (studies submitted for the first EU approval).

Foramsulfuron contained in product Equip OD has been tested in field development trials which demonstrated efficacious activity. Foramsulfuron contained in product Equip OD has been registered in many EU countries based on detailed national assessments of the efficacy package in compliance with Regulation (EC) No 545/2011 and according to the Uniform Principles (Regulation (EC) No 546/2011), with which Member States authorities were satisfied.

B.3.1. FIELD OF USE ENVISAGED

Foramsulfuron was developed for agricultural use. The use evaluated for the first EU approval was the use as a post-emergence herbicide for the control of broadleaved weeds and grasses in corn (*Zea mais*). The same use pattern is submitted for the renewal process.

B.3.2. EFFECTS ON HARMFUL ORGANISMS

As with other herbicides of the sulfonylurea family, the primary biochemical target site of foramsulfuron is the enzyme acetohydroxyacid synthase (AHAS) in the aliphatic amino acid pathway. Selectivity of foramsulfuron is due to a combination of factors. Maize plants take up significantly less material than susceptible target plants, translocation to other parts is less pronounced in maize and degradation is much faster.

The visible symptoms of herbicidal action after post-emergence application are almost immediate arrestation of growth followed by leaf yellowing, inhibition of anthocyanin production and finally progressive shoot necrosis. Depending on plant susceptibility and environmental conditions, plants will be completely destroyed between 1 and 3 weeks after application.

The only compound accountable for the herbicidal action is the parent substance, foramsulfuron. No herbicidal active metabolite is formed in plants or in soil. Consequently, foramsulfuron does not release active metabolites or degradation products after agricultural use as an herbicide.

B.3.3. DETAILS OF INTENDED USE

The critical GAP for the re-approval of foramsulfuron is based on the use of the representative formulation Equip OD [FFN+IDF OD 45 (22.5+22.5)]. There are two key use patterns for the formulation, Equip OD. The first consists of a single application at a maximum rate of approx. 2.6 L per hectare at growth stage 12-18. The second consists of split application, two applications at a max rate of approx. 1.3L per application between BBCH 12-18 with an interval of 7-14 days. In the dossier the critical GAP is defined as the single application at approx. 2.6L per hectare (highlighted in grey in the table below).

Crop and/or situation (a)	Member State	Product Name	F G I (b)	Pests or group of pests controlled (c)	Formulation		Application				Application rate per treatment			PHI (days) (l)	Remarks (m)
					Type (d-f)	Conc of a.i. g/kg (i)	Method kind (f-h)	Growth stage and season (j)	Number min max (k)	Interval between applications (min)	g a.i./hl min max (g/ha)	Water l/ha min max	g a.i./ha min max (*) (g/ha)		
Corn, without sweet corn and seed production use	Europe	Equip OD	F	Grassy weeds and dicot weeds	Oily SD*	22.5g/L foramsulfuron +22.5 g/L isoxadifen-ethyl	Broad cast High volume spraying	BBCH scale: 12-18	1 per season	-	14,63 - 39 g foramsulfuron/ha	150-400	58,5 g foramsulfuron + 58,5 g isoxadifen-ethyl		Single application of Equip OD at a maximum product rate of 2,6 l/ha
Corn, without sweet corn and seed production use	Europe	Equip OD	F	Grassy weeds and dicot weeds	Oily SD*	22.5g/L foramsulfuron +22.5 g/L isoxadifen-ethyl	Broad cast High volume spraying	BBCH scale: 12-18	2 per season	7 - 14	7,3 – 19,5 g foramsulfuron/ha	150-400	29,25 g foramsulfuron + 29,25 g isoxadifen-ethyl		Split application of Equip OD

