

Table A7.5.3.1.2/01-2: Values of reproduction ability in Bobwhite Quail

Parameter	Mean Measured Dietary Concentration (mg as/kg food)				
	0 ppm	36 ppm	61 ppm	126 ppm	243 ppm
Egg production (no. eggs laid/hen in 10 weeks)	42	50	39	44	42
Percentage of cracked eggs	6	12	9	9	8
Viability (per cent viable embryos of eggs set)	80	83	87	87	84
Hatchability (per cent hatching of eggs set)	86	85	81	80	86
Percentage of hatchings that survive to 14 days	95	92	95	83	96
Number of 14-day old survivors per hen	22	28	23	26	23
Eggshell thickness (mm)	0.35	0.35	0.34*	0.34	0.33*
Mean eggshell strength (kg)	0.99	0.99	0.91	0.94	1.04

\*statistically significant ( $p \leq 0.05$ ), but in the absence of any effect on mean eggshell strength or percentage eggs cracked, the observation was not considered biologically significant

Table A7.5.3.1.2/01-3: Effects of imidacloprid on reproduction of birds

Test substance	Techn. as
Test object	Bobwhite quail
Exposure	20 weeks dietary
Lowest observed effect concentration (LOEC) [mg as/kg feed]	243*
No observed effect concentration (NOEC) [mg as/kg feed]	126*

\* Results are based on body weights of male adults.

Table A7.5.3.1.2/01-4: Calculation of the NOEL<sub>It</sub> (daily dietary dose) in avian reproduction studies based on the respective NOEC<sub>It</sub> (dietary concentration)

Species	NOEC <sub>It</sub> based on measured dietary concentration [mg as/kg diet]	Mean food consumption [g/bird/day]	Mean body mass of group animals [g/bird]	Daily amount of as ingested [mg as/bird]	NOEL <sub>It</sub> based on Daily dietary dose (DDD) [mg as/kg bw/day]
Bobwhite quail	126	17.8	242	2.3	9.3
Mallard duck	128	113	1,240	14.5	11.7

**Table A7.5.3.1.2/01-5: Validity criteria for bird reproduction test according to OECD 206**

	Fulfilled	Not fulfilled
Mortality of control animals <10%	X	
Average number of 14-day-old survivors per hen in controls $\geq$ 14, 12 and 24 for mallard duck, bobwhite quail and Japanese quail	X	
Average eggshell thickness for the control group $\geq$ 0.34, 0.19 and 0.19 mm for mallard duck, bobwhite quail and Japanese quail	X	
Concentration of the test substance in the diet $\geq$ 80 % of the nominal concentration throughout the test period	X	

**Section 7.5.3.1.3/02****Annex Point IIIA XIII 1.3****Effects on reproduction of birds***One generation reproduction study with mallard ducks*Official  
use only

		<b>1 REFERENCE</b>
<b>1.1 Reference</b>		<i>PPP monograph: B.9.1.3, IIA 8.1.3/02</i>
Authors (year)		██████████ (1992)
Title		Technical NTN 33893: A one generation reproduction study with mallard ducks
Company, report No.		Bayer CropScience AG, Report-No.: 103813-1 BES Ref. : M-006730-02-1
Date		1992-09-03, Amended: 1993-06-03
Testing facility		██
Dates of work		November 12, 1991 – May 12, 1992
Test substance(s)		Molecule(s): imidacloprid Substance(s): Imidacloprid techn, (Batch-No.: 17129/90, 1030010)
<b>1.2 Data protection</b>		Yes
1.2.1 Data owner		Bayer CropScience AG
1.2.2		
1.2.3 Criteria for data protection		Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA
		<b>2 GUIDELINES AND QUALITY ASSURANCE</b>
<b>2.1 Guideline study</b>		EPA 71-4, OECD 206
<b>2.2 GLP</b>		Yes (certified laboratory)
<b>2.3 Deviations</b>		One minor deviation concerning measurement of room temperature
		<b>3 METHOD</b>
<b>3.1 Test material</b>		As given in section 2
3.1.1 Lot/Batch number		Imidacloprid, purity: 95.8 % (batch no.: 1030010/17129-90);
3.1.2 Specification		Specification as given in section 2; stability guaranteed for the duration of the study.
3.1.3 Purity		
3.1.4 Composition of Product		Not relevant for a.s.
3.1.5 Further relevant properties		none
3.1.6 Method of analysis		HPLC with UV detection, validation reported in A7.5.3.1.3/01
<b>3.2 Administration of the test substance</b>		In diet, nominal (mean measured) dietary concentrations were 60 (61), 120 (128) and 240 (250) mg as/kg diet

**Section 7.5.3.1.3/02****Annex Point IIIA XIII 1.3****Effects on reproduction of birds***One generation reproduction study with mallard ducks***3.3 Testing procedure**

- |       |                           |   |
|-------|---------------------------|---|
| 3.3.1 | Test organisms            | See Table A7.5.3.1.3/02-1.  |
| 3.3.2 | Test system               | Imidacloprid was administered in the diet to groups of 15 pairs of young adult Mallard ducks per treatment (22 weeks old at test initiation); nominal (mean measured) dietary concentrations were 60 (61), 120 (128) and 240 (250) mg as/kg diet administered for 20 weeks  |
| 3.3.3 | Diet                      | Adult birds Agway Gamebird Ration, Wildlife International formula with test substance; offspring Teklad DU-11 Duck Starter without test substance   |
| 3.3.4 | Test conditions           | Per US EPA 71-4, OECD 206, no significant deviations noted by the RMS of the December 2005 91/414 DAR   |
| 3.3.5 | Duration of the test      | Approx. 29 weeks in 5 phases: 3 week acclimation; 8 week pre-photostimulation; 2 week pre-egg laying; 10 week egg laying; six week final incubation, hatching and 14 day offspring rearing  |
| 3.3.6 | Test parameter            | Feed consumption, body weight, clinical appearance, survival and postmortem findings of the parental generation were monitored; effects on reproduction and first generation offspring were determined by measuring egg production, egg viability, 3-week embryo survival, hatchability and hatchling body weight, 14-day survival and survivor body weight and eggshell strength/thickness; a gross pathology was conducted. |
| 3.3.7 | Examination / Observation |   |
| 3.3.8 | Statistics                | Bartlett's test or Levines test of equal variance, ANOVA using F distribution for parametric procedures followed by Dunnett's test as necessary, Kruskal Wallis test for non-parametric procedures followed by Dunn's summed rank test as necessary   |

**4 RESULTS**

- |     |  |               |
|-----|--|---------------|
| 4.1 | <b>Limit Test / Range finding test</b> | Not performed |
|-----|--|---------------|

**4.2 Results test substance**

- |       |                        |  |
|-------|------------------------|--|
| 4.2.1 | Applied concentrations | nominal (mean measured) dietary concentrations were 60 (61), 120 (128) and 240 (250) mg as/kg diet |
|-------|------------------------|--|



**Section 7.5.3.1.3/02****Annex Point IIIA XIII 1.3****Effects on reproduction of birds***One generation reproduction study with mallard ducks*

4.2.2	Effect data (Mortality and reproductivity)	<p>There were no treatment-related mortalities and no clinical signs of toxicity. See Table A7.5.3.1.3/02-2 for reproductive parameters. There was a significant decrease in eggshell thickness and strength which became obvious at 250 mg as/kg diet. No treatment-related effects were observed upon the other examined reproductive parameters or on offsprings.</p> <p>Based on these results, the no-observed-effect concentration (NOEC) for adult Mallard ducks exposed to technical NTN 33893 was 128 mg as/kg diet. The LOEC value was determined as 250 mg as/kg food (see Table A7.5.3.1.3/02-3).</p> <p>As the endpoints of the chronic bird studies (NOEC) were determined related to the concentrations in avian diet, the diet-related endpoints [mg as/kg diet] had to be converted to endpoints based on the daily dietary dose (NOEL) [mg as/kg bw/day], in order to assess the long-term risk in compliance with SANCO/4145 (2002). This was performed in detail as demonstrated in A7.5.3.1.3/02-4.</p>
4.2.3	Body weight	A significant decrease in body weight occurred in female adults at 250 mg as/kg diet. No other significant differences between the control group and treatment groups appeared in any parameter.
4.2.4	Food consumption	
4.2.5	Results of residue analysis	
4.2.6	Other effects	Gross pathology: Postmortem examination revealed no compound- or treatment-related lesions in any bird.
<b>4.3</b>	<b>Results of controls</b>	
4.3.1	Number/ percentage of animals showing adverse effects	none
4.3.2	Nature of adverse effects	none

**5 APPLICANT'S SUMMARY AND CONCLUSION****5.1 Materials and  
methods**

In a one generation reproduction study conducted according to OECD 206 and EPA FIFRA § 71-4, imidacloprid was administered in the diet to groups of 15 pairs of young adult Mallard ducks per treatment (22 weeks old at test initiation); nominal (mean measured) dietary concentrations were 60 (61), 120 (128) and 240 (250) mg as/kg diet administered for 20 weeks; feed consumption, body weight, clinical appearance, survival and postmortem findings of the parental generation were monitored; effects on reproduction and first generation offspring were determined by measuring egg production, egg viability, 3-week embryo survival, hatchability and hatchling body weight, 14-day survival and survivor body weight and eggshell strength/thickness; a gross pathology was conducted.

**Section 7.5.3.1.3/02****Annex Point IIIA XIII 1.3****Effects on reproduction of birds***One generation reproduction study with mallard ducks***5.2 Results and discussion**

There were no treatment-related mortalities and no clinical signs of toxicity.

A significant decrease in body weight occurred in female adults at 250 mg as/kg diet. No other significant differences between the control group and treatment groups appeared in any parameter.

Regarding reproduction parameters, a significant decrease in eggshell thickness and strength became obvious at 250 mg as/kg diet. No treatment-related effects were observed upon the other examined reproductive parameters or on offsprings.

Postmortem examination revealed no compound- or treatment-related lesions in any bird.

Based on these results, the no-observed-effect concentration (NOEC) for adult Mallard ducks exposed to technical NTN 33893 was 128 mg as/kg diet. The LOEC value was determined as 250 mg as/kg food.

**5.2.1 NOEC**

128 mg as/kg food

**5.3 Conclusion**

In a study meeting the validity criteria, the no observed effect concentration NOEC for Mallard ducks exposed to imidacloprid tech. in the diet was 128 mg as/kg feed.

**5.3.1 Reliability**

1

**5.3.2 Deficiencies**

No

**Evaluation by Competent Authorities**

Use separate "evaluation boxes" to provide transparency as to the comments and views submitted

**EVALUATION BY RAPPORTEUR MEMBER STATE****Date**

2006/11/27

**Materials and Methods**

Applicant's version is acceptable.

**Results and discussion**

Applicant's version is acceptable.

**Conclusion**

Applicant's version can be adopted.

**Reliability**

1

**Acceptability**

acceptable

**Remarks**

-

**Section 7.5.3.1.3/02      Effects on reproduction of birds****Annex Point IIIA XIII 1.3***One generation reproduction study with mallard ducks*

	<b>COMMENTS FROM ... (specify)</b>
<b>Date</b>	<i>Give date of comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Remarks</b>	

**Table A7.5.3.1.3/02-1: Test animals**

<b>Criteria</b>	<b>Details</b>
Species/strain	<i>Anus platyrhynchos</i>
Source	Whistling wings Inc. Hanover, IL, USA
Age (in weeks), sex and initial body weight (bw)	Approx 22 weeks at test initiation, males and females, weight at start of study ranging from approx 1.05-1.25 kg for females and 1.15-1.45 kg for males (control group values)
Age range within the test	Approx 22 to 42 weeks (adult birds sacrificed at end of 20 week adult exposure period)
Breeding population	Approaching first breeding season when received
Amount of food	<i>Ad libitum</i>
Age at time of first dosing	Approx 22 weeks
Health condition / medication	healthy
Pre-treatment	No adverse effects noted

Table A7.5.3.1.3/02-2: Values of reproduction ability in Mallard Duck

Parameter	Mean Measured Dietary Concentration (mg as/kg food)			
	0 ppm	61 ppm	128 ppm	250 ppm
Egg production (no. eggs laid/hen in 10 weeks)	43	49	40	41
Percentage of cracked eggs	2	5	7*	5
Viability (per cent viable embryos of eggs set)	96	94	90	94
Hatchability (per cent hatching of eggs set)	95	94	93	90
Percentage of hatchlings that survive to 14 days	99	99	97	99
Number of 14-day old survivors per hen	35	38	29	30
Eggshell thickness (mm)	0.45	0.44	0.44	0.43*
Mean eggshell strength (kg)	2.94	2.86	2.79	2.68**

\*statistically significant (Dunnett's one-tailed,  $p \leq 0.05$ )\*\*statistically significant (Dunnett's one-and two-tailed,  $p \leq 0.05$ )

Table A7.5.3.1.3/02-3: Effects of imidacloprid on reproduction of birds

Test substance	Tech. as
Species	Mallard duck
Exposure	20 weeks dietary
Lowest observed effect concentration (LOEC) [mg as/kg feed]	250 *
No observed effect concentration (NOEC) [mg as/kg feed]	128

\* Values based on effects on adult ducks and eggshell thickness

Table A7.5.3.1.2/02-4: Calculation of the NOEL<sub>It</sub> (daily dietary dose) in avian reproduction studies based on the respective NOEC<sub>It</sub> (dietary concentration)

Species	NOEC <sub>It</sub> based on measured dietary concentration [mg as/kg diet]	Mean food consumption [g/bird/day]	Mean body mass of group animals [g/bird]	Daily amount of as ingested [mg as/bird]	NOEL <sub>It</sub> based on Daily dietary dose (DDD) [mg as/kg bw/day]
Bobwhite quail	126	17.8	242	2.3	9.3
Mallard duck	128	113	1,240	14.5	11.7

**Table A7.5.3.1.2/02-5: Validity criteria for bird reproduction test according to OECD 206**

	Fulfilled	Not fulfilled
Mortality of control animals <10%	X	
Average number of 14-day-old survivors per hen in controls $\geq$ 14, 12 and 24 for mallard duck, bobwhite quail and Japanese quail	X	
Average eggshell thickness for the control group $\geq$ 0.34, 0.19 and 0.19 mm for mallard duck, bobwhite quail and Japanese quail	X	
Concentration of the test substance in the diet $\geq$ 80 % of the nominal concentration throughout the test period	X	

**Section A7.5.4.1/01**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**
*Acute toxicity to Apis mellifera*

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<b>1 REFERENCE</b>	
<b>1.1 Reference</b>	<i>PPP monograph: B.9.4.1, II A, 8.3.1.1 /01</i>
Authors (year)	██████████ (1990)
Title	The acute oral and contact toxicity to honey bees of compound NTN 33893 technical
Company, report No.	Bayer CropScience AG, Report-No.: BAY 158/901384 BES Ref. : M-006940-02-1
Date	1990-12-28, Amended: 1994-01-06
Testing facility	██
Dates of work	August 21, 1990 – August 25, 1990
Test substance(s)	Molecule(s): imidacloprid
<b>1.2 Data protection</b>	Yes
<b>1.2.1 Data owner</b>	Bayer CropScience AG
<b>1.2.3 Criteria for data protection</b>	Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA.
<b>2 GUIDELINES AND QUALITY ASSURANCE</b>	
<b>2.1 Guideline study</b>	United Kingdom Control of Pesticides Regulations 1986 protocol; EPA guideline 141-1
<b>2.2 GLP</b>	Yes(certified laboratory)
<b>2.3 Deviations</b>	No
<b>3 MATERIALS AND METHODS</b>	
<b>3.1 Test material</b>	As given in Section 2
3.1.1 Lot/Batch number	Imidacloprid, batch 890315ELB 01, purity 99.8%.
3.1.2 Specification	Specification as given in section 2; stability guaranteed for the duration of the study.
3.1.3 Description	
3.1.4 Purity	
3.1.5 Stability	
<b>3.2 Test design</b>	
3.2.1 Administration	Oral, test substance in sucrose solution offered <i>ad libitum</i> and contact, test substance dissolved in dimethylformamide (DMF) placed on the thorax of each bee
3.2.2 Doses	oral: 0.025; 0.0125; 0.0063; 0.0031; 0.0015 µg/ bee contact: 0.40; 0.20; 0.10; 0.05; 0.025 µg/ bee
3.2.3 Number of organisms tested	2 X 10 bees (10 bees/ a wire mesh cage)
3.2.4 Test duration	48 h

**Section A7.5.4.1/01**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**
*Acute toxicity to Apis mellifera*

- 3.2.5 Reference substance Not included
- 3.2.6 Control Oral: untreated sucrose  
Contact: DMF, 1 µl droplet
- 3.2.7 Measurements Mortality at 24 and 48h

**4 RESULTS**
**4.1 Findings**

See Table A7.5.4.1/01-1

The 48 hour LD50 values were computed from the mortality data by probit analysis with Abbots correction for control mortality.

LD50 oral (48h) 0.0037 µg/ bee, LD50 contact (48 h) 0.081 µg/ bee

**5 APPLICANT'S SUMMARY AND CONCLUSION**
**5.1 Materials and methods**

In a study conducted according to United Kingdom Control of Pesticides Regulations 1986 protocol; EPA guideline 141-1, honeybees were exposed to imidacloprid orally (via test substance in sucrose solution at levels of 0, 0.025; 0.0125; 0.0063; 0.0031; 0.0015 µg/ bee) or by contact (imidacloprid dissolved in DMF at levels of 0, 0.40; 0.20; 0.10; 0.05; 0.025 µg/ bee and applied topically). Mortality was assessed over 48 hours.

**5.2 Results and discussion**

Mortalities occurred in every treatment group and in the oral control group. The 48 hour LD50 values were computed from the mortality data by probit analysis with Abbots correction for control mortality.

LD50 oral (48h) 0.0037 µg/ bee

LD50 contact (48 h) 0.081 µg/ bee

**5.3 Conclusion**

Imidacloprid a.s. is very toxic to bees by both ingestion and contact.

**5.3.1 Reliability**

1

**5.3.2 Deficiencies**

No

**Evaluation by Competent Authorities**

*Use separate "evaluation boxes" to provide transparency as to the comments and views submitted*

**EVALUATION BY RAPporteur MEMBER STATE**

- Date** 2006/11/27
- Materials and Methods** Applicant's version is acceptable.
- Results and discussion** Applicant's version is acceptable.
- Conclusion** Applicant's version can be adopted.
- Reliability** 1
- Acceptability** acceptable
- Remarks** -



**Section A7.5.4.1/01**  
**Annex Point IIIA.XIII.3**

**Effects on honeybees**

*Acute toxicity to Apis mellifera*

<b>COMMENTS FROM</b>	
<b>Date</b>	<i>Give date of the comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>

**Table A7.5.4.1/01-1**

**Mortality of bees after oral and contact treatment with imidacloprid**

<b>Route</b>	<b>µg/ bee</b>	<b>Number of bees</b>	<b>% mortality 24 hours</b>	<b>% mortality 48 hours</b>
<b>Oral</b>	<b>0.025</b>	<b>20</b>	<b>95</b>	<b>100</b>
	<b>0.0125</b>	<b>20</b>	<b>75</b>	<b>90</b>
	<b>0.0063</b>	<b>20</b>	<b>45</b>	<b>65</b>
	<b>0.0031</b>	<b>20</b>	<b>40</b>	<b>50</b>
	<b>0.0015</b>	<b>20</b>	<b>15</b>	<b>20</b>
	<b>Control</b>	<b>20</b>	<b>5</b>	<b>5</b>
<b>Contact</b>	<b>0.40</b>	<b>20</b>	<b>75</b>	<b>95</b>
	<b>0.20</b>	<b>20</b>	<b>55</b>	<b>80</b>
	<b>0.01</b>	<b>20</b>	<b>35</b>	<b>55</b>
	<b>0.05</b>	<b>20</b>	<b>20</b>	<b>30</b>
	<b>0.025</b>	<b>20</b>	<b>15</b>	<b>20</b>
	<b>Control</b>	<b>20</b>	<b>0</b>	<b>0</b>





**Section A7.5.4.1/02**  
**Annex Point IIIA XIII.3****Effects on honeybees***Acute toxicity to Apis mellifera*Official  
use only**1 REFERENCE****1.1 Reference**

Authors (year)

PPP monograph: B.9.4.1, II A, 8.3.1.1 /04

[REDACTED] (1999)

Title

Laboratory testing for toxicity (acute oral LD50) of NTN 33893 on honey bees (*Apis mellifera* L.) (Hymenoptera, Apidae)

Company, report No.

