

Acute Inhalation Toxicity of
NES FUNGICIDA, ACARICIDA E INSECTICIDA
SELECTIVO - LIQUIDO
in Rats (*Rattus norvegicus*)
Guideline OECD N° 403

Test number:

BIBR 6 – 30392

ID **50907**

Ref. 6-2151/M

Date:

May 23th, 2010

Sponsor:

AJIM S.R.L Y JORGE NATALIO FELIPE PEISAJOVICH
GALANTE - AGROSERVICIOS NES - MEXICO

Av. Borrini 225

Resistencia, CP (3500), Chaco

Argentina

Study conducted by

MICROQUIM S.A.

Department of Biological Studies

2MIC4100101303a



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Department of
Biological Studies

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A) STATEMENT OF COMPLIANCE WITH GOOD LABORATORY PRACTICES

TITLE: ACUTE INHALATION TOXICITY OF NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO IN RATS (*RATTUS NORVEGICUS*).

TEST SUBSTANCE: NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO

STUDY NUMBER: BIBR 6 - 30392

This study was conducted according to the OECD series on principles of Good Laboratory Practices and compliance monitoring, N°1, ENV/MC/CHEM (98) 17 OECD and pursuant to the written study plan, authorized by the Sponsor and the Technical Management of MICROQUIM. S.A. following the Standard Operating Procedures (SOP) stated in the Procedures of MICROQUIM S. A.

This report is a true and accurate record of the results obtained, and there were no known circumstances that could have affected the quality and integrity of the data. This certificate can only be reproduced with the approval of the laboratory.

The results obtained, as well as any storage medium for electronically recorded data, all documentation, study plan and final report are retained in the corresponding archives at MICROQUIM S.A.



Ximena Alvarado
Biology Technician
Study Director

Study N° BIBR 6 – 30392

Date: 08.07.10

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B) PREFACE

B.1) GENERAL

Title: Acute Inhalation Toxicity of NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO in rats (*Rattus norvegicus*).

Sponsor: AJIM S.R.L Y JORGE NATALIO FELIPE PEISAJOVICH GALANTE - AGROSERVICIOS NES – MEXICO, Av. Borrini 225, Resistencia, CP (3500), Chaco, Argentina

Test number: BIBR 6 – 30392

Test substance: NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO

Test system: Sprague Dawley Rat, strain Crl: CD®(SD) IGS-BR

Testing Institution: MICROQUIM S.A., Av. Triunvirato 3447, (1427) Buenos Aires, Argentina.

Test facility: BIOMICRO S.A., Costa Rica 4776, Malvinas Argentinas.

Address of the Study Director: BIOMICRO S.A., Costa Rica 4776, Malvinas Argentinas.

Principal investigator: Jorge Maeyoshimoto.

Phase delegated: Determination of the analytical concentration of the active (exposure dose).

Address of Principal investigator: MICROQUIM S.A., Av. Triunvirato 3447, (1427) Buenos Aires, Argentina.

B.2) STAFF

Technical Director:

Dr. Alejandro Lucini
Chemistry Degree

Study Director:

Ximena Alvarado
Biology Technician

Principal Investigator:

Jorge Maeshoyimoto

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Animal Health
Responsible

Dr. Juan Manuel Catoyra
Veterinarian

Test Performance:

Dr. Juan Manuel Catoyra
Veterinarian

Final Report
Confection:

Gisele Keim

Archive Responsible:

Silvina López

B.3) SCHEDULE

Date of entrance of the sample: 10.11.09

Start of the experimental phase (beginning of the acclimatization) : 03.19.10

Date of the First dose: 03.30.10

Observation period: : 14 days after the administration.

Date of the end of the experimental phase: 04.13.10

B.4) TEST GUIDELINE

This test was performed in agreement with the following method: Guideline for Chemical Tests, N° 403, “Acute Inhalation Toxicity” by the Organization for Economic Cooperation and Development (OECD). Adopted on 12.06.81. and SOP: “Acute Inhalation Toxicity in rats” (POE 25-BI/21). In the phase delegated to the principal investigator it was realized in conformity by the following method: SOP “Evaluation of samples of acute toxicity test on Fish and Acute Inhalation Toxicity Rats” (POE 183 – MA/59).