- * For uses where the column „Remarks“ in marked in grey further consideration is necessary. Uses should be crossed out when the notifier no longer supports this use(s).
- (a) For crops, the EU and Codex classification (both) should be taken into account ; where relevant, the use situation should be described (e.g. fumigation of a structure)
- (b) Outdoor or field use (F), greenhouse application (G) or indoor application (I)
- (c) e.g. biting and suckling insects, soil born insects, foliar fungi, weeds
- (d) e.g. wettable powder (WP), emulsifiable concentrate (EC), granule (GR)
- (e) GCPF Codes – GIFAP Technical Monograph N° 2, 1989
- (f) All abbreviations used must be explained
- (g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench
- (h) Kind, e.g. overall, broadcast, aerial spraying, row, individual plant, between the plant – type of equipment used must be indicated
- (i) g/kg or g/L. Normally the rate should be given for the active substance (according to ISO) and not for the variant in order to compare the rate for same active substances used in different variants (e.g. fluoroxypr). **In certain cases, where only one variant synthesised, it is more appropriate to give the rate for the variant (e.g. benthialdicarb-isopropyl).**
- (j) Growth stage at last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application
- (k) Indicate the minimum and maximum number of application possible under practical conditions of use
- (l) The values should be given in g or kg whatever gives the more manageable number (e.g. 200 kg/ha instead of 200 000 g/ha or 12.5 g/ha instead of 0.0125 kg/ha)
- (m) PHI - minimum pre-harvest interval

B.3.4. APPLICATION RATE AND CONCENTRATION OF THE ACTIVE SUBSTANCE

The application rate of Equip OD is either one application at 2.6L/ha (equivalent to 60g foramsulfuron) or a split application (two applications) at 1.3L/ha (30g foramsulfuron). The water volume used for the application varies from 150 to 400 L per hectare. Please refer to table above.

The representative crop will be corn with the following use pattern:

	Crop	Timing of application	Number of applications	Application interval [days]	Maximum application rate, per treatment [g a.s./ha]	
					FSN	IDF
single applicat.	Corn	BBCH 12-18	1	N/A	60	60
split applicat.	Corn	BBCH 12-18	2	7-14	30	30

FSN: Foramsulfuron / IDF: Isoxadifen-ethyl

B.3.5. METHOD OF APPLICATION

Foramsulfuron is applied as a broadcast spray at the post emergence stage of maize BBCH 12 – 18.

B.3.6. NUMBER AND TIMING OF APPLICATIONS AND DURATION OF PROTECTION

Maximum number of applications and their timings:

There are two key use patterns for the formulation, Equip OD. The first consists of a single application at a maximum rate of approx. 2.6 L per hectare at growth stage 12-18. The second consists of split application, two applications at a max rate of approx. 1.3L per application between BBCH 12-18 with an interval of 7-14 days.

Growth stages of crops or plants to be protected:

Foramsulfuron is applied as a broadcast spray at the post emergence stage of maize BBCH 12 – 18 i.e., two to eight true unfolded leaves of maize

Development stages of the harmful organism concerned:

Foramsulfuron is effective on broad-leaved weeds and grasses after emergence of the weeds. Efficacy depends on the sensitivity of the particular weed species.

Growth stages of harmful organisms:

Weeds are best controlled, when most have emerged and are between two-leaf and either mid-tillering for grass weeds (i.e. BBCH 12-25), or six-leaf stage for dicotyledonous weeds (i.e. BBCH 12-16). Small, actively growing weeds are more easily controlled.

Duration of protection afforded by each application:

Foramsulfuron gives control of the sensitive weeds species from the application until the maize canopy is able to provide sufficient competition to the weeds present at that time. Foramsulfuron does not give sufficient control of weeds which emerge after the application. In such cases it may be necessary to make two applications of approx. 1.3L /ha with an interval of 7-14 days between applications (i.e. a split application).

Duration of protection afforded by the maximum number of applications:

Foramsulfuron gives control of the sensitive weeds species from the application until the maize canopy is able to provide sufficient competition to the weeds present at that time.

B.3.7. NECESSARY WAITING PERIODS OR OTHER PRECAUTIONS TO AVOID PHYTOTOXIC EFFECTS ON SUCCEEDING CROPS

Minimum waiting periods or other precautions between last application and sowing or planting succeeding crops:

A minimum interval of three months is needed between the application and the sowing of a succeeding crop.

Limitations on choice of succeeding crops:

In practical terms there are no restrictions in the sowing of succeeding crops following the application of foramsulfuron. Winter cereals and oil seed rape can be safely sown at the appropriate time according to normal agronomic practice, as can spring crops, in the season following the maize. In the case of replacement crops where the maize crop needs to be replaced, maize can be sown 2 weeks after the original application.