Bayer CropScience AG, Report-No.: 6400036

Date

BES Ref. : M-016942-01-1

1999-09-30

Testing facility

[REDACTED]

Dates of work

July 06, 1999 to July 10, 1999

Test substance(s)

Molecule(s): imidacloprid

Substance(s): Imidacloprid (Batch-No.: M00680)

**1.2 Data protection**

Yes

**1.2.1 Data owner**

Bayer CropScience AG

**1.2.3 Criteria for data protection**

Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA

**2 GUIDELINES AND QUALITY ASSURANCE****2.1 Guideline study**

EPPO No. 170

**2.2 GLP**

Yes(certified laboratory)

**2.3 Deviations**

temperature: 29 °C; relative humidity: 50 - 70 % instead of 25 ° C ± 2 ° C and relative humidity of 60 -70 % as indicated in the guideline

**3 MATERIALS AND METHODS****3.1 Test material**

As given in Section 2

**3.1.1 Lot/Batch number**

Imidacloprid, batch M00680, purity 99.4%.

**3.1.2 Specification**

Specification as given in section 2; stability guaranteed for the duration of the study.

**3.1.3 Description****3.1.4 Purity****3.1.5 Stability****3.2 Test design****3.2.1 Administration**

Single oral dose

**3.2.2 Doses**

40.9; 22.9; 12.2; 6.0; 3.1; 1.5; 0.8 and 0.1 ng/ bee

**3.2.3 Number of organisms tested**

3 X 10 bees (10 bees/ a wire mesh cage)

**3.2.4 Test duration**

48 h, but extended to 96 h

**Section A7.5.4.1/02**  
**Annex Point IIIA XIII.3****Effects on honeybees***Acute toxicity to Apis mellifera*

3.2.5	Reference substance	dimethoate	
3.2.6	Control	untreated sucrose	
3.2.7	Measurements	Mortality and behavioural impact at 1, 4, 24, 48, 72 and 96 h	x

**4 RESULTS****4.1 Findings**

See Table A7.5.4.1/02-1

No treatment-related mortalities or behavioural impacts were recorded at or below 1.5 ng/bee. Oral doses of 3.1 ng/bee and higher caused mortalities and behavioural impacts such as apathy and un-coordinated movements.

In the control, 3 bees died, whereas all bees died in groups treated with the toxic standard dimethoate.

**5 APPLICANT'S SUMMARY AND CONCLUSION****5.1 Materials and methods**

In a study conducted according to EPPO No. 170, fasted honeybees were given a single oral dose of imidacloprid in sucrose solution at levels of 40.9; 22.9; 12.2; 6.0; 3.1; 1.5; 0.8 and 0.1 ng/ bee. Mortality and behavioural impact were monitored at 1, 4, 24, 48, 72 and 96 hours. Dimethoate was tested as the reference standard. Sugar solution was administered as control.

**5.2 Results and discussion**

No treatment-related mortalities or behavioural impacts were recorded at or below 1.5 ng/bee. Oral doses of 3.1 ng/bee and higher caused mortalities and behavioural impacts such as apathy and un-coordinated movements.

The 48 hour LD50 value was determined to be 0.049 µg/ bee

**5.3 Conclusion**

Imidacloprid a.s. is very toxic to honeybees by ingestion.

**5.3.1 Reliability**

1

**5.3.2 Deficiencies**

No

**Section A7.5.4.1/02**  
**Annex Point IIIA.XIII.3**
**Effects on honey bees**
*Acute toxicity to Apis mellifera*

<b>Evaluation by Competent Authorities</b>	
<i>Use separate "evaluation boxes" to provide transparency as to the comments and views submitted</i>	
<b>EVALUATION BY RAPporteur MEMBER STATE</b>	
<b>Date</b>	2006/11/28
<b>Materials and Methods</b>	Applicant's version is acceptable.
<b>Results and discussion</b>	Applicant's version is acceptable.
<b>Conclusion</b>	Applicant's version can be adopted.
<b>Reliability</b>	1
<b>Acceptability</b>	acceptable
<b>Remarks</b>	-
<b>COMMENTS FROM</b>	
<b>Date</b>	<i>Give date of the comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>

**Table A7.5.4.1/02-1: Acute oral toxicity of NTN 33893 to honey bees**

LD <sub>50</sub> oral (48 h):	
NTN 33893	0.049 µg / bee
dimethoate	0.14 µg / bee
sugar solution	no mortality

**Section A7.5.4.1/03**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in plantback crops grown in fields previously treated with imidacloprid to honeybees*

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use only

**1 REFERENCE**
**1.1 Reference**

Authors (year)

PPP monograph: B.9.4.5g

██████████ (2002):

Title

Imidacloprid (Admire) residue levels following in-furrow application in potato fields in Prince Edward Island and New Brunswick

Company, report No.

Bayer CropScience AG, Report-No.MO-02-006773

Date

BES Ref. : M-061850-01-1

2002

Testing facility

██  
 ██

Test substance(s)

Molecule(s): imidacloprid, tested as Admire 240 F

**1.2 Data protection**

Yes

**1.2.1 Data owner**

Bayer CropScience AG

**1.2.3 Criteria for data protection**

Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA

**2 GUIDELINES AND QUALITY ASSURANCE**
**2.1 Guideline study**

EPA-FIFRA section 40-CFR part 160 (appendix A)

**2.2 GLP**

Yes

**2.3 Deviations**

None noted

**3 MATERIALS AND METHODS**
**3.1 Test material**

3.1.1 Lot/Batch number

Imidacloprid formulation Admire 240 F (240 g/l a.s.), a.s. content within manufacturing control level

3.1.2 Specification

3.1.3 Description

3.1.4 Purity

3.1.5 Stability

**3.2 Test objective for PPP uses**

The aim of the investigations was to detect residues of imidacloprid and its metabolites in replanted crops and in honey and pollen of honeybee colonies foraging on the replanted crops and the possible impact of these residues on the foraging colonies.

3.2.1 Relevance to BP use

The nature of the objective is consistent with the need to understand the potential risk to bees foraging near grassland treated with or on crops replanted in arable soil amended with potentially contaminated manure from 0.5% imidacloprid granule biocidal product use in animal houses.

3.2.2 Test design

The aim of the investigations was to detect residues of imidacloprid and its metabolites in replanted crops in honey and pollen of honeybee colonies foraging on the replanted crops and the possible impact of these residues on the foraging colonies. For these investigations in

**Section A7.5.4.1/03**  
**Annex Point IIIA XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in plantback crops grown in fields previously treated with imidacloprid to honeybees*

Prince Edward Island 18 and in New Brunswick 5 field locations were chosen. Regarding the application of imidacloprid respectively the development of imidacloprid residues the fields can be divided into 3 categories:

year 1 fields: potato fields with an Admire 240 F in furrow application (850 mL/ha) in spring 2001

year 2 fields: underseeded grain fields with seed treatment of Admire 240 F (850 mL/ha, respectively 1300 mL/ha) in spring 2000

The fields were underseeded with a mixture of *Trifolium pratense*, *Trifolium hybridum* and *Phleum pratense*.

year 3 fields: first and second flowering clover fields with a foliar application of Admire 240 F in spring 1999

The design included 2 untreated fields as control fields.

**3.2.3 Test procedure**

At each of 4 second bloom clover fields 8 honeybee colonies were placed and another 8 colonies were placed at the control field. At the first assessment (25 – 27 July) all colonies were equalised (i.e. similar strength, quantities of food stores, brood and adults covering at least 10 frames).

Sampling:

soil: From each of 11 fields composite samples consisting of 160 soil cores were taken. Additional from 7 run off fields composite samples consisting of 20 soil cores were taken.

clover flowers: From each of 8 fields composite samples consisting of 80 clover flowers were collected in Prince Edward Island and on 5 fields in New Brunswick.

clover leaves: From each of 8 fields in Prince Edward Island composite samples of 400 leaves were collected. In New Brunswick composite samples of 160 leaves were collected in 5 fields.

wild flowers: From 7 run off fields composite samples of 20 soil cores were taken near the base of wild flower plants. Moreover from these wild flower species (*Solidago canadensis*, *Epilobium angustifolium*, *Aster novi-belgii*) flower samples of 40 g were taken in each field.

honeybees: On each of the second bloom treated and control clover fields honeybees were collected from late July to early September. Bees were immediately deep frozen on dry ice for transporting to the laboratory. There the bees were sorted according to nectar and pollen loads.

Colony assessments: Two colony assessments were performed, the first on 26. – 27. July 2001 and the second on 14. – 15. September 2001. The assessment included colony strength, brood status, honey storage, behaviour of the bees, diseases (American foulbrood, European foulbrood, sackbrood, chalkbrood, Varroa)



**Section A7.5.4.1/03**  
**Annex Point IIIA.XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in plantback crops grown in fields previously treated with imidacloprid to honeybees*

**4 RESULTS****4.1 Findings**

All colonies placed in the treated clover fields developed normally and did not show any impact of the test product on colony strength, brood status, honey storage and behaviour. Few colonies showed symptoms of chalkbrood, Varroa and European foulbrood.

Residues of imidacloprid were detected in the soils of all treated fields, ranging from <2 ppb (parts per billion) to 38 ppb. Samples from underseeded grain fields (year 2 fields) ranged from 16 to 38 ppb. Samples from first flowering clover fields (year 3 fields) ranged from 16 to 38 ppb (average 24.6 ppb). Samples from second flowering clover fields ranged from 14 to 25 ppb (average 20 ppb). The edges of sloped fields in the first year rotation (i.e. potato fields) exhibited only one case of residue in soil. These fields had residue levels of imidacloprid in clover leaves at just above the LOD.

Otherwise all clover flowers, wildflowers pollen, nectar and uncapped honey did not have any detectable levels of imidacloprid or its hydroxy and olefine metabolites.

**5 APPLICANT'S SUMMARY AND CONCLUSION****5.1 Materials and methods**

In a study with analysis conducted according EPA-FIFRA section 40-CFR part 160 (appendix A), a field investigation was conducted to determine the level of residues of imidacloprid and its metabolites in replanted crops and in honey and pollen of honeybee colonies foraging on the replanted crops and the possible impact of these residues on the foraging colonies.

**5.2 Results and discussion**

Residues of imidacloprid were detected in the soils of all treated fields. Soil levels from first and second flowering clover fields were on average between 20 and 24.6 ppb. Therefore, the potential for plant uptake and movement into plant parts foraged by bees was present. Clover leaves were found to have low levels of active substance, but all clover flowers, wildflowers pollen, nectar and uncapped honey did not have any detectable levels of imidacloprid or its hydroxy and olefine metabolites. This suggests a low potential for aged soil residues to move into plants, particularly the flowering parts.

All colonies placed in the treated clover fields developed normally and did not show any impact of the test product on colony strength, brood status, honey storage and behaviour.

The biocidal product PEC<sub>soil</sub> values (calculated with Tier 1 assumptions, no refinement) for grassland and arable fields spread with manure/manure slurry from animal houses treated with an 0.5% imidacloprid granule product are less than 10 ppb. Therefore, this study demonstrating the lack of adverse impact on honeybees foraging clover fields grown in soils having more than double the worst case soil levels predicted for the biocidal product use indicates no risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.

**5.3 Conclusion**

No risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.

**Section A7.5.4.1/03**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in plantback crops grown in fields previously treated with imidacloprid to honeybees*

**5.3.1 Reliability** 1

**5.3.2 Deficiencies** No

**Evaluation by Competent Authorities**

*Use separate "evaluation boxes" to provide transparency as to the comments and views submitted*

**EVALUATION BY RAPPORTEUR MEMBER STATE**

**Date** 2007/04/23

**Materials and Methods** Applicant's version is acceptable.

**Results and discussion** Applicant's version can be adopted.

**Conclusion** Applicant's version can be adopted.

**Reliability** 1

**Acceptability** acceptable

**Remarks** -

**COMMENTS FROM**

**Date** *Give date of the comments submitted*

**Materials and Methods** *Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion.  
Discuss if deviating from view of rapporteur member state*

**Results and discussion** *Discuss if deviating from view of rapporteur member state*

**Conclusion** *Discuss if deviating from view of rapporteur member state*

**Reliability** *Discuss if deviating from view of rapporteur member state*

**Acceptability** *Discuss if deviating from view of rapporteur member state*



**Section A7.5.4.1/04**  
**Annex Point IIIA.XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

Official  
use only

**1 REFERENCE**
**1.1 Reference**

*PPP monograph: B.9.4.4h*

Authors (year)

██████████ (1999a)

Title

Residue Levels of Imidacloprid and Imidacloprid Metabolites in Nectar, Blossoms and Pollen of Sunflowers Cultivated on Soils with Different Imidacloprid Residue Levels and Effects of these Residues on Foraging Honeybees. ██████████ 1999.

Company, report No.

Bayer CropScience AG, Report-No. SXR/AM 007.

Date

BES Ref. : M-016827-01-1  
28 September 1999

Testing facility

██

Dates of work

23 July-21 September 1999

Test substance(s)

Molecule(s): imidacloprid

**1.2 Data protection**

Yes

**1.2.1 Data owner**

Bayer CropScience AG

**1.2.3 Criteria for data protection**

Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA

**2 GUIDELINES AND QUALITY ASSURANCE**
**2.1 Guideline study**

No guideline

**2.2 GLP**

Yes

**2.3 Deviations**

Not applicable

**3 MATERIALS AND METHODS**
**3.1 Test material**
**3.1.1 Lot/Batch number**

Imidacloprid Gaucho WS 70 formulations, a.s. content within manufacturing control level

**3.1.2 Specification**
**3.1.3 Description**
**3.1.4 Purity**
**3.1.5 Stability**
**3.2 Test objective for PPP uses**

The aim of the investigations was to determine the level of residues of imidacloprid and its metabolites in sunflowers grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.

**3.2.1 Relevance to BP use**

The nature of the objective is consistent with the need to understand the potential risk to bees foraging near grassland treated with or on crops replanted in arable soil amended with potentially contaminated manure from 0.5% imidacloprid granule biocidal product use in animal houses.

## Section A7.5.4.1/04 Annex Point IIIA XIII.3

### Effects on honeybees

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

#### 3.2.2 Test design

Previous treatments on the plots:

Control plot: untreated grass area since 1996. Drilled with imidacloprid free sunflower seed on 12 May 1999.

Variant "1997": cropped in fall 1997 with Gaucho treated winter wheat (77 g as/ha), sprayed on 24 April 1999 with 71.5 g/ha Gaucho WS 70 (=50 g as/ha imidacloprid; batch no. 233 614 749, 72.5 % imidacloprid according to FAR no. 559-01). Drilled with imidacloprid-free sunflower seed on 12 May 1999.

Variant "1998": cropped in spring 1996 with Gaucho treated sugar beet (111 g ai/ha), followed in fall 1998 by Gaucho treated winter barley (49 g as/ha). Drilled with imidacloprid-free sunflower seed on 12 May 1999.

Variant "1998 (2x)": cropped in spring 1998 with Gaucho treated sugar beet (105 g as/ha), followed by Gaucho treated winter wheat (76 g as/ha). Drilled with imidacloprid-free sunflower seed on 12 May 1999.

Variant "1999": untreated grass area since 1996. Drilled with Gaucho WS 70 treated sunflower seed on 12 May 1999 (52 g as/ha).

#### 3.2.3 Test procedure

Small honeybee colonies of about 2000-3000 individuals were caged for 8 days on sunflower plots (plot size about 50 m<sup>2</sup>). The different imidacloprid treatments in the plots are described above. The assessment criteria included mortality, behavioral anomalies, colony development and brood status.

For residue analysis from all plots the following types of samples had been taken:

- soil sample (0-30 cm depth)
- leaves (produced latest)
- flowers (male/female)
- nectar (sampled from the hive combs)
- pollen (sampled from the hive combs)
- pollen (sampled from the plants)
- honeybees (exposed to the sunflowers)

See Table A7.5.4.1/04-1 for residue limits of analysis.

## 4 RESULTS

### 4.1 Findings

No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.

While in the soil samples of the variants 1997, 1998 and 1998 (2x) imidacloprid had been detected in levels of 0.016, 0.013 and 0.014 mg/kg, the soil samples of the control plot and variant 1999 were imidacloprid free.

In the leave sample of variant 1999 imidacloprid residues of 0.006 mg/kg were detected. In all other samples the possible residues of imidacloprid were below the limit of detection:

**Section A7.5.4.1/04**  
**Annex Point IIIA XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

<b>5 APPLICANT'S SUMMARY AND CONCLUSION</b>	
<b>5.1 Materials and methods</b>	<p>A field investigation was conducted under GLP to determine the level of residues of imidacloprid and its metabolites in sunflowers grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.</p>
<b>5.2 Results and discussion</b>	<p>Residues of imidacloprid were detected in the soil of 3 plots at levels of 0.013 to 0.016 mg/kg. Therefore, the potential for plant uptake and movement into plant parts foraged by bees was present.</p> <p>No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.</p> <p>No residues of imidacloprid were found in sunflower flowers or pollen or in honeybees, nectar or pollen taken from exposed hives.</p> <p>The biocidal product PEC<sub>soil</sub> values (calculated with Tier 1 assumptions, no refinement) for grassland and arable fields spread with manure/manure slurry from animal houses treated with an 0.5% imidacloprid granule product are less than 10 ppb. Therefore, this study demonstrating the lack of adverse impact on honeybees foraging sunflowers grown in soils having almost double the worst case soil levels predicted for the biocidal product use indicates no risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.</p>
<b>5.3 Conclusion</b>	<p>No risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.</p>
<b>5.3.1 Reliability</b>	1
<b>5.3.2 Deficiencies</b>	No

**Section A7.5.4.1/04**  
**Annex Point IIIA.XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

<b>Evaluation by Competent Authorities</b>	
<i>Use separate "evaluation boxes" to provide transparency as to the comments and views submitted</i>	
<b>EVALUATION BY RAPPORTEUR MEMBER STATE</b>	
<b>Date</b>	2007/04/23
<b>Materials and Methods</b>	Applicant's version is acceptable.
<b>Results and discussion</b>	<p>Applicant's version can be adopted with the following comment:</p> <p>Differences in foraging activity and mortality compared to the control were observed for some treatments: foraging activity averaged 143, 61, 116, 48 and 252 honeybees per 100 sunflower heads in the control, test variants "1997", "1998", (1998 (2x)) and "1999". However, the differences observed are most likely attributed to the differences in the number of actually flowering sunflower heads within the different plots. There was no relation between foraging activity and treatment. Mortality figures were 11, 20, 26, 141 and 28 honeybees for the control, test variants "1997", "1998", (1998 (2x)) and "1999". The site-specific peak mortality of variant "1998 (2x)" is most likely due to an earlier exhausting of the sunflowers since this plot has to be equipped prematurely with a bee colony due to earlier peak flowering. There are 4 observations which supports the latter assumption: 1) mortality figures are not related to soil residue levels; 2) there were no detectable residues in either the nectar nor the pollen of the sunflower plants; 3) no behaviour abnormalities were observed; 4) the "1998 (2x)" colony did not show any difference compared to the others during the final check for colony strength and brood development.</p> <p>In summary it can be concluded that honeybees were not adversely affected by any of the examined exposure scenarios.</p>
<b>Conclusion</b>	Applicant's version can be adopted.
<b>Reliability</b>	1
<b>Acceptability</b>	acceptable
<b>Remarks</b>	-
<b>COMMENTS FROM</b>	
<b>Date</b>	<i>Give date of the comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>

Table A7.5.4.1/04-1: Residue levels of imidacloprid and imidacloprid metabolites

	<b>LOQ</b>	<b>LOD</b>
soil samples	0.006 mg/kg	0.002 mg/kg
biological samples	0.005 mg/kg for imidacloprid and hydroxy- metabolite 0.01 mg/kg for olefine-metabolite.	0.0015 mg/kg and 0.003 mg/kg respectively

**Section A7.5.4.1/05**  
**Annex Point IIIA.XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

Official  
use only

**1 REFERENCE**
**1.1 Reference**

PPP monograph: B.9.4.4i

Authors (year)

██████████ (1999b)

Title

Residue Levels of Imidacloprid and Imidacloprid Metabolites in Nectar, Blossoms and Pollen of Sunflowers Cultivated on Soils with Different Imidacloprid Residue Levels and Effects of these Residues on Foraging Honeybees. ██████████ 1999.