B.5 GOOD LABORATORY PRACTICES

This study will assure the performance of the standard operation procedures. The Quality Assurance Unit will periodically inspect test procedures and inspection dates will be included in the report.

This study will be performed according to the OECD principles of good laboratory practices, 1998. Established by SENASA Resolution No. 230/2000.

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B.6) CERTIFICATIONS, REGISTRATION, ACCREDITATIONS AND REGISTERS

- Certification in accordance with principles of Good Laboratory Practices (1998), issued by OAA.
- **GLP** Certification in accordance with: EPA 40 CFR PART 160 "Principles of Good Laboratory Practice and Compliance Monitoring" ENV/MC/CHEM (98) 17 OECD. SENASA 230/2000 Resolution. Commission Directive 2004/10/EC of de European Parliament. Issued by **Bureau Veritas Certification**.
- **ISO 9001:2008** Certification for the Quality Management System, issued by **Bureau Veritas Certification** with accreditation of:
 - OAA (Argentina)**
 - ANAB (U.S.A.)**
 - UKAS (United Kingdom)**
 - INMETRO (Brazil)**
- **COFILAB** (Laboratories Control Committee)
- **CALIBA** (Argentine Chamber of Independent Laboratories of Bromatological, Environmental and Other Related Analysis)
- **SENASA** Accreditation (National Health Service and agro food quality) LR 0060 as laboratory of agrochemicals analysis to perform physicochemical, toxicological studies and determination of pesticide residues in vegetal matrixes.
- Animal facility subscribed at **SENASA** (National Health Service and agro food quality) according to regulations of Resolution 617/02 for the production of toxicological and ecotoxicological data.
- **AACyTAL** (Argentinian Asociation of Science and Technology of Laboratory animals) No. 09-0076
- **Colombian Agricultural Institute (ICA)**, part of the Treaty of the Andean Pact, Resolution No. 03431 as a Quality Control Laboratory of chemical pesticides for agricultural use.
- **EPA** (Environmental Protection Agency) assigned laboratory code number 955079.

- **Environment Aptitude certificate** issued by the Government of the Autonomous City of Buenos Aires Res. 077 A.A. 123/2000 Law.
- **Provincial Agency for Sustainable Development Accreditation** as Laboratory of Industrial Analysis according to the provisions of Resolution No. 504/01. Registration No. 31.
- **SEDRONAR** (Secretaryship of Programs to prevent the drug addiction and fight against the drug trafficking) N° RN 858 PQ

B.7) AMENDMENT PROCEDURE

This final report can be amended by the Study Director and the Sponsor by the Sponsor in the event that his request. The Study Director will sign detailed descriptions of all amendments. The amendment will be effective at the time of Study Director's signature.

B.8) ARCHIVES

The laboratory will preserve the following data at least for 6 years: study plan, report and original data, in the general archive situated at Triunvirato 3447, (1427) Buenos Aires, Argentina. During that period no data will be discarded without the Sponsor's consent.

B.9) COMMITMENT OF CONFIDENTIALITY

The signatories of this final report are committed to safeguarding the confidentiality of all information involved in this study, both delivered by the Sponsor as that generated by this laboratory.

B.10) SAFETY PRECAUTIONS

Gloves, cap, mask with filters and protective goggles (if required) will be used to ensure proper safety and personal health and avoid inhalation and skin contact with the substance of test. In case of contact with eyes, wash them thoroughly with water and will seek medical treatment. In case of contact with skin, wash with soap and water with subsequent medical help.

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Biological Studies

C) SUMMARY

Title: Acute inhalation toxicity of NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO in rats (*Rattus norvegicus*).

Test substance: NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO

The aim of this test was to obtain information on the acute toxicity and LC_{50} of NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO, to rats following a single 4 hrs exposure.

Rats were exposed to an actual nominal concentration of 1.05 mg/l air for 4 hrs by inhalation using a dynamic nose only exposure chamber.