French beans and peas are not recommended to be grown.

Maize with undersown crops must not be treated with Equip.

B.3.8. PROPOSED INSTRUCTIONS FOR USE

The representative formulation is widely registered in the EU and existing labels are provided in the electronic dossier under Document C. Please refer to national labels for detailed information.

B.3.9. EFFECTIVENESS

Generally, most efficient control is obtained, if Equip is applied at the early growth stages of the weeds, for soil half life of foramsulfuron is short. When sprayed at the later stages (BBCH 15-16), only weeds that are very sensitive to foramsulfuron, such as *Solanum nigrum* and *Stellaria media* can be effectively controlled.

In order to achieve good control of *Chenopodium album*, *Digitaria* spp., *Galium aparine* and *Matricaria* spp., these weeds have to be treated as early as growth stages BBCH 12-13.

Efficacy of Equip against occurring perennials, especially *Agropyron repens* and *Cirsium arvense* is given, if the plants are developed before application.

For some weeds, i.e. *Echinochloa crus-galli*, *Sorghum halepense* and *Polygonum* spp. split application is recommended.

According to efficacy of control, weeds can be classified as follows:

Good to very good control

Agropyron repens, *Alopecurus myosuroides*, *Digitaria sanguinalis*, *Echinochloa crus-galli*, *Poa annua*, *Setaria* spp., *Sorghum halepense*.

Amaranthus retroflexus, *Anagallis arvensis*, *Atriplex patula*, *Capsella bursa-pastoris*, *Chenopodium album* (early growth stages), *Chenopodium ficifolium*, *Chenopodium polyspermum*, *Galinsoga parviflora*, *Galium aparine*, *Lamium* spp., *Matricaria* spp., *Mercurialis annua*, *Myagrum perfoliatum*, *Solanum nigrum*, *Stellaria media*, *Thlaspi arvensis*, *Viola arvensis*, volunteer oil seed rape.

Less satisfactory control:*Chenopodium album* (advanced growth stages), *Cirsium arvensis*Inadequate control:*Polygonum* spp.

Protection is achieved against the following target organisms:

1. Grass species

Scientific name	Code	Common name
<i>Alopecurus myosuroides</i>	ALOMY	blackgrass
<i>Agropyron repens</i>	AGRRE	quackgrass
<i>Avena fatua</i>	AVEFA	wild oats
<i>Brachiaria plantaginea</i>	BRAPL	capim-marmelada
<i>Brachiaria platyphylla</i>	BRAPP	broadleaf signalgrass
<i>Bromus inermis</i>	BROIN	smooth brome grass
<i>Digitaria horizontalis</i>	DIGHO	capim-colcheo
<i>Digitaria sanguinalis</i>	DIGSA	large crabgrass
<i>Echinochloa crus galli</i>	ECHCG	barnyardgrass
<i>Eleusine indica</i>	ELEIN	goosegrass
<i>Eragrostis megastachya</i>	ERAME	stinking lovegrass
<i>Hordeum vulgare</i>	HORSS	volunteer barley
<i>Lolium multiflorum</i>	LOLMU	annual ryegrass
<i>Muhlenbergia frondosa</i>	MUHFR	wirestem muhly
<i>Oryza sativa</i>	ORYSA	red rice
<i>Panicum capillare</i>	PANCA	old witchgrass
<i>Panicum dichotomiflorum</i>	PANDI	fall panicum
<i>Panicum maximum</i>	PANMA	guineagrass
<i>Panicum miliaceum</i>	PANMI	wild proso millet
<i>Panicum texanum</i>	PANTE	Texas panicum
<i>Pennisetum setosum</i>	PESSE	capim-aviao
<i>Poa annua</i>	POAAN	annual bluegrass
<i>Setaria faberii</i>	SETFA	giant foxtail
<i>Setaria geniculata</i>	SETGE	capim-rabo-de-raposa
<i>Setaria lutescens</i>	SETLU	yellow foxtail
<i>Setaria verticillata</i>	SETVE	bristly foxtail
<i>Setaria viridis</i>	SETVI	green foxtail
<i>Sorghum halepense</i>	SORHA	seedling and rhizome Johnsongrass
<i>Sorghum bicolor</i>	SORVU	shattercane
<i>Triticum aestivum</i>	TRZSS	volunteer wheat