Company, report No.

Bayer CropScience AG, Report-No. SXR/AM 006.

BES Ref. : M-016820-01-1

Date

27 September 1999

Testing facility

██

Dates of work

25 July-21 September 1999

Test substance(s)

Molecule(s): imidacloprid

**1.2 Data protection**

Yes

**1.2.1 Data owner**

Bayer CropScience AG

**1.2.3 Criteria for data protection**

Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA

**2 GUIDELINES AND QUALITY ASSURANCE**
**2.1 Guideline study**

No guideline

**2.2 GLP**

Yes

**2.3 Deviations**

Not applicable

**3 MATERIALS AND METHODS**
**3.1 Test material**
**3.1.1 Lot/Batch number**

Imidacloprid Gaucho WS 70 formulations, a.s. content within manufacturing control level

**3.1.2 Specification**
**3.1.3 Description**
**3.1.4 Purity**
**3.1.5 Stability**
**3.2 Test objective for PPP uses**

The aim of the investigations was to determine the level of residues of imidacloprid and its metabolites in sunflowers grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.

**3.2.1 Relevance to BP use**

The nature of the objective is consistent with the need to understand the potential risk to bees foraging near grassland treated with or on crops replanted in arable soil amended with potentially contaminated manure from 0.5% imidacloprid granule biocidal product use in animal houses.



**Section A7.5.4.1/05**  
**Annex Point IIIA.XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

**3.2.2 Test design**

Previous treatments on the plots:

Control plot: untreated grass area since 1996. Drilled with imidacloprid free sunflower seed on 10 May 1999.

Variant "1997": cropped in fall 1997 with Gaucho treated winter wheat (59 g as/ha), sprayed on 30 April 1999 with 71.5 g/ha Gaucho WS 70 (=50 g as/ha imidacloprid; batch no. 233 614 749, 72.5 % imidacloprid according to FAR no. 559-01). Drilled with imidacloprid-free sunflower seed on 10 May 1999.

Variant "1998": cropped in fall 1998 with Gaucho treated winter barley (52 g as/ha). Drilled with imidacloprid-free sunflower seed on 10 May 1999.

Variant "1999": untreated grass area since 1996. Drilled with Gaucho WS 70 treated sunflower seed on 10 May 1999 (45 g as/ha).

**3.2.3 Test procedure**

Small honeybee colonies of about 2000-3000 individuals were caged on sunflower plots (plot size about 50 m<sup>2</sup>). The different imidacloprid treatments in the plots are described above. The assessment criteria included mortality and behavioral anomalies.

For residue analysis from all plots the following types of samples had been taken:

- soil sample (0-30 cm depth)
- leaves (produced latest)
- flowers (male/female)
- nectar (sampled from the hive combs)
- pollen (sampled from the hive combs)
- pollen (sampled from the plants)
- honeybees (exposed to the sunflowers)

See Table A.7.5.4.1/04-1 for analytical limits

**4 RESULTS**
**4.1 Findings**

No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.

Residues of imidacloprid have been detected in the soil samples:

- Variant "1997": 0.018 mg/kg
- Variant "1998": < LOQ
- Variant "1999": < LOD

In the leave samples of variant 1999 residues of imidacloprid were detected on the level of 0.007 mg/kg.

**Section A7.5.4.1/05**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

<b>5 APPLICANT'S SUMMARY AND CONCLUSION</b>	
<b>5.1 Materials and methods</b>	A field investigation was conducted under GLP to determine the level of residues of imidacloprid and its metabolites in sunflowers grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.
<b>5.2 Results and discussion</b>	<p>Residues of imidacloprid were detected in the soil of Vaient 1997 plot at a 0.018 mg/kg (ppb) level. In the leave samples of variant 1999 residues of imidacloprid were detected on the level of 0.007 mg/kg.</p> <p>Therefore, the potential for plant uptake and movement into plant parts foraged by bees was present.</p> <p>No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.</p> <p>No residues of imidacloprid were found in sunflower flowers or pollen or in honeybees, nectar or pollen taken from exposed hives.</p> <p>The biocidal product PEC<sub>soil</sub> values (calculated with Tier 1 assumptions, no refinement) for grassland and arable fields spread with manure/manure slurry from animal houses treated with an 0.5% imidacloprid granule product are less than 10 ppb. Therefore, this study demonstrating the lack of adverse impact on honeybees foraging sunflowers grown in soils having almost double the worst case soil levels predicted for the biocidal product use indicates no risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.</p>
<b>5.3 Conclusion</b>	No risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.
<b>5.3.1 Reliability</b>	1
<b>5.3.2 Deficiencies</b>	No

**Evaluation by Competent Authorities**

*Use separate "evaluation boxes" to provide transparency as to the comments and views submitted*

<b>EVALUATION BY RAPPORTEUR MEMBER STATE</b>	
<b>Date</b>	2007/04/23
<b>Materials and Methods</b>	Applicant's version is acceptable.
<b>Results and discussion</b>	Applicant's version can be adopted.
<b>Conclusion</b>	Applicant's version can be adopted.
<b>Reliability</b>	1
<b>Acceptability</b>	acceptable
<b>Remarks</b>	-



**Section A7.5.4.1/05**  
**Annex Point IIIA XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in sunflowers grown in fields previously treated with imidacloprid to honeybees*

<b>COMMENTS FROM</b>	
<b>Date</b>	<i>Give date of the comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>

**Section A7.5.4.1/06**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

Official  
use only

**1 REFERENCE**
**1.1 Reference**

Authors (year)

PPP monograph: B.9.4.4j

(1999c)

Title

Residue Levels of Imidacloprid and Imidacloprid Metabolites in Nectar, Blossoms and Pollen of Summer Rape Cultivated on Soils with Different Imidacloprid Residue Levels and Effects of these Residues on Foraging Honeybees. [REDACTED] 1999.

Company, report No.

Bayer CropScience AG, Report-No. SXR/AM 010.

BES Ref. : M-016842-01-1

Date

28 September 1999

Testing facility

[REDACTED]

Dates of work

12 July-21 September 1999

Test substance(s)

Molecule(s): imidacloprid

**1.2 Data protection**

Yes

**1.2.1 Data owner**

Bayer CropScience AG

**1.2.3 Criteria for data protection**

Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA.

**2 GUIDELINES AND QUALITY ASSURANCE**
**2.1 Guideline study**

No guideline

**2.2 GLP**

Yes

**2.3 Deviations**

Not applicable

**3 MATERIALS AND METHODS**
**3.1 Test material**
**3.1.1 Lot/Batch number**

Imidacloprid Gaucho WS 70 formulations, a.s. content within manufacturing control level

**3.1.2 Specification**
**3.1.3 Description**
**3.1.4 Purity**
**3.1.5 Stability**
**3.2 Test objective for PPP uses**

The aim of the investigations was to determine the level of residues of imidacloprid and its metabolites in summer rape grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.

**3.2.1 Relevance to BP use**

The nature of the objective is consistent with the need to understand the potential risk to bees foraging near grassland treated with or on crops replanted in arable soil amended with potentially contaminated manure from 0.5% imidacloprid granule biocidal product use in animal houses.

**Section A7.5.4.1/06**  
**Annex Point IIIA.XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

**3.2.2 Test design**

Previous treatments on the plots:

Control plot: untreated grass area since 1996. Drilled with imidacloprid free summer rape seed on 11 May 1999.

Variant "1997": cropped in fall 1997 with Gaucho treated winter wheat (59 g as/ha), sprayed on 30 April 1999 with 71.5 g/ha Gaucho WS 70 (=50 g as/ha imidacloprid; batch no. 233 614 749, 72.5 % imidacloprid according to FAR no. 559-01). Drilled with imidacloprid-free summer rape seed on 11 May 1999.

Variant "1998": cropped in fall 1998 with Gaucho treated winter barley (52 g as/ha). Drilled with imidacloprid-free summer rape seed on 11 May 1999.

Variant "1999": untreated grass area since 1996. Drilled with Gaucho WS 70 treated summer rape seed on 11 May 1999 (72 g as/ha).

**3.2.3 Test procedure**

Small honeybee colonies of about 2000-3000 individuals were caged on flowering summer rape (cage size about 50 m<sup>2</sup>). The different previous imidacloprid treatments are described above.

Testing period lasted from July 12 – 19, 1999.

The assessment criteria included mortality, behavioral anomalies, colony strength and brood status.

For residue analysis from all plots the following types of samples had been taken:

- soil sample (0-30 cm depth)
- leaves (produced latest)
- flowers
- nectar (sampled from flowers)
- pollen (sampled from the hives and bees)
- honeybees (exposed to the summer rape)

See Table A.7.5.4.1/04-1 for analytical limits

**4 RESULTS****4.1 Findings**

No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.

Residues of imidacloprid have been detected in the soil samples:

- Variant "1997": 0.018 mg/kg
- Variant "1998": < LOQ
- Variant "1999": < LOD

Residues of imidacloprid in all leave samples, in the pollen samples of variant 1998 and 1998 (2x) and in the nectar sample of variant 1999 were below the limit of quantification.

**Section A7.5.4.1/06**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

**5 APPLICANT'S SUMMARY AND CONCLUSION**

<b>5.1 Materials and methods</b>	A field investigation was conducted under GLP to determine the level of residues of imidacloprid and its metabolites in summer rape grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.
<b>5.2 Results and discussion</b>	<p>Residues of imidacloprid were detected in the soil of Variant 1997 plot at a 0.018 mg/kg (ppb) level.</p> <p>Therefore, the potential for plant uptake and movement into plant parts foraged by bees was present.</p> <p>No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.</p> <p>No quantifiable residues of imidacloprid were found in rape flowers or nectar or in honeybees or pollen taken from exposed hives.</p> <p>The biocidal product PECsoil values (calculated with Tier 1 assumptions, no refinement) for grassland and arable fields spread with manure/manure slurry from animal houses treated with an 0.5% imidacloprid granule product are less than 10 ppb. Therefore, this study demonstrating the lack of adverse impact on honeybees foraging sunflowers grown in soils having almost double the worst case soil levels predicted for the biocidal product use indicates no risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.</p>
<b>5.3 Conclusion</b>	No risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.
<b>5.3.1 Reliability</b>	1
<b>5.3.2 Deficiencies</b>	No

**Evaluation by Competent Authorities**

*Use separate "evaluation boxes" to provide transparency as to the comments and views submitted*

**EVALUATION BY RAPPORTEUR MEMBER STATE**

<b>Date</b>	2007/04/23
<b>Materials and Methods</b>	Applicant's version is acceptable.
<b>Results and discussion</b>	Applicant's version can be adopted.
<b>Conclusion</b>	Applicant's version can be adopted.
<b>Reliability</b>	1
<b>Acceptability</b>	acceptable
<b>Remarks</b>	-

**Section A7.5.4.1/06**  
**Annex Point IIIA XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

<b>COMMENTS FROM</b>	
<b>Date</b>	<i>Give date of the comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>

**Section A7.5.4.1/07**  
**Annex Point IIIA XIII.3**
**Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

Official  
use only

**1 REFERENCE**
**1.1 Reference**

Authors (year)

PPP monograph: B.9.4.4k

(1999d)

Title

Residue Levels of Imidacloprid and Imidacloprid Metabolites in Nectar, Blossoms and Pollen of Summer Rape Cultivated on Soils with Different Imidacloprid Residue Levels and Effects of these Residues on Foraging Honeybees. [REDACTED] 1999.

Company, report No.

Bayer CropScience AG, Report-No. SXR/AM 008.

BES Ref. : M-016828-01-1

Date

28 September 1999

Testing facility

[REDACTED]

Dates of work

12 July-21 September 1999

Test substance(s)

Molecule(s): imidacloprid

**1.2 Data protection**

Yes

**1.2.1 Data owner**

Bayer CropScience AG

**1.2.3 Criteria for data protection**

Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA.

**2 GUIDELINES AND QUALITY ASSURANCE**
**2.1 Guideline study**

No guideline

**2.2 GLP**

Yes

**2.3 Deviations**

Not applicable

**3 MATERIALS AND METHODS**
**3.1 Test material**

3.1.1 Lot/Batch number

Imidacloprid Gaucho WS 70 formulations, a.s. content within manufacturing control level

3.1.2 Specification

3.1.3 Description

3.1.4 Purity

3.1.5 Stability

**3.2 Test objective for PPP uses**

The aim of the investigations was to determine the level of residues of imidacloprid and its metabolites in summer rape grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.

3.2.1 Relevance to BP use

The nature of the objective is consistent with the need to understand the potential risk to bees foraging near grassland treated with or on crops replanted in arable soil amended with potentially contaminated manure from 0.5% imidacloprid granule biocidal product use in animal houses.

### Section A7.5.4.1/07 Annex Point IIIA XIII.3

### Effects on honeybees

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

#### 3.2.2 Test design

Previous treatments on the plots:

Control plot: untreated grass area since 1996. Drilled with imidacloprid free summer rape seed on 12 May 1999.

Variant "1997": cropped in fall 1997 with Gaucho treated winter wheat (77 g as/ha), sprayed on 24 April 1999 with 71.5 g/ha Gaucho WS 70 (= 50 g as/ha imidacloprid; batch no. 233 614 749, 72.5 % imidacloprid according to FAR no. 559-01). Drilled with imidacloprid-free summer rape seed on 12 May 1999.

Variant "1998": cropped in fall 1998 with Gaucho treated sugar beet (111 g as/ha), followed in fall 1998 by Gaucho treated winter barley (49 g as/ha). Drilled with imidacloprid-free summer rape seed on 12 May 1999.

Variant "1999": untreated grass area since 1996. Drilled with Gaucho WS 70 treated summer rape seed on 12 May 1999.

#### 3.2.3 Test procedure

Small honeybee colonies of about 2000-3000 individuals were caged on flowering summer rape (cage size about 50 m<sup>2</sup>). The different previous imidacloprid treatments are described above.

Testing period lasted from July 12 – 19, 1999.

The assessment criteria included mortality, behavioral anomalies, colony strength and brood status.

For residue analysis from all plots the following types of samples had been taken:

- soil sample (0-30 cm depth)
- leaves (produced latest)
- flowers
- nectar (sampled from flowers)
- pollen (sampled from the hives and bees)
- honeybees (exposed to the summer rape)

See Table A.7.5.4.1/04-1 for analytical limits

## 4 RESULTS

### 4.1 Findings

No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.

Residues of imidacloprid have been detected in the soil samples:

- Variant "1997": 0.016 mg/kg
- Variant "1998": 0.013 mg/kg
- Variant "1998 (2x)": 0.014 mg/kg

Residues of imidacloprid in all leave samples, in the pollen samples of variant 1998 and 1998 (2x) and in the nectar sample of 1999 were below the limit of quantification



**Section A7.5.4.1/07**  
**Annex Point IIIA XIII.3****Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

**5 APPLICANT'S SUMMARY AND CONCLUSION****5.1 Materials and methods**

A field investigation was conducted under GLP to determine the level of residues of imidacloprid and its metabolites in summer rape grown in previously treated fields and in honey and pollen of honeybee colonies foraging on the crop and the possible impact of these residues on the foraging colonies.

**5.2 Results and discussion**

Residues of imidacloprid were detected in the soil of 3 plots between a 0.013 and 0.016 mg/kg (ppb) level.

Therefore, the potential for plant uptake and movement into plant parts foraged by bees was present.

No treatment related mortality or impact on the behaviour of the bees was observed in the test colonies.

No quantifiable residues of imidacloprid were found in rape flowers or nectar or in honeybees or pollen taken from exposed hives.

The biocidal product PEC<sub>soil</sub> values (calculated with Tier 1 assumptions, no refinement) for grassland and arable fields spread with manure/manure slurry from animal houses treated with an 0.5% imidacloprid granule product are less than 10 ppb. Therefore, this study demonstrating the lack of adverse impact on honeybees foraging sunflowers grown in soils having almost double the worst case soil levels predicted for the biocidal product use indicates no risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.

**5.3 Conclusion**

No risk is to be expected to bees foraging bee attractive crops grown in arable land that has received manure from the imidacloprid granule treated animal houses.