2. Broadleaf species

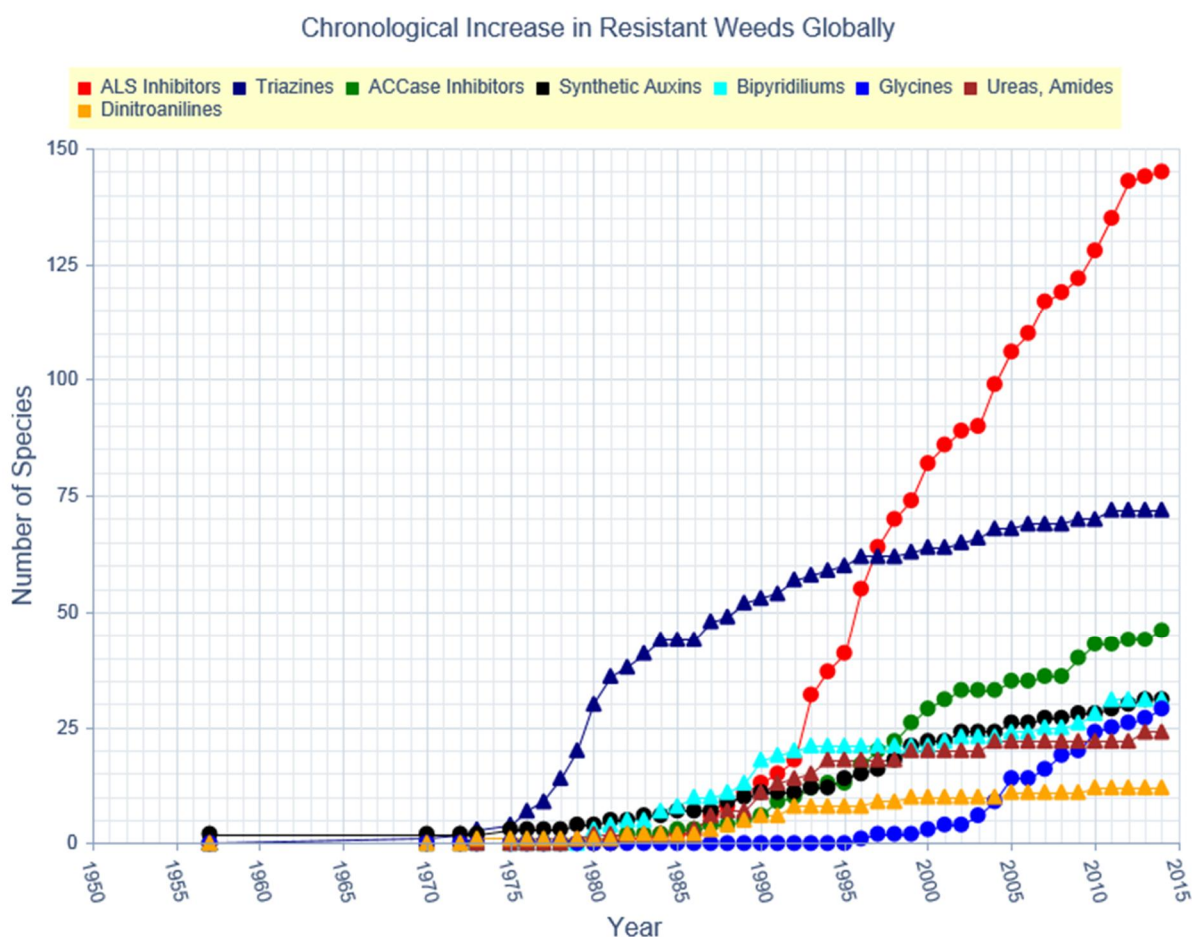
Scientific name	Code	Common name
<i>Abutilon theophrasti</i>	ABUTH	velvetleaf
<i>Acalypha australis</i>	ACAAU	three-seeded mercury
<i>Amaranthus hybridus</i>	AMACH	smooth pigweed
<i>Amaranthus palmeri</i>	AMAPA	Palmer amaranth
<i>Amaranthus retroflexus</i>	AMARE	red-root pigweed
<i>Amaranthus tamariscinus</i>	AMATA	common waterhemp
<i>Amaranthus tuberculatos</i>	AMATU	tall waterhemp
<i>Ambrosia artemisiifolia</i>	AMBEL	common ragweed
<i>Atriplex patula</i>	ATXPA	spreading orache
<i>Bidens pilosa</i>	BIDPI	picao-preto
<i>Brassica napus</i>	BRANA	volunteer oilseed rape
<i>Capsella bursa-pastoris</i>	CAPBP	shepherd's purse
<i>Chenopodium album</i>	CHEAL	lamb's quarters
<i>Cirsium arvense</i>	CIRAR	Canada thistle
<i>Commelina benghalensis</i>	COMBE	Bengal commelina
<i>Datura stramonium</i>	DATST	jimsonweed
<i>Daucus carota</i>	DAUCA	wild carrot
<i>Desmodium tortuosum</i>	DEDTO	Florida beggarweed
<i>Euphorbia heterophylla</i>	EPHHL	painted spurge
<i>Galinsoga parviflora</i>	GASPA	small-flower galinsoga
<i>Galium aparine</i>	GALAP	cleavers
<i>Helianthus annuus</i>	HELAN	common sunflower
<i>Ipomoea purpurea</i>	IPOPD	morning glory
<i>Lamium purpureum</i>	LAMPU	purple deadnettle
<i>Matricaria chamomilla</i>	MATCH	wild chamomile
<i>Matricaria matricarioides</i>	MATIN	pineappleweed
<i>Medicago sativa</i>	MEDSA	volunteer alfalfa
<i>Mercurialis annua</i>	MERAN	annual mercury
<i>Nicandra physaloides</i>	NICPH	joa-de-capote
<i>Portulaca oleracea</i>	POROL	common purslane
<i>Raphanus raphanistrum</i>	RAPRA	wild radish
<i>Sida rhombifolia</i>	SIDRH	common sida
<i>Sinapis arvensis</i>	SINAR	wild mustard
<i>Solanum nigrum</i>	SOLNI	Eastern black nightshade
<i>Sonchus arvensis</i>	SONAR	perennial sowthistle
<i>Stellaria media</i>	STEME	common chickweed
<i>Taraxacum officinale</i>	TAROF	dandelion
<i>Thlaspi arvense</i>	THLAR	field pennycress
<i>Urtica urens</i>	URTUR	stinging nettle
<i>Viola arvensis</i>	VIOAR	field violet

Scientific name	Code	Common name
<i>Xanthium strumarium</i>	XANSS	common cocklebur

B.3.10. INFORMATION ON THE DEVELOPMENT OF RESISTANCE

As with other herbicides of the sulfonylurea family, primary biochemical target site of foramsulfuron is the enzyme acetolactate synthase (ALS) in the aliphatic amino acid pathway. Hence the substance belongs to the mode of action group B according to the HRAC (Herbicide Resistance Action Committee) classification.

It has been shown that populations of the indicated weeds exhibit resistance to ALS-inhibiting substances (<http://weedsociety.org/Resistance>). These species are known to easily evolve resistance due to their high inherent intraspecific variability and their high fecundity. 37 % of the resistant weeds worldwide exhibit resistance to ALS-inhibitors. None of the various mode of actions groups is provoking higher numbers of resistant biotypes every year than ALS-inhibitors. For some cases, especially *Lolium perenne*, even cross resistance to alternate mode of action groups has been reported.



The risk of weeds developing resistance to foramsulfuron is increased by the fact, that maize is a widely grown crop in certain areas, with short rotations, sometimes even monocropped. Selection pressure is augmented by the temporary necessity of two foramsulfuron applications in order to obtain satisfactory control of certain weeds. This applies particularly to weeds, that are characterised by continuous emergence, hence requesting a first application shortly after emergence (BBCH 12-13) and the second within the forthcoming 7 to 14 days.

Altogether, the inherent and agronomic risk factors mentioned lead to the overall assessment of a potentially high risk of resistance to foramsulfuron.