**5.3.1 Reliability**

1

**5.3.2 Deficiencies**

No



**Section A7.5.4.1/07**  
**Annex Point IIIA XIII.3**

**Effects on honeybees**

*Field study on the potential impact of residues in summer rape grown in fields previously treated with imidacloprid to honeybees*

<b>Evaluation by Competent Authorities</b>	
<i>Use separate "evaluation boxes" to provide transparency as to the comments and views submitted</i>	
<b>EVALUATION BY RAPporteur MEMBER STATE</b>	
<b>Date</b>	2007/04/23
<b>Materials and Methods</b>	Applicant's version is acceptable.
<b>Results and discussion</b>	Applicant's version can be adopted with the following comment:  Foraging activity was 122, 82, 97, 99 and 134 honeybees per 2 m <sup>2</sup> summer rape in the control, test variants "1997", "1998", (1998 (2x)) and "1999". However, the differences observed are most likely attributed to the differences in the number of actually flowering summer rape plants within the different plots. Most summer rape plants were emerged and in flower on the control and test variant "1999" which had the highest foraging activity as well. Therefore, it can be concluded that there was no treatment related effect on foraging activity.
<b>Conclusion</b>	Applicant's version can be adopted.
<b>Reliability</b>	1
<b>Acceptability</b>	acceptable
<b>Remarks</b>	-
<b>COMMENTS FROM</b>	
<b>Date</b>	<i>Give date of the comments submitted</i>
<b>Materials and Methods</b>	<i>Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>

Section No / Reference No	Author(s)	Year	Title. Source (where different from company) Company, Report No. GLP (where relevant) / (Un)Published	Data Protection Claimed (Yes/No)	Owner
A 6.4.1.2. /02*	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]	1989	52-week oral toxicity (feeding) study with NTN 33893 technical in the dog [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: R4856, Edition Number: M-027093-02-1 Date: 19.10.1989, Amended: 03.03.1992 GLP, unpublished	Yes	BCS
A 7.1.1.1.2. /01	Anderson, C.; Bornatsch, W.; Brauner, A.	1991	Photodegradation of NTN 33893 in water Nitokuno, Ibaraki, Japan Bayer CropScience AG, Report No.: PF3517, Edition Number: M-024286-01-1 Date: 18.07.1988, revised May 14, 1991 GLP, unpublished	Yes	BCS
A 7.2.2.1. /03	Anderson, C.; Fritz, R.	1990a	Degradation of [pyridinyl-14C-methylene] NTN 33893 in silt soil Hoefchen under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3322, Edition Number: M-006740-02-1 Date: 19.01.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.4 /03 also filed: A 7.2.2.4 /09	Yes	BCS
A 7.2.2.1. /04	Anderson, C.; Fritz, R.	1990b	Degradation of [pyridinyl-14C-methylene] NTN 33893 in sandy loam Monheim 1 under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3434, Edition Number: M-006728-02-1 Date: 07.12.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.4 /02 also filed: A 7.2.2.4 /08	Yes	BCS

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Reference List author

A 7.2.2.4 /02	Anderson, C.; Fritz, R.	1990	Degradation of [pyridinyl-14C-methylene] NTN 33893 in sandy loam Monheim 1 under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3434, Edition Number: M-006728-02-1 Date: 07.12.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.1 /04 also filed: A 7.2.2.4 /08 (Not included in Caddy, as already filed as A7.2.2.1/04)	Yes	BCS
A 7.2.2.4 /03	Anderson, C.; Fritz, R.	1990	Degradation of [pyridinyl-14C-methylene] NTN 33893 in silt soil Hoefchen under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3322, Edition Number: M-006740-02-1 Date: 19.01.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.1 /03 also filed: A 7.2.2.4 /09 (Not included in Caddy, as already filed as A7.2.2.1/03)	Yes	BCS
A 7.2.2.4 /08	Anderson, C.; Fritz, R.	1990	Degradation of [pyridinyl-14C-methylene] NTN 33893 in sandy loam Monheim 1 under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3434, Edition Number: M-006728-02-1 Date: 07.12.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.1 /04 also filed: A 7.2.2.4 /02 (Not included in Caddy, as already filed as A7.2.2.1/04)	Yes	BCS

A 7.2.2.4 /09	Anderson, C.; Fritz, R.	1990	Degradation of [pyridinyl-14C-methylene] NTN 33893 in silt soil Hoefchen under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3322, Edition Number: M-006740-02-1 Date: 19.01.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.1 /03 also filed: A 7.2.2.4 /03 (Not included in Caddy, as already filed as A7.2.2.1/03)	Yes	BCS
A 7.2.2.1. /01	Anderson, C.; Fritz, R.; Brauner, A.	1990a	Metabolism of (pyridinyl-14C-methylene) NTN 33893 in loamy soil BBA 2.2 under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3321, Edition Number: M-006742-02-1 Date: 15.01.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.4 /04 also filed: A 7.2.2.4 /10	Yes	BCS
A 7.2.2.1. /02	Anderson, C.; Fritz, R.; Brauner, A.	1990b	Metabolism of (pyridinyl-14C-methylene) NTN 33893 in sandy loam under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3433, Edition Number: M-023514-01-1 Date: 14.11.1990 GLP, unpublished also filed: A 7.2.2.4 /05 also filed: A 7.2.2.4 /11	Yes	BCS
A 7.2.2.4 /04	Anderson, C.; Fritz, R.; Brauner, A.	1990	Metabolism of (pyridinyl-14C-methylene) NTN 33893 in loamy soil BBA 2.2 under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3321, Edition Number: M-006742-02-1 Date: 15.01.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.1/01 also filed: A 7.2.2.4 /10 (Not included in Caddy, as already filed as A7.2.2.1/01)	Yes	BCS

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Reference List author

A 7.2.2.4 /05	Anderson, C.; Fritz, R.; Brauner, A.	1990	Metabolism of (pyridinyl-14C-methylene) NTN 33893 in sandy loam under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3433, Edition Number: M-023514-01-1 Date: 14.11.1990 GLP, unpublished also filed: A 7.2.2.1 /02 also filed: A 7.2.2.4 /11 (Not included in Caddy, as already filed as A7.2.2.1/02)	Yes	BCS
A 7.2.2.4 /10	Anderson, C.; Fritz, R.; Brauner, A.	1990	Metabolism of (pyridinyl-14C-methylene) NTN 33893 in loamy soil BBA 2.2 under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3321, Edition Number: M-006742-02-1 Date: 15.01.1990, Amended: 01.10.1992 GLP, unpublished also filed: A 7.2.2.1/01 also filed: A 7.2.2.4 /04 (Not included in Caddy, as already filed as A7.2.2.1/01)	Yes	BCS
A 7.2.2.4 /11	Anderson, C.; Fritz, R.; Brauner, A.	1990	Metabolism of (pyridinyl-14C-methylene) NTN 33893 in sandy loam under aerobic conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3433, Edition Number: M-023514-01-1 Date: 14.11.1990 GLP, unpublished also filed: A 7.2.2.1 /02 also filed: A 7.2.2.4 /05 (Not included in Caddy, as already filed as A7.2.2.1/02)	Yes	BCS
A 7.5.1.1. /01	Anderson, J. P. E.	1988	Influence of NTN 33893 on the microbial mineralization of carbon in soils Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: AJO/54088, Edition Number: M-006978-01-2 Date: 11.04.1988 Non GLP, unpublished	Yes	BCS

A 7.5.1.1. /02	Anderson, J .P. E.	1999	Influence of imidacloprid (tech.) in mineralization of (carboxyl-14C) sodium acetate to 14CO <sub>2</sub> in a slurry of soil and water Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: AJO/196699, Edition Number: M-048331-01-1 Date: 29.07.1999 GLP, unpublished	Yes	BCS
A 4.1. /03	Anon.	1997	Imidacloprid 582 CIPAC Bayer CropScience AG, Report No.: CIPAC 582, Edition Number: M-032649-01-1 Date: 01.01.1997 Non GLP, unpublished	Yes	BCS
A VIII. /01	Anon.	2006	Imidacloprid technical insecticide Bayer CropScience SA, Lyon, France Bayer CropScience AG, Report No.: M-246172-02-1, Edition Number: M-246172-02-1 Date: 18.01.2006 Non GLP, unpublished also filed: A IX. /01	Yes	BCS
A IX. /01	Anon.	2006	Imidacloprid technical insecticide Bayer CropScience SA, Lyon, France Bayer CropScience AG, Report No.: M-246172-02-1, Edition Number: M-246172-02-1 Date: 18.01.2006 Non GLP, unpublished also filed: A VIII. /01	Yes	BCS
A 4.2.1. /02	Bachlechner, G.	1992	Method for high performance liquid chromatographic determination of residues of the insecticide imidacloprid in soil using a laboratory robotic system Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00270, Edition Number: M-006708-02-1 Method Report No.: RA-139/92 Date: 11.03.1992 Non GLP, unpublished	Yes	BCS

A 7.2.2.2. /01	Bachlechner, G.	1993b	Dissipation of imidacloprid in soil under field conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: RA-2130/91, Report includes Trial Nos.: 10359/4 10360/8 10361/6 10362/4 10363/2 10364/0 Edition Number: M-006700-01-1 Date: 11.03.1993 GLP, unpublished	Yes	BCS
A 7.2.2.2. /02	Bachlechner, G.	1992	Dissipation of Imidacloprid in soil under field conditions Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: RA-2082/91, Edition Number: M-006704-01-1 Date: 04.11.1992 GLP, unpublished	Yes	BCS
A 7.5.2.1. /03	Bakker, F. M.	1999	An extended laboratory dose-response study to evaluate the effects of imidacloprid tech. on the predaceous mite <i>Hypoaspis aculeifer</i> Canestrini (Acari: Gamasidae) MITOX Stichting Bevordering Duurzame Plaagbestrijding, Amsterdam, Netherlands Bayer CropScience AG, Report No.: B019HAE, Edition Number: M-041284-01-1 Date: 01.04.1999 GLP, unpublished	Yes	BCS
A 6.8.1. /01*	Becker, H.; Vogel, W.; Terrier, C.	1988	Embryotoxicity study (including teratogenicity) with NTN 33893 technical in the rat RCC, Research and Consulting Company AG, Itingen, Switzerland Bayer CropScience AG, Report No.: R5442, Edition Number: M-027900-04-1 Date: 24.11.1988, Amended: 03.03.1992 GLP, unpublished	Yes	BCS



A 6.8.1. /02*	Becker, H.; Vogel, W.; Terrier, C.	1988	Embryotoxicity study (including teratogenicity) with NTN 33893 technical in the rabbit RCC, Research and Consulting Company AG, Itingen, Switzerland Bayer CropScience AG, Report No.: R5443, Edition Number: M-027920-04-1 Date: 24.11.1988, Amended: 03.03.1992 GLP, unpublished	Yes	BCS
A 6.12.1. /02	Becker, M.	2006	Occupational, medical experience with imidacloprid gel 2,15 percent Pharma + Veterinaer Produkte, Kiel, Germany Bayer CropScience AG, Report No.: M-267506-01-1, Edition Number: M-267506-01-1 Date: 06.03.2006 Non GLP, unpublished	Yes	BCS
A 4.2.3. /02	Billesbach, K. S.; Leimkuehler, W. M.; Widmer, S. L.	1996	Analytical method for the determination of imidacloprid and the guanidine, olefinic guanidine, and urea metabolites in groundwater by high-performance liquid chromatography tandem mass spectrometry (LC-MS/MS) Bayer Corporation, Kansas City, MO, USA Bayer CropScience AG, Report No.: 107352, Edition Number: M-012941-01-1 Date: 11.06.1996 GLP, unpublished	Yes	BCS
A 6.3.1 *	██████████ ██████████ ██████████ █	1987	28-day oral range-finding toxicity (feeding) study with NTN 33893 tech. in the dog, Report No. R4196, RCC Project 084993, Bayer project T 6025018 No GLP, Unpublished	Yes	BCS
A 7.5.1.1. /03	Blumenstock, I.	1988	Influence of NTN 33893 on the microbial mineralization of nitrogen in soils ████████████████████ Bayer CropScience AG, Report No.: BSI/54288, Edition Number: M-006964-01-2 Date: 20.07.1988 Non GLP, unpublished	Yes	BCS

A 3.11	Bogdoll, B.	2009	NTN 33893 - Statements on the Articles A.12. and A.13., Council Directive 67/548/EEC, Annex V Flammability (substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities), A.12. Flammability (solids and liquids) / Pyrophoric properties, A.13. Bayer CropScience GmbH, Frankfurt am Main, Germany Bayer CropScience AG, Report No.: AF09/040, Edition Number: M-347798-01-1 Date: 25.05.2009 Non GLP, unpublished	Yes	BCS
A 6.1.1. /01*	██████████	1989	NTN 33893 - Study for acute oral toxicity to rats ████████████████████ Bayer CropScience AG, Report No.: 18594, Edition Number: M-025996-01-1 Date: 15.12.1989 GLP, unpublished	Yes	BCS
A 6.1.1. /02*	██████████	1991	NTN 33893 AMP (proposed c.n.: Imidacloprid) - Study for acute oral toxicity to rats ████████████████████ Bayer CropScience AG, Report No.: 20591, Edition Number: M-028854-01-1 Date: 19.08.1991 GLP, unpublished	Yes	BCS
A 6.1.1. /03*	██████████	1991	NTN 33893 CNS (c.n.: Imidacloprid (proposed) - Study for acute oral toxicity in rats ████████████████████ Bayer CropScience AG, Report No.: 20637, Edition Number: M-028901-01-1 Date: 03.09.1991 GLP, unpublished	Yes	BCS
A 6.1.1. /04*	██████████	1989	NTN 33893 - Study for acute oral toxicity to mice ████████████████████ Bayer CropScience AG, Report No.: 18593, Edition Number: M-007509-01-1 Date: 15.12.1989 GLP, unpublished	Yes	BCS

A 7.4.1.1. /02	██████████ ██████████	1990	Acute toxicity of NTN 33893 to rainbow trout ( <i>Oncorhynchus mykiss</i> ) ██ ██ Bayer CropScience AG, Report No.: 100349, Edition Number: M-007019-01-1 Date: 12.12.1990 GLP, unpublished	Yes	BCS
A 7.4.3.5. /02	Brock, T.C.M.	2005	Evaluation of the report - Biological effects and fate of imidacloprid SL 200 in outdoor microcosm ponds ██ ██ Bayer CropScience AG, Report No.: MO-05-008527, Edition Number: M-251183-01-1 Date: 02.05.2005 Non GLP, unpublished	Yes	BCS
A 7.4.1.1. /03	Bussard, J.	1990	Method validation for the analysis of NTN-33893 in aquatic test water [Tox/Ecotox method] ABC Laboratories, Inc., Columbia, MO, USA Bayer CropScience AG, Report No.: 100090, Edition Number: M-015716-01-1 Method Report No.: 37859 Method Report No US: F45.001-00 Date: 13.03.1990 GLP, unpublished	Yes	BCS
A 4.1. /06	Cichy, M. ; Gau, W.	2005	WAK in NTN 33893 AMP W ; Assay - HPLC-external standard Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 2005-0002002-92, Edition Number: M-007788-02-3 Date: 24.01.2005 Non GLP, unpublished confidential	Yes	BCS
A 3.17. /01	Cichy, M.; Merheim, P.	2005	Stability of Imidacloprid (NTN 33893/ AE F106464) to normal and elevated temperature, metals and metal ions and corrosion characteristics Bayer CropScience GmbH, Frankfurt am Main, Germany Bayer CropScience AG, Report No.: PA05/059, Edition Number: M-255320-01-1 Date: 29.07.2005 GLP, unpublished	Yes	BCS

A 6.6.3. /03*		1988	Mutagenicity test on NTN 33893 in the rat primary hepatocyte unscheduled DNA synthesis assay [REDACTED] Bayer CropScience AG, Report No.: R4631, Edition Number: M-026493-01-1 Date: 21.12.1988 GLP, unpublished	Yes	BCS
A 7.5.4.1. /01	Cole, J. H.	1990	The acute oral and contact toxicity to honey bees of compound NTN 33893 technical [REDACTED] Bayer CropScience AG, Report No.: BAY 158/901384, Edition Number: M-006940-02-1 Date: 28.12.1990, Amended: 06.01.1994 GLP, unpublished	Yes	BCS
A 4.1. /12	Dobrat W.; Martijn A.	1995	CIPAC Handbook Volume F Physico-chemical methods for technical and formulated pesticides MT 30 Water 30.1 Karl Fischer method Publisher: Collab. Int. Pest. Anal. Council Ltd., Journal: CIPAC Handbook, Volume: F, Pages: 91;93, Year: 1995, Report No.: C042873, Edition Number: M-233461-01-1 Date: 01.01.1995 Non GLP, published confidential	No	
A 7.4.1.3. /02	Dorgerloh, M.	2000	Imidacloprid - Influence on the growth of green alga, <i>Selenastrum capricornutum</i> [REDACTED] Bayer CropScience AG, Report No.: DOM 20018, Edition Number: M-033262-01-1 Date: 23.05.2000 GLP, unpublished	Yes	BCS
A 7.4.1.2. /02	Dorgerloh, M.; Sommer, H.	2002	Acute toxicity of imidacloprid (tech.) to larvae of <i>Chironomus riparius</i> [REDACTED] Bayer CropScience AG, Report No.: DOM 22031, Edition Number: M-058794-01-1 Date: 12.04.2002 GLP, unpublished	Yes	BCS

A 7.4.3.4. /02	Dorgerloh, M.; Sommer, H.	2001a	Influence of imidacloprid (tech.) on development and emergence of larvae of <i>Chironomus riparius</i> in a water-sediment system  Bayer CropScience AG, Report No.: DOM 21035, Edition Number: M-075819-01-1 Date: 04.10.2001 GLP, unpublished	Yes	BCS
A 7.4.3.4. /03	Dorgerloh, M.; Sommer, H.	2001b	Influence of imidacloprid-desnitro on development and emergence of larvae of <i>Chironomus riparius</i> in a water-sediment system  Bayer CropScience AG, Report No.: DOM 21039, Edition Number: M-081499-01-1 Date: 26.10.2001 GLP, unpublished	Yes	BCS
A 6.5. /02*		1991	NTN 33893 (proposed common name: Imidacloprid) - Chronic toxicity and cancerogenicity studies on Wistar rats (administration in food over 24 months) - supplementary MTD study for two-year study T1025699  Bayer CropScience AG, Report No.: 20541, Edition Number: M-027135-01-1 Date: 19.08.1991 GLP, unpublished also filed: A 6.7. /02	Yes	BCS
A 6.7. /02*		1991	NTN 33893 (proposed common name: Imidacloprid) - Chronic toxicity and cancerogenicity studies on Wistar rats (administration in food over 24 months) - supplementary MTD study for two-year study T1025699  Bayer CropScience AG, Report No.: 20541, Edition Number: M-027135-01-1 Date: 19.08.1991 GLP, unpublished also filed: A 6.5. /02	Yes	BCS

A 6.5. /01*	[REDACTED]	1991	NTN 33893 (proposed c.n.: Imidacloprid) - Chronic toxicity and cancerogenicity studies on Wistar rats (administration in food over 24 months) [REDACTED] Bayer CropScience AG, Report No.: 19925, Edition Number: M-027741-02-1 Date: 25.01.1991 GLP, unpublished also filed: A 6.7. /01	Yes	BCS
A 6.7. /01*	[REDACTED]	1991	NTN 33893 (proposed c.n.: Imidacloprid) - Chronic toxicity and cancerogenicity studies on Wistar rats (administration in food over 24 months) [REDACTED] Bayer CropScience AG, Report No.: 19925, Edition Number: M-027741-02-1 Date: 25.01.1991 GLP, unpublished also filed: A 6.5. /01	Yes	BCS
A 6.4.1.1. /01*	[REDACTED]	1989	NTN 33893 - Subchronic toxicity study on wistar rats (administration in the feed for 96 days) [REDACTED] Bayer CropScience AG, Report No.: 18187, Edition Number: M-007967-01-1 Date: 14.07.1989 GLP, unpublished	Yes	BCS
A 5.7.2. /01	Elbert, A.; Bailo-Schleiermacher, I.; Brueggen, K.U.; Nauen, R.; Rogers, D.; Steffens, R.; Denholm, I.	2005	Pflanzenschutz-Nachrichten Bayer 58 - Special edition - Bayer CropScience Guidelines on Resistance Management for Neonicotinoids Publisher: Bayer CropScience, Location: Germany, Journal: Pflanzenschutz Nachrichten Bayer, Volume: 58, Issue: 76, Pages: 1 - 32, Year: 2005, Report No.: MO-05-008987, Edition Number: M-252077-01-1 Non GLP, published	No	

A 7.4.1.2. /03	England, D.; Bucksath, J. D.	1991	Acute toxicity of NTN 33893 to <i>Hyalella azteca</i>  Bayer CropScience AG, Report No.: 101960, Edition Number: M-007182-01-1 Date: 09.10.1991 GLP, unpublished	Yes	BCS
A 7.2.2.2. /03	Fahl, U.; Leicht, W.	1999	Recalculation of imidacloprid half-lives in bare soil (field trials) according to 1st order statistics Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: M10166, Edition Number: M-021684-01-1 Date: 10.11.1999 Non GLP, unpublished also filed: A 7.2.2.2 /06	Yes	BCS
A 7.2.2.2. /06	Fahl, U.; Leicht, W.	1999	Recalculation of imidacloprid half-lives in bare soil (field trials) according to 1st order statistics Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: M10166, Edition Number: M-021684-01-1 Date: 10.11.1999 Non GLP, unpublished also filed: A 7.2.2.2 /03 (Not included in Caddy, as already filed as A7.2.2.2/03)	Yes	BCS
A 7.2.2.4 /06	Fahl, U.; Leicht, W.	2001	Recalculation of imidacloprid half-life in soil (laboratory trials) according to 1st order statistics Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: M10150, Edition Number: M-010575-03-1 Date: 19.04.2001 Non GLP, unpublished	Yes	BCS
A 6.14. /07*		1989	Unscheduled DNA synthesis in primary hepatocytes of male rats in vitro with WAK 3839  Bayer CropScience AG, Report No.: R4746, Edition Number: M-026532-01-1 Date: 24.04.1989 GLP, unpublished	Yes	BCS



A 6.3.2 /01*		1990	NTN 33893 techn. - Study for subacute dermal toxicity in the rabbit  Bayer CropScience AG, Report No.: 19152, Edition Number: M-025976-01-1 Date: 11.06.1990 GLP, unpublished	Yes	BCS
A 7.1.3./01	Fritz, R.	1988	Adsorption/desorption of NTN33893 on soils Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3128, Edition Number: M-023859-01-1 Date: 11.11.1988 GLP, unpublished	Yes	BCS
A 7.1.3. /03	Fritz, R.	1993	Adsorption/desorption of imidacloprid on lysimeter soils originated from "Borstel" and "Laacher Hof" Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3978, Edition Number: M-023822-02-2 Date: 24.02.1993, Amended: 01.06.2001 GLP, unpublished	Yes	BCS
A 7.1.3. /04	Fritz, R.	1998	Adsorption/desorption of imidacloprid (NTN 33893) on two light soils at different rates of application Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: MR-319/98, Edition Number: M-023808-01-1 Date: 24.04.1998 GLP, unpublished	Yes	BCS

A 7.1.2.2.2. /04	Fritz, R.; Hellpointner, E.	1991	Degradation of pesticides under anaerobic conditions in the system water/sediment: Imidacloprid, NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3524, Edition Number: M-024093-01-1 Date: 04.06.1991 GLP, unpublished	Yes	BCS
A 7.4.1.1. /01	██████	1988b	The acute toxicity of NTN 33893 techn. to rainbow trout ( <i>salmo gairdneri</i> ) in a static test ████████████████████ Bayer CropScience AG, Report No.: FF-210, Edition Number: M-006827-01-2 Date: 03.03.1988 GLP, unpublished	Yes	BCS
A 7.4.1.1. /04	██████	1987	The acute toxicity of NTN 33893 techn. to golden orfe ( <i>Leuciscus idus melanotus</i> ) in a static test ████████████████████ Bayer CropScience AG, Report No.: FO-1042, Edition Number: M-006830-01-2 Date: 26.10.1987 GLP, unpublished	Yes	BCS
A 7.5.3.1.1. /02	██████	1988a	Acute oral LD50 of NTN 33893 to japanese quail ████████████████████ Bayer CropScience AG, Report No.: VW-123, Edition Number: M-006710-01-1 Date: 28.01.1988 GLP, unpublished	Yes	BCS
A 7.5.3.1.2. /02	██████	1996	NTN 33893 techn. 5-day-dietary LC50 to japanese quail ████████████████████ Bayer CropScience AG, Report No.: GMU / VW-177, Edition Number: M-006792-02-1 Date: 14.03.1996, Amended: 22.01.2002 GLP, unpublished	Yes	BCS

A 7.4.3.2. /01	████████	2002	Imidacloprid (NTN 33893): Early life-stage toxicity test with rainbow trout ( <i>Oncorhynchus mykiss</i> ) under flow-through conditions ████████████████████ ████████ Bayer CropScience AG, Report No.: 1022.016.321, Edition Number: M-049894-01-1 Date: 29.08.2002 GLP, unpublished	Yes	BCS
A 7.5.3.1.1. /03	████████	1996	NTN 33893 technical: An acute oral LD50 with mallards ████████████████████ Bayer CropScience AG, Report No.: 107354, Edition Number: M-006784-01-1 Date: 20.06.1996 GLP, unpublished	Yes	BCS
A 7.1.2.2.2/07	Hardy, I.A.J., Patel, M.	2007	Imidacloprid: Kinetic modelling analysis of data from a water sediment study and a microcosm study Batelle UK Ltd, Essex, UK, Bayer CropScience AG, Report No.: CX/06/041, Edition Number: M-284318-01-1, Date: 21.02.2007 non GLP, unpublished	Yes	BCS

A 4.1. /02	Haustein, M.	2003	Validation of HPLC-method 2201-0260401-93 -Determination of the assay in Confidor (Imidacloprid) techn. grade active ingredient- Bayer Industry Services, Dormagen, Germany Bayer CropScience AG, Report No.: VB2-2201-0260401, Edition Number: M-090267-03-1 Date: 25.04.2003 Non GLP, unpublished	Yes	BCS
A 4.1. /04	Haustein, M.	1998	NTN 33893 ; By-products - Linear Synthesis ; HPLC, External Standard [REDACTED] Bayer CropScience AG, Report No.: 2201-0308702-98, Edition Number: M-007778-02-2 Date: 04.06.1998 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /05	Haustein, M.	2003	Validation of HPLC-method 2201-0308702-98 -Determination of the by-products in Confidor (Imidacloprid) techn. grade active ingredient- [REDACTED] Germany Bayer CropScience AG, Report No.: VB2-2201-0308702, Edition Number: M-090284-02-1 Date: 28.04.2003 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /07	Haustein, M.	2001	Validation of HPLC-method 2005-0002002-92 -Determination of WAK 3839 in Confidor (Imidacloprid) techn. grade a.i.- Bayer AG, Dormagen, Germany Bayer CropScience AG, Report No.: VB2-2005-0002002, Edition Number: M-046369-02-1 Date: 14.03.2001 Non GLP, unpublished confidential	Yes	BCS
A 6.14. /08*	[REDACTED]	1989	Chromosome aberration assay in chinese hamster V79 cells in vitro with WAK 3839 [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: R4849, Edition Number: M-026528-01-1 Date: 27.09.1989 GLP, unpublished	Yes	BCS

A 7.1.2.2.2. /05	Heim, D.; Yan, Z.; Halarnkar, P. P.	1996	Anaerobic aquatic biotransformation of [Pyridinyl-14C-methyl] imidacloprid at 5 °C ABC Laboratories, Inc., Columbia, MO, USA Bayer CropScience AG, Report No.: BR107546, Edition Number: M-024068-01-1 Date: 17.12.1996 GLP, unpublished	Yes	BCS
A 7.4.1.3. /01	Heimbach, F.	1986a	Growth inhibition of green algae ( <i>Scenedesmus subspicatus</i> ) caused by NTN 33893 (technical) ████████████████████ Bayer CropScience AG, Report No.: HBF/AL 27, Edition Number: M-006854-01-2 Date: 28.11.1986 GLP, unpublished	Yes	BCS
A 7.5.1.2. /01	Heimbach, F.	1986b	Acute toxicity of NTN 33893 (techn.) to earth worms ████████████████████ Bayer CropScience AG, Report No.: HBF/RG 63, Edition Number: M-006863-01-2 Date: 10.11.1986 GLP, unpublished	Yes	BCS
A 7.5.2.1. /01	Heimbach, F.	1999	Influence of low concentrations of imidacloprid (tech.) on the reproduction of earthworms ( <i>Eisenia fetida</i> ) ████████████████████ Bayer CropScience AG, Report No.: HBF/RG 301, Edition Number: M-032798-01-1 Date: 20.05.1999 GLP, unpublished	Yes	BCS
A4.2.2/03	Hellpointner, E.	1999	Confirmatory method for the determination of imidacloprid in air Bayer AG report no. MR-335/99, method no. 00326-M001, study no. P 625 9 6000 unpublished	Yes	BCS
A 7.1.1.1.2. /02	Hellpointner, E.	1990	Determination of the quantum yield and assessment of the environmental half-life of the direct photodegradation of imidacloprid in water Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3422, Edition Number: M-024014-01-2 Date: 06.11.1990 GLP, unpublished	Yes	BCS

A 7.2.2.1. /05	Hellpointner, E.	1999a	Degradation of imidacloprid in lysimeter soil Laacher Hof AXXa Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: MR-389/99, Edition Number: M-010737-01-1 Date: 02.08.1999 GLP, unpublished also filed: A 7.2.2.4 /07	Yes	BCS
A 7.2.2.4 /07	Hellpointner, E.	1999	Degradation of imidacloprid in lysimeter soil Laacher Hof AXXa Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: MR-389/99, Edition Number: M-010737-01-1 Date: 02.08.1999 GLP, unpublished also filed: A 7.2.2.1 /05 (Not included in Caddy, as already filed as A7.2.2.1/05)	Yes	BCS
A 7.3.1. /01	Hellpointner, E.	1999	Calculation of the chemical lifetime of imidacloprid in the troposphere Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: MR-088/99, Edition Number: M-007805-01-1 Date: 18.02.1999 Non GLP, unpublished	Yes	BCS
A 7.1.2.2.2. /03	Henneboele, J.	1998	Aerobic metabolism of imidacloprid, 14C-NTN 33893, in an aquatic model ecosystem Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF4337, Edition Number: M-032538-01-1 Date: 25.02.1998 GLP, unpublished	Yes	BCS
A 6.6.1. /01*	██████████	1989	NTN 33893 - Salmonella/microsome test to evaluate for point mutagenic effects ██████████ Bayer CropScience AG, Report No.: 17577, Edition Number: M-027611-01-1 Date: 06.01.1989 GLP, unpublished	Yes	BCS

A 6.6.1. /02*	██████████	1991	NTN 33893 AMP - Salmonella/microsome test ██████████ Bayer CropScience AG, Report No.: 20090, Edition Number: M-025825-01-1 Date: 22.03.1991 GLP, unpublished	Yes	BCS
A 6.6.1. /03*	██████████	1992	NTN 33893 AMP W - Salmonella/microsome test ██████████ Bayer CropScience AG, Report No.: 21775, Edition Number: M-029085-01-1 Date: 19.10.1992 GLP, unpublished	Yes	BCS
A 6.6.2. /03*	██████████	1989	NTN 33893 - In vitro cytogenetic study with human lymphocytes for the detection of induced clastogenic effects ██████████ Bayer CropScience AG, Report No.: 18092, Edition Number: M-028377-02-1 Date: 16.06.1989, Amended: 24.08.1989 GLP, unpublished	Yes	BCS
A 6.6.3. /02*	██████████	1988	NTN 33893 - Test on <i>S. cerevisiae</i> D7 to evaluate for induction of mitotic recombination ██████████ Bayer CropScience AG, Report No.: 16832, Edition Number: M-027595-01-1 Date: 27.06.1988 GLP, unpublished	Yes	BCS
A 6.6.4. /01*	██████████	1989	NTN 33893 - In vivo cytogenetic study of the bone marrow in chinese hamster to evaluate for induced clastogenic effects ██████████ Bayer CropScience AG, Report No.: 18557, Edition Number: M-025903-01-1 Date: 24.11.1989 GLP, unpublished	Yes	BCS



A 6.6.4. /02*	██████████	1989	NTN 33893 - Sister chromatid exchange in bone marrow of chinese hamsters in vivo ██████████ Bayer CropScience AG, Report No.: 18093, Edition Number: M-028379-02-1 Date: 16.06.1989, Amended: 23.11.1993 GLP, unpublished	Yes	BCS
A 6.6.5. /01*	██████████	1988	NTN 33893 - Micronucleus-test on the mouse to evaluate for clastogenic effects ██████████ Bayer CropScience AG, Report No.: 16837, Edition Number: M-027591-01-1 Date: 27.06.1988 GLP, unpublished	Yes	BCS
A 6.14. /09*	██████████	1989	WAK 3839 - Micronucleus test on the mouse after oral application ██████████ Bayer CropScience AG, Report No.: 18406, Edition Number: M-025775-01-1 Date: 03.10.1989 GLP, unpublished	Yes	BCS
A 6.14. /10*	██████████	1989	WAK 3839 or NTN 37571 - Micronucleus test on the mouse after intraperitoneal injection ██████████ Bayer CropScience AG, Report No.: 18407, Edition Number: M-025706-01-1 Date: 03.10.1989 GLP, unpublished	Yes	BCS
A 3.13. /01	Imre, L.	1993	NTN 33893 - Surface tension Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC319, Edition Number: M-004100-02-1 Date: 03.06.1993 GLP, unpublished	Yes	BCS
A 6.2. /04*	██████████	1992	(Pyridinyl-14C-methyl)Imidacloprid: Distribution of the metabolites in some organs at different times following single oral administration to rats ██████████ Bayer CropScience AG, Report No.: PF3635, Edition Number: M-024164-01-1 Date: 12.03.1992 GLP, unpublished	Yes	BCS

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A 6.15.3. /01	██████████ ██████████	1991	(Pyridinyl-14C-methylene) imidacloprid: Absorption, distribution, excretion and metabolism in a lactating goat ██████████ Bayer CropScience AG, Report No.: PF3731, Report includes Trial Nos.: KNO43 KWN63 WBZ144 Edition Number: M-024212-01-1 Date: 18.12.1991 GLP, unpublished	Yes	BCS
A 6.8.1/01	Kast, A.	1994	"Wavy ribs". A reversible pathologic finding in rat fetuses Exp. Toxic. Pathol. 46: 203-210 Published	No	Public
A 3.9. /02	Kaußmann, , E.	2003	Determination of the log POW of NTN 33893 - metabolites by HPLC (Analytical note) Bayer CropScience AG, Report No.: MO-03-004358, Edition Number: M-088171-01-1 Date: 31.03.2003 Non GLP, unpublished	Yes	BCS
A 3.4.1 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.2 /01 also filed: A 3.4.3 /01 also filed: A 3.4.4 /01	Yes	BCS
A 3.4.2 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.1 /01 also filed: A 3.4.3 /01 also filed: A 3.4.4 /01	Yes	BCS

A 3.4.3 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.1 /01 also filed: A 3.4.2 /01 also filed: A 3.4.4 /01	Yes	BCS
A 3.4.4 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.1 /01 also filed: A 3.4.2 /01 also filed: A 3.4.3 /01	Yes	BCS
A 6.8.1/01	Khera, K.S.	1981	Common fetal aberrations and their teratologic significance: A review Fund. Appl. Toxicol. 1: 13-18	No	Public
A 6.12.1. /01	Kehrig, B.; Steffens, W.	2004	Occupational medical experiences with Imidacloprid Bayer Industry Services, Dormagen, Germany Bayer CropScience AG, Report No.: MO-05-004265, Edition Number: M-245951-01-1 Date: 05.11.2004 Non GLP, unpublished	Yes	BCS
A 7.5.4.1. /03	Kemp, J. R.; Rogers, R. E. L.	2002	Imidacloprid (Admire) residue levels following in-furrow application in potato fields in Prince Edward Island and New Brunswick  Bayer CropScience AG, Report No.: MO-02-006773, Edition Number: M-061850-01-1 Date: 02.05.2002 Non GLP, unpublished	Yes	BCS

A 6.2. /01*	██████	1987	(14C)-NTN 33893: Biokinetic part of the 'General metabolism study' in the rat ████████████████████ Bayer CropScience AG, Report No.: PF2889, Edition Number: M-024189-01-1 Date: 09.11.1987 GLP, unpublished	Yes	BCS
A 6.2. /06*	██████	1990	Imidacloprid - WAK 3839: Comparison of biokinetic behaviour and metabolism in the rat following single oral dosage and investigation of the metabolism after chronic feeding of imidacloprid to rats and mice ████████████████████ Bayer CropScience AG, Report No.: PF3432, Edition Number: M-024174-01-1 Date: 17.07.1990 GLP, unpublished	Yes	BCS
A 6.15.3. /02	██████	1992	[Methylene-14C] Imidacloprid: absorption, distribution, excretion, and metabolism in the liver and kidney of a lactating goat - Amendment to report no. PF3731 ████████████████████ Bayer CropScience AG, Report No.: PF3760, Report includes Trial Nos.: KNO56 Edition Number: M-024202-01-1 Date: 11.10.1992 GLP, unpublished	Yes	BCS
A 6.2. /02*	████████████████ ██	1991	Imidazolidine-4,5-14C-Imidacloprid: Investigation of the biokinetic behaviour and metabolism in the rat ████████████████████ Bayer CropScience AG, Report No.: PF3629, Edition Number: M-024167-01-1 Date: 11.01.1991 GLP, unpublished also filed: A 6.2 /05	Yes	BCS

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A 6.2. /05*	■■■■■■■■■■ ■■	1991	Imidazolidine-4,5-14C-Imidacloprid: Investigation of the biokinetic behaviour and metabolism in the rat  ■■■■■■■■■■ Bayer CropScience AG, Report No.: PF3629, Edition Number: M-024167-01-1 Date: 11.01.1991 GLP, unpublished also filed: A 6.2 /02 (Not included in Caddy, as already filed as A6.2/02)	Yes	BCS
A 6.15.3. /03	■■■■■■■■■■ ■■	1990	(Methylene-14C) imidacloprid - Absorption, distribution, excretion and metabolism in laying hens  ■■■■■■■■■■ Bayer CropScience AG, Report No.: PF3558, Report includes Trial Nos.: BNA45 KNO30 Edition Number: M-024187-01-1 Date: 17.09.1990 GLP, unpublished	Yes	BCS
A 6.15.3. /04	■■■■■■■■■■ ■■	1992	[Methylene-14C] Imidacloprid: Absorption, distribution, excretion, and metabolism in laying hens - Amendment to report no. PF3558  ■■■■■■■■■■ Bayer CropScience AG, Report No.: PF3759, Edition Number: M-024216-01-1 Date: 16.09.1992 GLP, unpublished	Yes	BCS
A 6.2. /03*	■■■■■■■■■■	1990	Methylene-(14C)-Imidacloprid: Metabolism part of the general metabolism study in the rat  ■■■■■■■■■■ Bayer CropScience AG, Report No.: PF3316, Edition Number: M-024182-01-1 Date: 30.01.1990 GLP, unpublished	Yes	BCS

A 4.2.3. /03	Koenig, T.	1996	Method for the determination of imidacloprid in drinking water by HPLC with on-line solid phase extraction Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00406, Edition Number: M-006837-02-1 Method Report No.: MR-831/95 Date: 09.01.1996 Non GLP, unpublished	Yes	BCS
A 6.1.2 /01*		1989	NTN 33893 (c.n. imidacloprid (proposed) - Study for acute dermal toxicity to rats  Bayer CropScience AG, Report No.: 18532, Edition Number: M-025697-01-1 Date: 15.11.1989 GLP, unpublished	Yes	BCS
A 6.14. /11		1992	WAK 3839 - Subchronic toxicological study on rats (twelve-week administration on drinking water)  Bayer CropScience AG, Report No.: 21140, Edition Number: M-029731-01-1 Date: 02.03.1992 GLP, unpublished	Yes	BCS
A 3.1.1 /01	Krohn, J.	1993	Melting Point of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC312, Edition Number: M-004037-01-1 Date: 19.05.1993 GLP, unpublished	Yes	BCS
A 3.1.2 /01	Krohn, J.	1996	Boiling Point of Imidacloprid (NTN 33893) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC1437, Edition Number: M-004039-01-1 Date: 25.09.1996 Non GLP, unpublished	Yes	BCS
A 3.1.3 /02	Krohn, J.	1995	Density of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC713, Edition Number: M-004040-01-1 Date: 08.02.1995 GLP, unpublished	Yes	BCS

A 3.2. /01	Krohn, J.	1993	Vapour Pressure Curve of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC313, Edition Number: M-004042-01-1 Date: 30.09.1993 GLP, unpublished	Yes	BCS
A 3.2.1 /01	Krohn, J.	1993	Calculation of the Henry Law Constant of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC315, Edition Number: M-004047-01-1 Date: 08.10.1993 Non GLP, unpublished	Yes	BCS
A 3.5. /01	Krohn, J.	1993	Water solubility of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC320, Edition Number: M-004109-01-1 Date: 03.03.1993 GLP, unpublished	Yes	BCS
A 3.7. /01	Krohn, J.	1993	Solubility of Imidacloprid in representative organic solvents Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC323, Edition Number: M-004130-01-1 Date: 22.06.1993 Non GLP, unpublished	Yes	BCS
A 3.9. /01	Krohn, J.	1989	Octanol/Water partition coefficient of NTN 33893 Bayer AG, Wuppertal, Germany Bayer CropScience AG, Report No.: PC337, Edition Number: M-004153-02-1 Date: 15.06.1989, Amended: 30.01.1992 GLP, unpublished	Yes	BCS
A 6.6.3. /01*	██████	1989	NTN 33893 - Mutagenicity study for the detection of induced forward mutations in the CHO-HGPRT assay in vitro ████████████████████ Bayer CropScience AG, Report No.: 17578, Edition Number: M-027630-01-1 Date: 06.01.1989 GLP, unpublished	Yes	BCS