The notifier himself assesses the resistance risk as to be “moderate to high”, stating that the risk is reduced mainly by the facts, that (i) ALS-inhibiting herbicides have not been used in maize for a long time and (ii) as in maize a great number of products acting differently in the target plants than ALS-inhibitors is available, farmers have not necessarily to rely on ALS-inhibitor herbicides for weed control. The alternative herbicides belong to the mode of action groups C1 (inhibition of Photosynthesis II), C3 (C1 (inhibition of Photosynthesis II), F2 (4-hydroxyphenyl-pyruvate-dioxygenase -inhibition), K1 (microtubule assembly inhibition), K3 (inhibition of cell division) and O (action like indole acetic acid).

B.3.11. ADVERSE EFFECTS ON TREATED CROPS

Application of foramsulfuron during unfavourable conditions, i.e. (i) temperatures above 25 °C together with high light intensity and low water supply for the plant, (ii) high differences between day and night temperatures (> 20 °C) or (iii) periods with low temperature (below 10 °C) together with continuous rain, can cause phytotoxicity symptoms. Crop damage may also occur if maize plants are weakened by frost, waterlogging, dryness or insufficient nourishment.

Differences in the tolerance of commercially available maize varieties have been observed but the number of sensitive varieties is low. In all trials, comprising those showing higher levels of initial damage, symptoms were of temporary nature and remained without effect on subsequent maize growth. No thinning effects were found.

According to selectivity, foramsulfuron is incompatible with phosphoric acid esters. Insecticides of the organophosphate group when used before or after herbicide application may cause a risk of crop damage, for they delay the degradation of sulfonylurea herbicides in the crop plants. Therefore the use of Equip on maize fields treated with insecticides from the organophosphate group is not recommended just as these insecticides should not be applied on maize stand treated with Equip beforehand.

B.3.12. OBSERVATIONS ON OTHER UNDESIRABLE OR UNINTENDED SIDE-EFFECTS

Information about observations on other undesirable or unintended side-effects has not been supplied.

B.3.13. REFERENCES RELIED ON

Data Point	Author(s)	Year	Title Compagny Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data protection claimed Y/N	Justification if data protection is claimed	Owner	Previous evaluation
KCP Section 6 /01	Koecher, H.; Dickerhof, G.	1999	Mode of action of the herbicide AE F130360 in combination with the safener AE F122006 Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C005773, Edition Number: M-192620-01-1 EPA MRID No.: 45109402 Date: 1999-12-15 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /02	Green, J. M.; Ulrich, J. F.	1993	Response of corn (Zea mays L.) inbreds and hybrids to sulfonylurea herbicides Journal: Weed Science, Volume:41, Pages:508-516, Year:1993, Report No.: C007578, Edition Number: M-196213-01-1 Date: 1993-06-14 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /03	Kidnie, M. J.	1998	A growth-room bioassay for predicting the field tolerance of corn hybrids to rimsulfuron Report No.: C007654, Edition Number: M-196362-01-1 Date: 1998-04-01 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /04	Drexler, D.	2000	Interactions of AE F130360 with insecticides Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C006584, Edition Number: M-194229-01-1 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /05	Bonfig-Picard, G.	2000	Comparison on the biological efficacy of a tank mixture of two WG formulations and a liquid premix formulation containing Code: AE F130360 + AE F122006 Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C006586, Edition Number: M-194234-01-1 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /06	Hills, M.	2000	Rainfastness (Summary) Code: AE F130360 01 1K05 A3xx Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany	N	N	Not relevant	Bayer CropScience	In DAR (2001)