A 6.14. /04*	██████	1989	WAK 3839 - Mutagenicity study for the detection of induced forward mutations in the CHO-HGPRT assay in vitro ████████████████████ Bayer CropScience AG, Report No.: 17757, Edition Number: M-027645-01-1 Date: 22.02.1989 GLP, unpublished	Yes	BCS
A 6.14. /05*	██████	1989	WAK 3839 - Mutagenicity study for the detection of induced forward mutations in the V79-HGPRT assay in vitro ████████████████████ Bayer CropScience AG, Report No.: 18281, Edition Number: M-025757-01-1 Date: 15.08.1989 GLP, unpublished	Yes	BCS
A 3.11. /01	Mix, K. H.	1993	Investigation of safety-relevant parameters of Confidor techn. Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC635, Edition Number: M-004182-01-2 Date: 29.10.1993 GLP, unpublished also filed: A 3.15. /01	Yes	BCS
A 3.15. /01	Mix, K. H.	1993	Investigation of safety-relevant parameters of Confidor techn. Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC635, Edition Number: M-004182-01-2 Date: 29.10.1993 GLP, unpublished also filed: A 3.11. /01	Yes	BCS
A 3.1.2 /02	Mix, K. H.; Berg, G.	1988	Thermal stability of the active ingredient NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC339, Edition Number: M-004178-01-2 Date: 28.06.1988 Non GLP, unpublished also filed: A 3.10. /01	Yes	BCS

A 3.10. /01	Mix, K. H.; Berg, G.	1988	Thermal stability of the active ingredient NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC339, Edition Number: M-004178-01-2 Date: 28.06.1988 Non GLP, unpublished also filed: A 3.1.2 /02	Yes	BCS
A 5.3.1. /03	Mrusek, K.	1997	Biological efficacy of imidacloprid versus the internal standards cyfluthrin and propoxur against flying and crawling insects Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: BES-EH-Mo 1442, Edition Number: M-267636-01-1 Date: 21.05.1997 Non GLP, unpublished	Yes	BCS
A 7.4.1.4. /01	Mueller; Caspers	2001	NTN 33893 - Toxicity to bacteria [REDACTED] Bayer CropScience AG, Report No.: 1058 A/00 B, Edition Number: M-036840-01-1 Date: 12.02.2001 GLP, unpublished	Yes	BCS
A 6.14. /02*	[REDACTED]	1988	NTN 37571 - Acute toxicity study on mice [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: RS88038, Edition Number: M-028572-01-1 Date: 19.10.1988 Non GLP, unpublished	Yes	BCS
A 6.14. /12*	[REDACTED]	1991	NTN 38014 - Acute oral toxicity study on rats [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: RA91018, Edition Number: M-028687-01-1 Date: 18.03.1991 GLP, unpublished	Yes	BCS

A 5.7.1. /02	Nauen, R., Denholm, I.	2005	Resistance of insect pests to neonicotinoid insecticides: current status and future prospects Publisher:Wiley InterScience, Location:Wiley-Liss, Inc., Journal:Archives of Insect Biochemistry and Physiology, Volume:58, Issue:2005, Pages:200-215, Year:2005, Report No.: MO-05-007838, Edition Number: M-250577-01-1 Non GLP, published	No	
A 5.7.1. /01	Nauen, R.; Ebbinghaus-Kintscher, U.; Elbert, A.; Jeschke, P.; Tietjen, K.	2001	Acetylcholine receptors as sites for developing neonicotinoid insecticides Publisher:Springer-Verlag Berlin, Location:Heidelberg, Journal:Biochemical Sites of Insecticide Action and Resistance, Pages:77-105, Year:2001, Report No.: MO-01-005653, Edition Number: M-047708-01-1 Non GLP, published	No	
A 5.3.1. /01	Nentwig	1993	Efficacy of NTN 33893 after oral application against flies ( <i>Musca domestica</i> , <i>Stomoxys calcitrans</i> ) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 930, Edition Number: M-114195-01-1 Date: 24.06.1993 Non GLP, unpublished	Yes	BCS
A 5.3.1. /04	Nentwig, G.	2000	Efficacy of different concentrations of imidacloprid after oral application against the American cockroach ( <i>Periplaneta americana</i> ) and the German cockroach ( <i>Blattella germanica</i> ) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: BES-EH-MO 01444, Edition Number: M-267714-01-1 Date: 20.09.2000 Non GLP, unpublished	Yes	BCS

A 5.3.1. /05	Nentwig, G.	2000	Efficacy of different concentrations of imidacloprid after oral application against the American cockroach ( <i>Periplaneta americana</i> ), the German cockroach ( <i>Blattella germanica</i> ) and the housefly ( <i>Musca domestica</i> ) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: BES-EH-MO 01443, Edition Number: M-267717-01-1 Date: 09.08.2000 Non GLP, unpublished	Yes	BCS
A 6.8.1/01	Nishimura, M., Iizuka, M., Iwaki, S., & Kast, A.	1982	Repairability of drug-induced "wavy ribs" in rat offspring Arzneim.-Forsch./Drug Res. 32 (II), No. 12: 1518-1522	No	Public
A 6.1.5. /01*	██████████	1988	NTN 33893 technical - Study for skin sensitising effect on guinea pigs (maximisation test) ████████████████████ Bayer CropScience AG, Report No.: 16533, Edition Number: M-027579-01-1 Date: 15.03.1988 GLP, unpublished	Yes	BCS
A 6.14. /01*	██████████	1991	WAK 3839 - Acute oral toxicity study on rats ████████████████████ ██████████ Bayer CropScience AG, Report No.: RA91017, Edition Number: M-028685-01-1 Date: 11.03.1991 GLP, unpublished	Yes	BCS
A 6.14. /14*	██████████	1991	NTN 35884 - Acute oral toxicity study on rats ████████████████████ ██████████ Bayer CropScience AG, Report No.: RA91039, Edition Number: M-028777-01-1 Date: 29.11.1991 GLP, unpublished	Yes	BCS

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A 6.14./16*		1991	NTN 33519 – Acute oral toxicity study on rats.  Bayer CropScience AG, Report No.: RA91023, Edition Number: M-028693-01-1 Date: May 31, 1991 GLP, unpublished	Yes	BCS

A 6.1.3. /01	██████████	1988	NTN 33893 - Study for acute inhalation toxicity in the rat in accordance with OECD guideline no. 403 ██████████ Bayer CropScience AG, Report No.: 16777, Edition Number: M-027586-01-1 Date: 06.06.1988 GLP, unpublished	Yes	BCS
A 6.1.4. /01*	██████████	1988	NTN 33893 - Study for irritant/corrosive potential on the skin (rabbit) according to OECD guideline no. 404 ██████████ Bayer CropScience AG, Report No.: 16455, Edition Number: M-028272-01-1 Date: 25.02.1988 GLP, unpublished	Yes	BCS
A 6.1.4. /02*	██████████	1988	NTN 33893 - Study for irritant/corrosive potential on the eye (rabbit) according to OECD guideline no. 405 ██████████ Bayer CropScience AG, Report No.: 16456, Edition Number: M-028278-01-1 Date: 25.02.1988 GLP, unpublished	Yes	BCS
A 6.3.3 /01*	██████████	1989	NTN 33893 (proposed common name: Imidacloprid) - Subacute inhalation toxicity study on the rat according to OECD guideline no. 412 ██████████ Bayer CropScience AG, Report No.: 18199, Edition Number: M-026004-01-1 Date: 18.07.1989 GLP, unpublished	Yes	BCS
A 6.12.5. /01	Proenca, P.; Teixeira, H.; Castanheira, F.; Pinheiro, J.; Monsanto, P.V.; Marques, E.P.; Vieira, D.N.	2005	Two fatal intoxication cases with imidacloprid: LC/MS analysis Publisher:Elsevier Ireland Ltd., Location:Anon., Journal:Forensic Science International, Volume:153, Pages:75-80, Year:2005, Report No.: M-256901-01-1, Edition Number: M-256901-01-1 Non GLP, published	No	

A 6.6.2. /02*	██████████ ██████████	1989	BAY NTN 33893 - Sister chromatid exchange assay in chinese hamster ovary cells ██ ██████████ Bayer CropScience AG, Report No.: BC1149, Edition Number: M-025499-01-1 Date: 12.09.1989 GLP, unpublished	Yes	BCS
A 6.2. /08*	██████████	2005	Confidor OD 200 ([14C]-imidacloprid): Comparative in vitro dermal absorption study using human and rat skin. ██ ████████████████████, on behalf of Bayer AG, Monheim/Germany. Study no. SA 04242, Report amendmend no. 1, Edition Number: M-251756-02-1 Date: 21.02.2005 GLP, unpublished	Yes	BCS



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A 7.4.3.5. /01	Ratte, H.T.; Memmert, U.	2003	Biological effects and fate of imidacloprid SL 200 in outdoor microcosm ponds RCC Ltd., Itingen, Switzerland Bayer CropScience AG, Report No.: 811776, Edition Number: M-084035-01-1 Date: 26.02.2003 GLP, unpublished also filed: A 7.1.2.2.2. /06	Yes	BCS
A 4.2.2. /01	Riegner, K.	1993	Method for the determination of imidacloprid in air Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00326, Edition Number: M-011427-02-1 Method Report No.: RA-357/93 Date: 22.06.1993 GLP, unpublished	Yes	BCS
A 4.2.2. /02	Riegner, K.	1993	Modification of the method 00326 (RA- 357/93) for the determination of imidacloprid in air Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00326/M001, Edition Number: M-006843-03-1 Method Report No.: RA-631/93 Date: 22.10.1993 GLP, unpublished	Yes	BCS
A 7.4.1.2. /04	Roney, D. J.; Bowers, L. M.	1996	Acute toxicity of 14C-NTN 33823 to Hyallela azteca under static conditions [REDACTED] [REDACTED] Report No.: 107315, Edition Number: M-032758-01-1 Date: 26.02.1996 GLP, unpublished	Yes	BCS

A 3.6. /01	Rosenfeldt, F.	1990	Dissociation constant of NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC317, Edition Number: M-004052-02-1 Date: 12.09.1990, Amended: 30.01.1992 Non GLP, unpublished	Yes	BCS
A 6.4.1.2. /01*		1990	NTN 33893 technical - Subchronic toxicity study on dogs in oral administration (thirteen-week feeding study)  Bayer CropScience AG, Report No.: 18732, Edition Number: M-026540-01-1 Date: 02.02.1990 GLP, unpublished	Yes	BCS
A 7.2.2.2. /07	Schad, T.	2001	Calculation of temperature referenced first order DT50 of Imidacloprid based on field dissipation studies conducted in Europe Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: MR-387/01, Edition Number: M-069290-01-1 Date: 20.08.2001 Non GLP, unpublished	Yes	BCS
A 7.2.2.2. /08	Schad, T.; Zerbe, P.	2005	Kinetic evaluation of the dissipation of imidacloprid under european field conditions Bayer CropScience AG, Report No.: MEF-05/077, Edition Number: M-245946-01-1 Date: 23.02.2005 Non GLP, unpublished	Yes	BCS
A 2.8. /04	Schindler, M.	2006	Results Concerning the Molecular Geometry of Imidacloprid Based on Quantum Chemical Calculations Bayer CropScience AG, Edition Number: M-277468-01-1 Date: 14.09.2006 Non GLP, unpublished confidential	Yes	BCS
A 2.8. /05	Schindler, M.	2006	Results Concerning the Molecular Geometry of Imidacloprid Based on Crystal Structure Analysis Bayer CropScience AG, Edition Number: M-277469-01-1 Date: 14.09.2006 Non GLP, unpublished confidential	Yes	BCS

A 7.5.4.1. /02	Schmitzer, S.	1999	Laboratory testing for toxicity (acute oral LD50) of NTN 33893 on honey bees ( <i>Apis mellifera</i> L.) (Hymenoptera, Apidae) [REDACTED] [REDACTED] Report No.: 6400036, Edition Number: M-016942-01-1 Date: 30.09.1999 GLP, unpublished	Yes	BCS
A 7.5.3.1.2. /03	[REDACTED]	1996	Age-related five day dietary toxicity of Imidacloprid to bobwhite quail [REDACTED] Bayer CropScience AG, Report No.: SXR/VB 057, Edition Number: M-006782-01-1 Date: 14.11.1996 GLP, unpublished	Yes	BCS
A 7.5.4.1. /04	Schmuck, R.; Schoening, R.; Schramel, O.	1999a	Residue levels of imidacloprid and imidacloprid metabolites in nectar, blossoms and pollen of sunflowers cultivated on soils with different imidacloprid residue levels and effects on these residues on foraging honeybees. [REDACTED] 1999 [REDACTED] Bayer CropScience AG, Report No.: SXR/AM 007, Edition Number: M-016827-01-1 Date: 28.09.1999 GLP, unpublished	Yes	BCS
A 7.5.4.1. /05	Schmuck, R.; Schoening, R.; Schramel, O.	1999b	Residue levels of imidacloprid and imidacloprid metabolites in nectar, blossoms and pollen of sunflowers cultivated on soils with different imidacloprid residue levels and effects of these residues on foraging honeybees. [REDACTED] 1999 [REDACTED] Bayer CropScience AG, Report No.: SXR/AM 006, Edition Number: M-016820-01-1 Date: 27.09.1999 GLP, unpublished	Yes	BCS

A 7.5.4.1. /06	Schmuck, R.; Schoening, R.; Schramel, O.	1999c	Residue levels of imidacloprid and imidacloprid metabolites in nectar, blossoms and pollen of summer rape cultivated on soils with different imidacloprid residue levels and effects of these residue on foraging honeybees. 'Hoefchen' 1999 [REDACTED] Bayer CropScience AG, Report No.: SXR/AM 010, Edition Number: M-016842-01-1 Date: 28.09.1999 GLP, unpublished	Yes	BCS
A 7.5.4.1. /07	Schmuck, R.; Schoening, R.; Schramel, O.	1999d	Residue levels of imidacloprid and imidacloprid metabolites in nectar, blossoms and pollen of summer rape cultivated on soils with different imidacloprid residue levels and effects of these residues on foraging honeybees. [REDACTED] 1999 [REDACTED] Bayer CropScience AG, Report No.: SXR/AM 008, Edition Number: M-016828-01-1 Date: 28.09.1999 GLP, unpublished	Yes	BCS
A 2.6. /01	Schneider, U.	2002	Synthesis of Imidacloprid at the BCS production plant [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: MO-02-018639, Edition Number: M-073725-01-1 Date: 18.11.2002 Non GLP, unpublished confidential	Yes	BCS
A 7.2.2.4 /01	Scholz, K.	1992	Degradation of NTN 33893 in soil with groundcover Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3438, Edition Number: M-006712-02-1 Date: 20.02.1991, Amended: 21.02.1992 GLP, unpublished	Yes	BCS

A 4.2.1. /01	Schramel, O.	2001	Method 00680 (MR-090/01) for the determination of imidacloprid in soil by HPLC-MS/MS Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00680, Edition Number: M-082263-01-1 Method Report No.: MR-090/01 Date: 29.10.2001 GLP, unpublished	Yes	BCS
A 4.2.1. /03	Schramel, O.	1999	Enforcement-/confirmatory method 00577 (MR-172/99) for liquid chromatographic determination of imidacloprid in soil Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00577, Edition Number: M-012349-01-1 Method Report No.: MR-172/99 Date: 30.04.1999 GLP, unpublished	Yes	BCS
A 2.8. /01	Schreiber, R.	2003	Material Accountability of Confidor T [REDACTED] Bayer CropScience AG, Report No.: MO-03-004124, Edition Number: M-087652-01-1 Date: 16.01.2003 GLP, unpublished confidential	Yes	BCS
A 2.8. /02	Schreiber, R.	2003	NTN 33893 - Reanalyzes of the analytical profile of the TOX-batches.- [REDACTED] Bayer CropScience AG, Report No.: DOR/03/003/SBRU, Edition Number: M-088099-01-1 Date: 28.03.2003 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /09	Schroeder, S.	2000	[REDACTED] [REDACTED] [REDACTED] Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: VB1-2005-0000703, Edition Number: M-031957-01-1 Date: 09.05.2000 Non GLP, unpublished confidential	Yes	BCS

A 4.1. /11	Schroeder, S.	2000	Validation report VB1-2005-0009701-99 ; Karl Fischer water determination Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: VB1-2005-0009701-99, Edition Number: M-031907-01-1 Date: 20.04.2000 Non GLP, unpublished confidential	Yes	BCS
A 7.5.1.3. /01	Seyfried, B.	1999	Terrestrial plants, growth test with imidacloprid [REDACTED] Bayer CropScience AG, Report No.: 724915, Edition Number: M-017610-01-1 Date: 11.05.1999 GLP, unpublished also filed: A 7.5.2.2. /01	Yes	BCS
A 7.5.2.2. /01	Seyfried, B.	1999	Terrestrial plants, growth test with imidacloprid [REDACTED] Bayer CropScience AG, Report No.: 724915, Edition Number: M-017610-01-1 Date: 11.05.1999 GLP, unpublished also filed: A 7.5.1.3. /01	Yes	BCS
A 6.9. /01*	[REDACTED] [REDACTED]	1994	An acute oral neurotoxicity screening study with technical grade imidacloprid (NTN 33893) in rats [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: BC7221, Edition Number: M-028815-02-1 Date: 16.02.1994, Amended: 07.06.1994 GLP, unpublished	Yes	BCS
A 6.9. /02*	[REDACTED] [REDACTED]	1994	A subchronic dietary neurotoxicity screening study with technical grade Imidacloprid (NTN 33893) in Fischer 344 rats [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: BC7331, Edition Number: M-027944-01-1 Date: 13.06.1994 GLP, unpublished	Yes	BCS



A 6.9. /03*	██████████ ██████	2001	A developmental neurotoxicity screening study with technical grade Imidacloprid in Wistar rats  ████████████████████ Bayer CropScience AG, Report No.: 110245, Edition Number: M-084646-01-1 Date: 14.09.2001 GLP, unpublished	Yes	BCS
A 3.16. /01	Smeykal, H.	2005	Confidor, imidacloprid; NTN 33893 (AE F106464) - Oxidizing properties A.17. Siemens AG, Frankfurt am Main, Germany Bayer CropScience AG, Report No.: 20050628.01, Edition Number: M-255230-01-1 Date: 28.07.2005 GLP, unpublished	Yes	BCS
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A 4.2.3. /01	Sommer, H.	1999	Enforcement and confirmatory method for determination of imidacloprid in drinking water and surface water by HPLC Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00576, Edition Number: M-013524-01-1 Method Report No.: MR-173/99 Date: 18.06.1999 GLP, unpublished	Yes	BCS
A 7.2.2.2. /04	Sommer, H.	1998a	Dissipation of Confidor 200 SL in soil under field conditions (Italy and Spain) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: RA-2107/96, Edition Number: M-021151-02-1 Date: 24.09.1998, Amended: 29.10.1998 GLP, unpublished	Yes	BCS



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A 7.1.2.2.2. /01	Spiteller, M.	1993	Aerobic metabolism of imidacloprid, 14C-NTN 33893, in an aquatic model ecosystem Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3950, Edition Number: M-024398-01-1 Date: 20.10.1993 GLP, unpublished	Yes	BCS
A 2.8. /03	Sporenberg, W.	2003	Determination of volatile Nitrosamines Bayer Industry Services, Leverkusen, Germany Bayer CropScience AG, Report No.: MO-03-006004, Edition Number: M-090994-01-1 Date: 09.05.2003 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /13	Sporenberg, W.	2003	<div style="background-color: black; height: 1.2em; width: 100%;"></div> <div style="background-color: black; height: 1.2em; width: 10%;"></div> Bayer Industry Services, Leverkusen, Germany Bayer CropScience AG, Report No.: 2011-0600201-03, Edition Number: M-091031-01-1 Date: 08.05.2003 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /14	Sporenberg, W.	2003	<div style="background-color: black; height: 1.2em; width: 100%;"></div> <div style="background-color: black; height: 1.2em; width: 100%;"></div> <div style="background-color: black; height: 1.2em; width: 10%;"></div> Bayer Industry Services, Leverkusen, Germany Bayer CropScience AG, Report No.: 2011-0600401-03, Edition Number: M-091023-01-1 Date: 08.05.2003 Non GLP, unpublished confidential	Yes	BCS

A 4.1. /15	Sporenberg, W.	2003	<p>[REDACTED] [REDACTED] [REDACTED]</p> <p>Bayer Industry Services, Leverkusen, Germany Bayer CropScience AG, Report No.: VD-2011-0600201-03, Edition Number: M-091218-01-1 Date: 12.05.2003 Non GLP, unpublished confidential</p>	Yes	BCS
A 4.1. /16	Sporenberg, W.	2003	<p>[REDACTED] [REDACTED] [REDACTED] [REDACTED]</p> <p>Bayer Industry Services, Leverkusen, Germany Bayer CropScience AG, Report No.: VD-2011-0600401-03, Edition Number: M-091221-01-1 Date: 12.05.2003 Non GLP, unpublished confidential</p>	Yes	BCS
A 7.5.3.1.3. /02	[REDACTED] [REDACTED]	1992	<p>Technical NTN 33893: A one generation reproduction study with mallard ducks [REDACTED] [REDACTED]</p> <p>Bayer CropScience AG, Report No.: 103813-1, Edition Number: M-006730-02-1 Date: 03.09.1992, Amended: 03.06.1993 GLP, unpublished</p> <p>(Caddy complete – total pages 138; Supplement pages 1-39, First report 1-99 (40-138)).</p>	Yes	BCS
A 6.12.2. /01	Steffens, W.	2000	<p>Final report on the poisoning incident "Lizetan Kombistabchen, 30.5.00" [REDACTED]</p> <p>Bayer CropScience AG, Report No.: MO-00-014602, Edition Number: M-023399-01-1 Date: 26.10.2000 Non GLP, unpublished</p>	Yes	BCS

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A 3.3.1 /01	Stoecker, R. H.	2001	Appearance of the substance Imidacloprid Technical Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: SKD APP 05/2001, Edition Number: M-041457-01-1 Date: 22.08.2001 Non GLP, unpublished also filed: A 3.3.2 /01 also filed: A 3.3.3 /01	Yes	BCS
A 3.3.2 /01	Stoecker, R. H.	2001	Appearance of the substance Imidacloprid Technical Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: SKD APP 05/2001, Edition Number: M-041457-01-1 Date: 22.08.2001 Non GLP, unpublished also filed: A 3.3.1 /01 also filed: A 3.3.3 /01	Yes	BCS
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A 7.5.3.1.1. /01	██████████	1990a	Technical NTN 33893: An acute oral LD50 with Bobwhite quail ██ ██████████ Bayer CropScience AG, Report No.: 100059, Edition Number: M-006718-01-1 Date: 01.03.1990 GLP, unpublished	Yes	BCS
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A 5.4. /01	Tomizawa, M.; Casida, J. E.	2002	Selective toxicity of neonicotinoids attributable to specificity of insect and mammalian nicotinic receptors Publisher: Annual Reviews, Journal: Annual Review of Entomology, Volume: 48, Pages: 339 - 364, Year: 2003, Report No.: MO-05-004254, Edition Number: M-245942-01-1 Non GLP, published	No	

A 6.6.6. /01*	██████████	1990	<p>Mouse germ-cell cytogenetic assay with NTN 33893</p> <p>██</p> <p>████████████████████</p> <p>Bayer CropScience AG, Report No.: R5063, Edition Number: M-026551-01-1 Date: 22.05.1990 GLP, unpublished</p>	Yes	BCS
A 6.15.3. /05	██████████ ██████████ ██	1992	<p>[Pyridinyl-14C-methyl] NTN 33893 residues in rotational crops</p> <p>██</p> <p>Bayer CropScience AG, Report No.: PF3674, Edition Number: M-024386-01-1 Date: 10.08.1992 GLP, unpublished</p>	Yes	BCS
A 2.7. /01	Volkman, T.	2003	<p>Composition Statement - CONFIDOR techn.</p> <p>Bayer CropScience AG, Report No.: MO-03-001628, Edition Number: M-039228-02-1 Date: 11.02.2003 Non GLP, unpublished confidential</p>	Yes	BCS
A 4.1. /08	Wanner, B.	2000	<p>██</p> <p>██</p> <p>Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 2005-0000703-00, Edition Number: M-031899-03-2 Date: 11.05.2000 Non GLP, unpublished confidential</p>	Yes	BCS
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A 6.6.1. /04*	██████████	1991	<p>NTN 33893 - Reverse mutation assay (Salmonella typhimurium and Escherichia coli)</p> <p>██</p> <p>██████████</p> <p>Bayer CropScience AG, Report No.: RA91002, Edition Number: M-028670-01-1 Date: 17.01.1991 GLP, unpublished</p>	Yes	BCS

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A 6.14. /13*		1991	NTN 38014 - Reverse mutation assay (Salmonella typhimurium and Escherichia coli)  Bayer CropScience AG, Report No.: RA91019, Edition Number: M-028689-02-1 Date: 29.03.1991 GLP, unpublished	Yes	BCS
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A 6.7. /04*	██████████	1991	NTN 33893 (proposed common name: Imidacloprid) - Carcinogenicity study in B6C3F1 mice (supplementary MTD testing for study T5025710 with administration in diet over a 24-month period) ██████████ Bayer CropScience AG, Report No.: 20769, Edition Number: M-026038-01-1 Date: 24.10.1991 GLP, unpublished also filed: A 6.5. /04	Yes	BCS
A 6.5. /03*	██████████ ██████████	1991	NTN 33893 (proposed common name Imidacloprid) - Carcinogenicity study on B6C3F1 mice (administration in the food for 24 months) ██████████ Bayer CropScience AG, Report No.: 19931, Edition Number: M-026310-01-1 Date: 28.01.1991 GLP, unpublished also filed: A 6.7. /03	Yes	BCS
A 6.7. /03*	██████████ ██████████	1991	NTN 33893 (proposed common name Imidacloprid) - Carcinogenicity study on B6C3F1 mice (administration in the food for 24 months) ██████████ Bayer CropScience AG, Report No.: 19931, Edition Number: M-026310-01-1 Date: 28.01.1991 GLP, unpublished also filed: A 6.5. /03	Yes	BCS



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A 4.1. /01	Werner, T.	1993	Confidor; Assay - HPLC, External Standard Bayer AG, Dormagen, Germany Bayer CropScience AG, Report No.: 2201-0260401-93, Edition Number: M-005637-01-2 Date: 17.06.1993 Non GLP, unpublished	Yes	BCS
A 7.5.2.1. /02	Wilhelmy, H.	1999	NTN 33893 - Inhibition of reproduction of collembola ( <i>Folsomia candida</i> ) [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: ICR64081, Edition Number: M-031094-01-1 Date: 26.08.1999 GLP, unpublished	Yes	BCS
A 7.1.3. /02	Williams, M. D.; Berghaus, L.; Dyer, D.	1992	Soil/sediment adsorption-desorption of [14C] imidacloprid ABC Laboratories, Inc., Columbia, MO, USA Bayer CropScience AG, Report No.: MR103816, Edition Number: M-023828-01-1 Date: 14.09.1992 GLP, unpublished	Yes	BCS
A 7.1.2.2.2. /02	Wilmes, R.	1990	Aerobic aquatic metabolism of NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PF3466, Edition Number: M-024098-02-1 Date: 04.12.1990 GLP, unpublished	Yes	BCS
A 7.1.1.1.1. /01	Yoshida, H.	1989	Hydrolysis of NTN 33893 Nihon Tokushu Noyaku Seizo K. K., Ibraki, Japan Bayer CropScience AG, Report No.: NR1276, Edition Number: M-024064-01-1 Date: 06.09.1989 GLP, unpublished	Yes	BCS

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A 7.4.1.2. /01	Young, B. M.; Hicks, S. L.	1990	Acute toxicity of NTN 33893 to Daphnia magna [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: 100245, Edition Number: M-006821-01-1 Date: 12.09.1990 GLP, unpublished	Yes	BCS

\* key study

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A 2.7. /01	Volkman, T.	2003	Composition Statement - CONFIDOR techn. Bayer CropScience AG, Report No.: MO-03-001628, Edition Number: M-039228-02-1 Date: 11.02.2003 Non GLP, unpublished confidential	Yes	BCS
A 2.8. /01	Schreiber, R.	2003	Material Accountability of Confidor T Bayer AG, [REDACTED] Bayer CropScience AG, Report No.: MO-03-004124, Edition Number: M-087652-01-1 Date: 16.01.2003 GLP, unpublished confidential	Yes	BCS
A 2.8. /02	Schreiber, R.	2003	NTN 33893 - Reanalyzes of the analytical profile of the TOX-batches.- Bayer AG, [REDACTED] Bayer CropScience AG, Report No.: DOR/03/003/SBRU, Edition Number: M-088099-01-1 Date: 28.03.2003 Non GLP, unpublished confidential	Yes	BCS
A 2.8. /03	Sporenberg, W.	2003	Determination of volatile Nitrosamines Bayer Industry Services, Leverkusen, Germany Bayer CropScience AG, Report No.: MO-03-006004, Edition Number: M-090994-01-1 Date: 09.05.2003 Non GLP, unpublished confidential	Yes	BCS
A 2.8. /04	Schindler, M.	2006	Results Concerning the Molecular Geometry of Imidacloprid Based on Quantum Chemical Calculations Bayer CropScience AG, Edition Number: M-277468-01-1 Date: 14.09.2006 Non GLP, unpublished confidential	Yes	BCS

A 2.8. /05	Schindler, M.	2006	Results Concerning the Molecular Geometry of Imidacloprid Based on Crystal Structure Analysis Bayer CropScience AG, Edition Number: M-277469-01-1 Date: 14.09.2006 Non GLP, unpublished confidential	Yes	BCS
A 3.1.1 /01	Krohn, J.	1993	Melting Point of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC312, Edition Number: M-004037-01-1 Date: 19.05.1993 GLP, unpublished	Yes	BCS
A 3.1.2 /01	Krohn, J.	1996	Boiling Point of Imidacloprid (NTN 33893) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC1437, Edition Number: M-004039-01-1 Date: 25.09.1996 Non GLP, unpublished	Yes	BCS
A 3.1.2 /02	Mix, K. H.; Berg, G.	1988	Thermal stability of the active ingredient NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC339, Edition Number: M-004178-01-2 Date: 28.06.1988 Non GLP, unpublished also filed: A 3.10. /01	Yes	BCS
A 3.1.3 /01	Weber	1987	Density of NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC333, Edition Number: M-004041-01-1 Date: 31.07.1987 Non GLP, unpublished	Yes	BCS
A 3.1.3 /02	Krohn, J.	1995	Density of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC713, Edition Number: M-004040-01-1 Date: 08.02.1995 GLP, unpublished	Yes	BCS
A 3.2. /01	Krohn, J.	1993	Vapour Pressure Curve of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC313, Edition Number: M-004042-01-1 Date: 30.09.1993 GLP, unpublished	Yes	BCS

A 3.2.1 /01	Krohn, J.	1993	Calculation of the Henry Law Constant of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC315, Edition Number: M-004047-01-1 Date: 08.10.1993 Non GLP, unpublished	Yes	BCS
A 3.3.1 /01	Stoecker, R. H.	2001	Appearance of the substance Imidacloprid Technical Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: SKD APP 05/2001, Edition Number: M-041457-01-1 Date: 22.08.2001 Non GLP, unpublished also filed: A 3.3.2 /01 also filed: A 3.3.3 /01	Yes	BCS
A 3.3.2 /01	Stoecker, R. H.	2001	Appearance of the substance Imidacloprid Technical Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: SKD APP 05/2001, Edition Number: M-041457-01-1 Date: 22.08.2001 Non GLP, unpublished also filed: A 3.3.1 /01 also filed: A 3.3.3 /01	Yes	BCS
A 3.3.3 /01	Stoecker, R. H.	2001	Appearance of the substance Imidacloprid Technical Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: SKD APP 05/2001, Edition Number: M-041457-01-1 Date: 22.08.2001 Non GLP, unpublished also filed: A 3.3.1 /01 also filed: A 3.3.2 /01	Yes	BCS
A 3.4.1 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.2 /01 also filed: A 3.4.3 /01 also filed: A 3.4.4 /01	Yes	BCS



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A 3.4.3 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.1 /01 also filed: A 3.4.2 /01 also filed: A 3.4.4 /01	Yes	BCS
A 3.4.4 /01	Kaussmann, M.	2001	Spectral Data Set of Imidachloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 156002172, Edition Number: M-032373-01-1 Date: 04.12.2001 GLP, unpublished also filed: A 3.4.1 /01 also filed: A 3.4.2 /01 also filed: A 3.4.3 /01	Yes	BCS
A 3.5. /01	Krohn, J.	1993	Water solubility of Imidacloprid Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC320, Edition Number: M-004109-01-1 Date: 03.03.1993 GLP, unpublished	Yes	BCS
A 3.6. /01	Rosenfeldt, F.	1990	Dissociation constant of NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC317, Edition Number: M-004052-02-1 Date: 12.09.1990, Amended: 30.01.1992 Non GLP, unpublished	Yes	BCS
A 3.7. /01	Krohn, J.	1993	Solubility of Imidacloprid in representative organic solvents Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC323, Edition Number: M-004130-01-1 Date: 22.06.1993 Non GLP, unpublished	Yes	BCS

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A 3.9. /02	Kaußmann, , E.	2003	Determination of the log POW of NTN 33893 - metabolites by HPLC (Analytical note) Bayer CropScience AG, Report No.: MO-03-004358, Edition Number: M-088171-01-1 Date: 31.03.2003 Non GLP, unpublished	Yes	BCS
A 3.10. /01	Mix, K. H.; Berg, G.	1988	Thermal stability of the active ingredient NTN 33893 Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC339, Edition Number: M-004178-01-2 Date: 28.06.1988 Non GLP, unpublished also filed: A 3.1.2 /02	Yes	BCS
A 3.11	Bogdoll, B.	2009	NTN 33893 - Statements on the Articles A.12. and A.13., Council Directive 67/548/EEC, Annex V Flammability (substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities), A.12. Flammability (solids and liquids) / Pyrophoric properties, A.13. Bayer CropScience GmbH, Frankfurt am Main, Germany Bayer CropScience AG, Report No.: AF09/040, Edition Number: M-347798-01-1 Date: 25.05.2009 Non GLP, unpublished	Yes	BCS
A 3.11. /01	Mix, K. H.	1993	Investigation of safety-relevant parameters of Confidor techn. Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC635, Edition Number: M-004182-01-2 Date: 29.10.1993 GLP, unpublished also filed: A 3.15. /01	Yes	BCS
A 3.13. /01	Imre, L.	1993	NTN 33893 - Surface tension Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC319, Edition Number: M-004100-02-1 Date: 03.06.1993 GLP, unpublished	Yes	BCS



A 3.15. /01	Mix, K. H.	1993	Investigation of safety-relevant parameters of Confidor techn. Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: PC635, Edition Number: M-004182-01-2 Date: 29.10.1993 GLP, unpublished also filed: A 3.11. /01	Yes	BCS
A 3.16. /01	Smeykal, H.	2005	Confidor, imidacloprid; NTN 33893 (AE F106464) - Oxidizing properties A.17. Siemens AG, Frankfurt am Main, Germany Bayer CropScience AG, Report No.: 20050628.01, Edition Number: M-255230-01-1 Date: 28.07.2005 GLP, unpublished	Yes	BCS
A 3.17. /01	Cichy, M.; Merheim, P.	2005	Stability of Imidacloprid (NTN 33893/ AE F106464) to normal and elevated temperature, metals and metal ions and corrosion characteristics Bayer CropScience GmbH, Frankfurt am Main, Germany Bayer CropScience AG, Report No.: PA05/059, Edition Number: M-255320-01-1 Date: 29.07.2005 GLP, unpublished	Yes	BCS
A 4.1. /01	Werner, T.	1993	Confidor; Assay - HPLC, External Standard [REDACTED] Bayer CropScience AG, Report No.: 2201-0260401-93, Edition Number: M-005637-01-2 Date: 17.06.1993 Non GLP, unpublished	Yes	BCS
A 4.1. /02	Haustein, M.	2003	Validation of HPLC-method 2201-0260401-93 -Determination of the assay in Confidor (Imidacloprid) techn. grade active ingredient- [REDACTED] Germany Bayer CropScience AG, Report No.: VB2-2201-0260401, Edition Number: M-090267-03-1 Date: 25.04.2003 Non GLP, unpublished	Yes	BCS
A 4.1. /03	Anon.	1997	Imidacloprid 582 CIPAC Bayer CropScience AG, Report No.: CIPAC 582, Edition Number: M-032649-01-1 Date: 01.01.1997 Non GLP, unpublished	Yes	BCS

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A 4.1. /05	Haustein, M.	2003	Validation of HPLC-method 2201-0308702-98 -Determination of the by-products in Confidor (Imidacloprid) techn. grade active ingredient-[REDACTED], Germany Bayer CropScience AG, Report No.: VB2-2201-0308702, Edition Number: M-090284-02-1 Date: 28.04.2003 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /06	Cichy, M. ; Gau, W.	2005	WAK in NTN 33893 AMP W ; Assay - HPLC-external standard Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 2005-0002002-92, Edition Number: M-007788-02-3 Date: 24.01.2005 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /07	Haustein, M.	2001	Validation of HPLC-method 2005-0002002-92 -Determination of WAK 3839 in Confidor (Imidacloprid) techn. grade a.i.- Bayer AG, Dormagen, Germany Bayer CropScience AG, Report No.: VB2-2005-0002002, Edition Number: M-046369-02-1 Date: 14.03.2001 Non GLP, unpublished confidential	Yes	BCS
A 4.1. /08	Wanner, B.	2000	[REDACTED] [REDACTED] Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 2005-0000703-00, Edition Number: M-031899-03-2 Date: 11.05.2000 Non GLP, unpublished confidential	Yes	BCS
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A 4.1. /12	Dobrat W.; Martijn A.	1995	CIPAC Handbook Volume F Physico-chemical methods for technical and formulated pesticides MT 30 Water 30.1 Karl Fischer method Publisher: Collab. Int. Pest. Anal. Council Ltd., Journal: CIPAC Handbook, Volume: F, Pages: 91;93, Year: 1995, Report No.: C042873, Edition Number: M-233461-01-1 Date: 01.01.1995 Non GLP, published confidential	No	
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A 4.2.1. /01	Schramel, O.	2001	<p>Method 00680 (MR-090/01) for the determination of imidacloprid in soil by HPLC-MS/MS Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00680, Edition Number: M-082263-01-1 Method Report No.: MR-090/01 Date: 29.10.2001 GLP, unpublished</p>	Yes	BCS
A 4.2.1. /02	Bachlechner, G.	1992	<p>Method for high performance liquid chromatographic determination of residues of the insecticide imidacloprid in soil using a laboratory robotic system Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00270, Edition Number: M-006708-02-1 Method Report No.: RA-139/92 Date: 11.03.1992 Non GLP, unpublished</p>	Yes	BCS
A 4.2.1. /03	Schramel, O.	1999	<p>Enforcement-/confirmatory method 00577 (MR-172/99) for liquid chromatographic determination of imidacloprid in soil Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00577, Edition Number: M-012349-01-1 Method Report No.: MR-172/99 Date: 30.04.1999 GLP, unpublished</p>	Yes	BCS