Data Point	Author(s)	Year	Title Compagny Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data protection claimed Y/N	Justification if data protection is claimed	Owner	Previous evaluation
			Report No.: C006581, Edition Number: M-194223-01-1 Date: 2000-01-14 GLP/GEP: no, unpublished					
KCP Section 6 /07	Marchi, A.; Bacchiocchi, C.	2000	Biological assessment dossier for EQUIP AE F130360 + isoxadifen-ethyl suspension concentrate - SC 22.5 g/L + 22.5 g/L Code: AE F130360 01 1K05 A3xx Aventis CropScience Italia S.p.a., Milano, Italy Report No.: C007526, Edition Number: M-196108-01-1 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /08	Dubournet, P.	2000	Biological assessment dossier for EQUIP AE F130360 + isoxadifen-ethyl suspension concentrate (SC) 22.5 + 22.5 g/L Code: AE F130360 01 1K05 A3xx AgrEvo France S.A., Saint-Aubin, France Report No.: C004074, Edition Number: M-187289-01-1 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /09	Hagemeyer, H.	2000	Biological assessment dossier for EQUIP AE F130360 + AE F122006 suspension concentrate 22.5 + 22.5 g/L Code: AE F130360 01 1K05 A3 Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C007472, Edition Number: M-227804-01-2 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /10	Bieringer, H.	1999	Effectivity of the herbicide AE F130360 on higher plant species as applied under greenhouse conditions Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C005291, Edition Number: M-191762-01-1 EPA MRID No.: 45109401 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP Section 6 /11	Landi, P.; Vicari, A.; Catizone, P.	1988	Response of maize (Zea mays L.) inbred lines and hybrids to chlorsulfuron Journal: Weed Research, Volume: 29, Pages: 265-271, Year: 1989,	N	N	Not relevant	Bayer CropScience	In DAR (2001)

Data Point	Author(s)	Year	Title Compagny Report No. Source (where different from company) GLP or GEP status Published or not	Vertebrate study Y/N	Data protection claimed Y/N	Justification if data protection is claimed	Owner	Previous evaluation
			Report No.: C007579, Edition Number: M-196215-01-1 Date: 1988-11-11 GLP/GEP: no, published					
KCP Section 6 /12	Green, J. M.; Ulrich, J. F.	1993	Response of maize (Zea mays) inbreds and hybrids to rimsulfuron Journal: Pesticide Science, Volume: 40, Pages: 187-191, Year: 1994, Report No.: C007577, Edition Number: M-196211-01-1 Date: 1993-11-11 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP 6.3 /01	Anon.	1998	Guideline to the management of herbicide resistance Journal: Herbicide Resistance Action Committee (HRAC), Pages: 1;12, Year: 1998, Report No.: C001643, Edition Number: M-183083-01-1 Date: 1998-01-01 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP 6.3 /02	Heap, I. M.	1997	The occurrence of herbicide-resistant weeds worldwide Report No.: C006534, Edition Number: M-194120-01-1 Date: 1997-11-01 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP 6.3 /03	Saari, L. L.; Cotterman, J. C.; Thill, D. C.	1994	Resistance to acetolactate synthase inhibiting herbicides (Chapter 4) Journal: Herbicide Resistance in Plants. Biology and Biochemistry, Pages: 83-139, Year: 1994, Report No.: C006592, Edition Number: M-194244-01-1 Date: 1994-01-01 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP 6.5.1 /01	Hills, M.	2000	Carryover behaviour Code: AE F130360 Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C007130, Edition Number: M-194227-02-1 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP 6.5.1 /02	Rosinger, C. H.	2000	Selectivity thresholds for AE F130360 in various crops - ED10	N	N	Not relevant	Bayer CropScience	In DAR (2001)

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			values in soil Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C007029, Edition Number: M-194476-02-1 Date: 2000-01-27 ...Amended: 2000-02-21 GLP/GEP: no, unpublished				ce	
KCP 6.5.2 /01	Bonfig-Picard, G.	2000	Selectivity and dose response on sensitive crops (Summary) Code: AE F130360 01 1K05 A3xx Hoechst Schering AgrEvo GmbH, Frankfurt am Main, Germany Report No.: C006582, Edition Number: M-194225-01-1 GLP/GEP: no, unpublished	N	N	Not relevant	Bayer CropScience	In DAR (2001)
KCP 6.5.2/02	Ganzelmeier, H.; Rautmann, D.; Spangenberg, R.; Streloke, M.; Herrmann, M.; Wenzelburger, H. J.; Walter, H. F.	1995	Studies on the spray drift of plant protection products Results of a test program carried out throughout the Federal Republic of Germany Journal: Mitteilungen aus der Biologischen Bundesanstalt fuer Land- und Forstwirtschaft Berlin-Dahlem, Issue: 305, Pages: 1; 111, Year: 1995, Report No.: A56850, Edition Number: M-140628-01-1 Date: 1995-01-01 GLP/GEP: no, published	N	N	Not relevant	Bayer CropScience	In DAR (2001)