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A4.2.2/03	Hellpointner, E.	1999	Confirmatory method for the determination of imidacloprid in air Bayer AG report no. MR-335/99, method no. 00326-M001, study no. P 625 9 6000 unpublished	Yes	BCS
A 4.2.3. /01	Sommer, H.	1999	Enforcement and confirmatory method for determination of imidacloprid in drinking water and surface water by HPLC Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00576, Edition Number: M-013524-01-1 Method Report No.: MR-173/99 Date: 18.06.1999 GLP, unpublished	Yes	BCS
A 4.2.3. /02	Billesbach, K. S.; Leimkuehler, W. M.; Widmer, S. L.	1996	Analytical method for the determination of imidacloprid and the guanidine, olefinic guanidine, and urea metabolites in groundwater by high-performance liquid chromatography tandem mass spectrometry (LC-MS/MS) Bayer Corporation, Kansas City, MO, USA Bayer CropScience AG, Report No.: 107352, Edition Number: M-012941-01-1 Date: 11.06.1996 GLP, unpublished	Yes	BCS

A 4.2.3. /03	Koenig, T.	1996	Method for the determination of imidacloprid in drinking water by HPLC with on-line solid phase extraction Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 00406, Edition Number: M-006837-02-1 Method Report No.: MR-831/95 Date: 09.01.1996 Non GLP, unpublished	Yes	BCS
A 5.3.1. /01	Nentwig	1993	Efficacy of NTN 33893 after oral application against flies ( <i>Musca domestica</i> , <i>Stomoxys calcitrans</i> ) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: 930, Edition Number: M-114195-01-1 Date: 24.06.1993 Non GLP, unpublished	Yes	BCS
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A 5.3.1. /03	Mrusek, K.	1997	Biological efficacy of imidacloprid versus the internal standards cyfluthrin and propoxur against flying and crawling insects Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: BES-EH-Mo 1442, Edition Number: M-267636-01-1 Date: 21.05.1997 Non GLP, unpublished	Yes	BCS
A 5.3.1. /04	Nentwig, G.	2000	Efficacy of different concentrations of imidacloprid after oral application against the American cockroach ( <i>Periplaneta americana</i> ) and the German cockroach ( <i>Blattella germanica</i> ) Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: BES-EH-MO 01444, Edition Number: M-267714-01-1 Date: 20.09.2000 Non GLP, unpublished	Yes	BCS

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A 6.1.1. /02*		1991	NTN 33893 AMP (proposed c.n.: Imidacloprid) - Study for acute oral toxicity to rats  Bayer CropScience AG, Report No.: 20591, Edition Number: M-028854-01-1 Date: 19.08.1991 GLP, unpublished	Yes	BCS
A 6.1.1. /03*		1991	NTN 33893 CNS (c.n.: Imidacloprid (proposed) - Study for acute oral toxicity in rats  Bayer CropScience AG, Report No.: 20637, Edition Number: M-028901-01-1 Date: 03.09.1991 GLP, unpublished	Yes	BCS
A 6.1.1. /04*		1989	NTN 33893 - Study for acute oral toxicity to mice  Bayer CropScience AG, Report No.: 18593, Edition Number: M-007509-01-1 Date: 15.12.1989 GLP, unpublished	Yes	BCS
A 6.1.2 /01*		1989	NTN 33893 (c.n. imidacloprid (proposed) - Study for acute dermal toxicity to rats  Bayer CropScience AG, Report No.: 18532, Edition Number: M-025697-01-1 Date: 15.11.1989 GLP, unpublished	Yes	BCS

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A 6.1.4. /01*	████████	1988	NTN 33893 - Study for irritant/corrosive potential on the skin (rabbit) according to OECD guideline no. 404 ██████████ Bayer CropScience AG, Report No.: 16455, Edition Number: M-028272-01-1 Date: 25.02.1988 GLP, unpublished	Yes	BCS
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A 6.1.5. /01*	████████	1988	NTN 33893 technical - Study for skin sensitising effect on guinea pigs (maximisation test) ██████████ Bayer CropScience AG, Report No.: 16533, Edition Number: M-027579-01-1 Date: 15.03.1988 GLP, unpublished	Yes	BCS
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A 6.2. /04*	██████████	1992	(Pyridinyl-14C-methyl)Imidacloprid: Distribution of the metabolites in some organs at different times following single oral administration to rats ██████████ Bayer CropScience AG, Report No.: PF3635, Edition Number: M-024164-01-1 Date: 12.03.1992 GLP, unpublished	Yes	BCS
A 6.2. /05*	██████████ ██	1991	Imidazolidine-4,5-14C-Imidacloprid: Investigation of the biokinetic behaviour and metabolism in the rat ██████████ Bayer CropScience AG, Report No.: PF3629, Edition Number: M-024167-01-1 Date: 11.01.1991 GLP, unpublished also filed: A 6.2 /02 (Not included in Caddy, as already filed as A6.2/02)	Yes	BCS
A 6.2. /06*	██████████	1990	Imidacloprid - WAK 3839: Comparison of biokinetic behaviour and metabolism in the rat following single oral dosage and investigation of the metabolism after chronic feeding of imidacloprid to rats and mice ██████████ Bayer CropScience AG, Report No.: PF3432, Edition Number: M-024174-01-1 Date: 17.07.1990 GLP, unpublished	Yes	BCS
A 6.2. /08*	██████████	2005	Confidor OD 200 ([14C]-imidacloprid): Comparative in vitro dermal absorption study using human and rat skin. ██████████ ██████████, on behalf of Bayer AG, Monheim/Germany. Study no. SA 04242, Report amendmend no. 1, Edition Number: M-251756-02-1 Date: 21.02.2005 GLP, unpublished	Yes	BCS

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A 6.3.2 /01*	██████████	1990	NTN 33893 techn. - Study for subacute dermal toxicity in the rabbit ██████████ Bayer CropScience AG, Report No.: 19152, Edition Number: M-025976-01-1 Date: 11.06.1990 GLP, unpublished	Yes	BCS
A 6.3.3 /01*	██████████	1989	NTN 33893 (proposed common name: Imidacloprid) - Subacute inhalation toxicity study on the rat according to OECD guideline no. 412 ██████████ Bayer CropScience AG, Report No.: 18199, Edition Number: M-026004-01-1 Date: 18.07.1989 GLP, unpublished	Yes	BCS
A 6.4.1.1. /01*	██████████	1989	NTN 33893 - Subchronic toxicity study on wistar rats (administration in the feed for 96 days) ██████████ Bayer CropScience AG, Report No.: 18187, Edition Number: M-007967-01-1 Date: 14.07.1989 GLP, unpublished	Yes	BCS
A 6.4.1.2. /01*	██████████	1990	NTN 33893 technical - Subchronic toxicity study on dogs in oral administration (thirteen-week feeding study) ██████████ Bayer CropScience AG, Report No.: 18732, Edition Number: M-026540-01-1 Date: 02.02.1990 GLP, unpublished	Yes	BCS
A 6.4.1.2. /02*	██████████ ██████████ ██████████ ██████████ ██████████	1989	52-week oral toxicity (feeding) study with NTN 33893 technical in the dog ██████████ ██████████ Bayer CropScience AG, Report No.: R4856, Edition Number: M-027093-02-1 Date: 19.10.1989, Amended: 03.03.1992 GLP, unpublished	Yes	BCS

A 6.5. /01*	██████████ ██	1991	NTN 33893 (proposed c.n.: Imidacloprid) - Chronic toxicity and cancerogenicity studies on Wistar rats (administration in food over 24 months) ██████████ Bayer CropScience AG, Report No.: 19925, Edition Number: M-027741-02-1 Date: 25.01.1991 GLP, unpublished also filed: A 6.7. /01	Yes	BCS
A 6.5. /02*	██████████	1991	NTN 33893 (proposed common name: Imidacloprid) - Chronic toxicity and cancerogenicity studies on Wistar rats (administration in food over 24 months) - supplementary MTD study for two-year study T1025699 ██████████ Bayer CropScience AG, Report No.: 20541, Edition Number: M-027135-01-1 Date: 19.08.1991 GLP, unpublished also filed: A 6.7. /02	Yes	BCS
A 6.5. /03*	██████████ ██████████	1991	NTN 33893 (proposed common name Imidacloprid) - Carcinogenicity study on B6C3F1 mice (administration in the food for 24 months) ██████████ Bayer CropScience AG, Report No.: 19931, Edition Number: M-026310-01-1 Date: 28.01.1991 GLP, unpublished also filed: A 6.7. /03	Yes	BCS
A 6.5. /04*	██████████	1991	NTN 33893 (proposed common name: Imidacloprid) - Carcinogenicity study in B6C3F1 mice (supplementary MTD testing for study T5025710 with administration in diet over a 24-month period) ██████████ Bayer CropScience AG, Report No.: 20769, Edition Number: M-026038-01-1 Date: 24.10.1991 GLP, unpublished also filed: A 6.7. /04	Yes	BCS
A 6.6.1. /01*	██████████	1989	NTN 33893 - Salmonella/microsome test to evaluate for point mutagenic effects ██████████ Bayer CropScience AG, Report No.: 17577, Edition Number: M-027611-01-1 Date: 06.01.1989 GLP, unpublished	Yes	BCS

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A 6.6.1. /03*	██████████	1992	NTN 33893 AMP W - Salmonella/microsome test ██████████ Bayer CropScience AG, Report No.: 21775, Edition Number: M-029085-01-1 Date: 19.10.1992 GLP, unpublished	Yes	BCS
A 6.6.1. /04*	██████████	1991	NTN 33893 - Reverse mutation assay (Salmonella typhimurium and Escherichia coli) ██████████ ██████████ Bayer CropScience AG, Report No.: RA91002, Edition Number: M-028670-01-1 Date: 17.01.1991 GLP, unpublished	Yes	BCS
A 6.6.2. /01*	██████████	1988	Clastogenic evaluation of NTN 33893 in an in vitro cytogenetic assay measuring sister chromatid exchange in chinese hamster ovary (CHO) cells ██████████ ██████████ Bayer CropScience AG, Report No.: R4407, Edition Number: M-026488-01-1 Date: 21.04.1988 GLP, unpublished	Yes	BCS
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A 6.6.2. /03*	██████████	1989	NTN 33893 - In vitro cytogenetic study with human lymphocytes for the detection of induced clastogenic effects ██████████ Bayer CropScience AG, Report No.: 18092, Edition Number: M-028377-02-1 Date: 16.06.1989, Amended: 24.08.1989 GLP, unpublished	Yes	BCS

A 6.6.3. /01*	████████	1989	NTN 33893 - Mutagenicity study for the detection of induced forward mutations in the CHO-HGPRT assay in vitro ██████████ Bayer CropScience AG, Report No.: 17578, Edition Number: M-027630-01-1 Date: 06.01.1989 GLP, unpublished	Yes	BCS
A 6.6.3. /02*	████████	1988	NTN 33893 - Test on <i>S. cerevisiae</i> D7 to evaluate for induction of mitotic recombination ██████████ Bayer CropScience AG, Report No.: 16832, Edition Number: M-027595-01-1 Date: 27.06.1988 GLP, unpublished	Yes	BCS
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A 6.6.4. /01*	████████	1989	NTN 33893 - In vivo cytogenetic study of the bone marrow in chinese hamster to evaluate for induced clastogenic effects ██████████ Bayer CropScience AG, Report No.: 18557, Edition Number: M-025903-01-1 Date: 24.11.1989 GLP, unpublished	Yes	BCS
A 6.6.4. /02*	████████	1989	NTN 33893 - Sister chromatid exchange in bone marrow of chinese hamsters in vivo ██████████ Bayer CropScience AG, Report No.: 18093, Edition Number: M-028379-02-1 Date: 16.06.1989, Amended: 23.11.1993 GLP, unpublished	Yes	BCS
A 6.6.5. /01*	████████	1988	NTN 33893 - Micronucleus-test on the mouse to evaluate for clastogenic effects ██████████ Bayer CropScience AG, Report No.: 16837, Edition Number: M-027591-01-1 Date: 27.06.1988 GLP, unpublished	Yes	BCS



A 6.6.6. /01*		1990	<p>Mouse germ-cell cytogenetic assay with NTN 33893</p> <p></p> <p>Bayer CropScience AG, Report No.: R5063, Edition Number: M-026551-01-1 Date: 22.05.1990 GLP, unpublished</p>	Yes	BCS
A 6.7. /01*		1991	<p>NTN 33893 (proposed c.n.: Imidacloprid) - Chronic toxicity and carcinogenicity studies on Wistar rats (administration in food over 24 months)</p> <p></p> <p>Bayer CropScience AG, Report No.: 19925, Edition Number: M-027741-02-1 Date: 25.01.1991 GLP, unpublished also filed: A 6.5. /01</p>	Yes	BCS
A 6.7. /02*		1991	<p>NTN 33893 (proposed common name: Imidacloprid) - Chronic toxicity and carcinogenicity studies on Wistar rats (administration in food over 24 months) - supplementary MTD study for two-year study T1025699</p> <p></p> <p>Bayer CropScience AG, Report No.: 20541, Edition Number: M-027135-01-1 Date: 19.08.1991 GLP, unpublished also filed: A 6.5. /02</p>	Yes	BCS
A 6.7. /03*		1991	<p>NTN 33893 (proposed common name Imidacloprid) - Carcinogenicity study on B6C3F1 mice (administration in the food for 24 months)</p> <p></p> <p>Bayer CropScience AG, Report No.: 19931, Edition Number: M-026310-01-1 Date: 28.01.1991 GLP, unpublished also filed: A 6.5. /03</p>	Yes	BCS
A 6.7. /04*		1991	<p>NTN 33893 (proposed common name: Imidacloprid) - Carcinogenicity study in B6C3F1 mice (supplementary MTD testing for study T5025710 with administration in diet over a 24-month period)</p> <p></p> <p>Bayer CropScience AG, Report No.: 20769, Edition Number: M-026038-01-1 Date: 24.10.1991 GLP, unpublished also filed: A 6.5. /04</p>	Yes	BCS

A 6.8.1. /01*	██████████ ██████████	1988	Embryotoxicity study (including teratogenicity) with NTN 33893 technical in the rat ██ ██ Bayer CropScience AG, Report No.: R5442, Edition Number: M-027900-04-1 Date: 24.11.1988, Amended: 03.03.1992 GLP, unpublished	Yes	BCS
A 6.8.1. /01*	Khera, K.S.	1981	Common fetal aberrations and their teratologic significance: A review Fund. Appl. Toxicol. 1: 13-18	No	Public
A 6.8.1. /01*	Nishimura, M., Iizuka, M., Iwaki, S., & Kast, A.	1982	Repairability of drug-induced "wavy ribs" in rat offspring Arzneim.-Forsch./Drug Res. 32 (II), No. 12: 1518-1522	No	Public
A 6.8.1. /01*	Kast, A.	1994	"Wavy ribs". A reversible pathologic finding in rat fetuses Exp. Toxic. Pathol. 46: 203-210 Published	No	Public
A 6.8.1. /02*	██████████ ██████████	1988	Embryotoxicity study (including teratogenicity) with NTN 33893 technical in the rabbit ██ ██ Bayer CropScience AG, Report No.: R5443, Edition Number: M-027920-04-1 Date: 24.11.1988, Amended: 03.03.1992 GLP, unpublished	Yes	BCS
A 6.8.2. /01*	██████████ ████████████████ ████████████████ ████████████ ██████████	1990	Multiple generation reproduction study with NTN 33893 technical in rats ██ ██ Bayer CropScience AG, Report No.: R5097, Edition Number: M-027300-03-1 Date: 21.06.1990, Amended: 03.03.1992 GLP, unpublished	Yes	BCS

A 6.9. /01*	[REDACTED] [REDACTED]	1994	An acute oral neurotoxicity screening study with technical grade imidacloprid (NTN 33893) in rats [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: BC7221, Edition Number: M-028815-02-1 Date: 16.02.1994, Amended: 07.06.1994 GLP, unpublished	Yes	BCS
A 6.9. /02*	[REDACTED] [REDACTED]	1994	A subchronic dietary neurotoxicity screening study with technical grade Imidacloprid (NTN 33893) in Fischer 344 rats [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: BC7331, Edition Number: M-027944-01-1 Date: 13.06.1994 GLP, unpublished	Yes	BCS
A 6.9. /03*	[REDACTED] [REDACTED]	2001	A developmental neurotoxicity screening study with technical grade Imidacloprid in Wistar rats [REDACTED] [REDACTED] Report No.: 110245, Edition Number: M-084646-01-1 Date: 14.09.2001 GLP, unpublished	Yes	BCS
A 6.12.1. /01	Kehrig, B.; Steffens, W.	2004	Occupational medical experiences with Imidacloprid [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: MO-05-004265, Edition Number: M-245951-01-1 Date: 05.11.2004 Non GLP, unpublished	Yes	BCS
A 6.12.1. /02	Becker, M.	2006	Occupational, medical experience with imidacloprid gel 2,15 percent [REDACTED] [REDACTED] Bayer CropScience AG, Report No.: M-267506-01-1, Edition Number: M-267506-01-1 Date: 06.03.2006 Non GLP, unpublished	Yes	BCS
A 6.12.2. /01	Steffens, W.	2000	Final report on the poisoning incident "Lizetan Kombistbchen, 30.5.00" Bayer AG, Leverkusen, Germany Bayer CropScience AG, Report No.: MO-00-014602, Edition Number: M-023399-01-1 Date: 26.10.2000 Non GLP, unpublished	Yes	BCS

A 6.12.5. /01	Proenca, P.; Teixeira, H.; Castanheira, F.; Pinheiro, J.; Monsanto, P.V.; Marques, E.P.; Vieira, D.N.	2005	Two fatal intoxication cases with imidacloprid: LC/MS analysis Publisher:Elsevier Ireland Ltd., Location:Anon., Journal:Forensic Science International, Volume:153, Pages:75-80, Year:2005, Report No.: M-256901-01-1, Edition Number: M-256901-01-1 Non GLP, published	No	
A 6.14. /01*	██████	1991	WAK 3839 - Acute oral toxicity study on rats ████████████████████ ██████ Bayer CropScience AG, Report No.: RA91017, Edition Number: M-028685-01-1 Date: 11.03.1991 GLP, unpublished	Yes	BCS
A 6.14. /02*	██████	1988	NTN 37571 - Acute toxicity study on mice ████████████████████ ██████ Bayer CropScience AG, Report No.: RS88038, Edition Number: M-028572-01-1 Date: 19.10.1988 Non GLP, unpublished	Yes	BCS
A 6.14. /03*	██████	1990	WAK 3839 - Reverse mutation assay (Salmonella tyhimurium and Escherichia coli) ████████████████████ ██████ Bayer CropScience AG, Report No.: RA90035, Edition Number: M-028631-01-1 Date: 26.11.1990 GLP, unpublished	Yes	BCS
A 6.14. /04*	██████	1989	WAK 3839 - Mutagenicity study for the detection of induced forward mutations in the CHO-HGPRT assay in vitro ████████████████████ Bayer CropScience AG, Report No.: 17757, Edition Number: M-027645-01-1 Date: 22.02.1989 GLP, unpublished	Yes	BCS
A 6.14. /05*	██████	1989	WAK 3839 - Mutagenicity study for the detection of induced forward mutations in the V79-HGPRT assay in vitro ████████████████████ Bayer CropScience AG, Report No.: 18281, Edition Number: M-025757-01-1 Date: 15.08.1989 GLP, unpublished	Yes	BCS