The diameter of the median aerodynamic mass (DMMA) in the inhalation chamber were: 3.86 microns with a standard deviation of 1.07 (GSD).

Median lethal dose: > 1.05 mg/L (nominal concentration)

Under the present test conditions, an inhalatory administration of 1.05mg/l to rats did reveal tremors, incoordination and lethargy.

No animal mortality was not recorded during the observation period.

The animals gained the expected weight throughout the whole study.

Conclusion:

The Median Lethal Concentration (LC_{50}) of the test product **NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO** by inhalation over 4 hours in Sprague Dawley rats was **GREATER THAN 1.05 mg/L**. The analytical concentration could not be determined due to a dose of 1.05 mg / L readings were not detected because the method detection limit is 1,000 mg / L and the results were below this value.

D) PURPOSE

The aim of the study was to determine the inhalatory toxicity of NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO when a single inhaling dose is administered to rats during 4 hours, following a 14-day observation period.

This test provides a rational basis for the hazard evaluation associated with the use of NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO.

E) TEST SYSTEM AND MATERIALS

E.1) TEST ANIMALS

Test system: Sprague Dawley Rat, strain CrI: CD®(SD) IGS-BR

Origin: Facultad de Ciencias Veterinarias, Universidad de Buenos Aires, Av. Chorroarín 280, C1427CWO - Buenos Aires, Argentina. Tel: 4524-8400.

Source: BIOMICRO. Costa Rica 4776, Malvinas Argentinas.

Animal Lot Number: R08/10

Number of test animals: 10, 5 males and 5 females, at each concentration level. Females used were nulliparous and non-pregnant.

Weight and age at the start of the test: young adult rats, weighting 200-300 gr. The weight range within the test animal population did not exceed ± 20 per cent of the mean weight.

Identification: Marks on the tail with inerasable ink.

Acclimatization: Animals were acclimatized to laboratory conditions at least for 11 days prior to the test. After the acclimatization, healthy animals were randomized and assigned to groups of 5 per cage (the same dosage and the same gender per cage).

E.2) HOUSING AND FEEDING CONDITIONS

Animals were housed under standard laboratory conditions.

The animals' test room was provided with conditioned air filtered by HEPA filters, with 10 to 15 air changes per hour. The temperature of the animals' room was $22 \pm 3^{\circ}\text{C}$ and

the relative humidity 30-70 per cent, although the higher relative humidity range may have exceeded during the cleaning of the room.

Animals were provided with photoperiods of 12 hours light- 12 hours darkness and placed into individual cages made of steel with litter of autoclaved wood shavings. Lot number: 41 al 49/26.10.09

The following diet was provided *ad libitum*: Balanced food Rat-Mouse Cooperación supplied by Distribuidora Horacio Gilardoni. Lot number: 10007/09/38

Well water was used *ad libitum*.

E.3) IDENTIFICATION AND CHARACTERISTICS OF THE TEST SUBSTANCE

(According to information provided by the Sponsor)

- Label: NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO
- Valuation of the active principle: AZUFRE: 13.68 % w/w; 14.91 % w/v, Batch N°: 025/2009
- Product description: Yellow-greens liquit.
- Storage conditions: Room temperature.
- Container: Plastic bottle.

The sampling was made by the sponsor

E.4) PREPARATION OF THE TEST SOLUTION

- Physical state of the test substance: Liquid.
- Solvent used: water
- Test substance concentration in the solvent: It was the highest nebulizer emulsion at 2% w/v of the product.

E.5) LIMIT TEST

A limit test with an exposure of 1.05 mg/L was performed as a nominal concentration, due to physical-chemical properties of the test substance that didn't allow higher

concentrations. As no compound-related mortality was observed, a full test with 3 dose levels wasn't carried out.

E.6) DOSE LEVELS

A single oral dose of 1.05 mg/kg body weight was performed (Administered on 03.30.10).

E.7) EXPOSURE/OBSERVATION PERIOD

The exposure period was 4 hours, after having equilibrated the inhalation chamber.

The observation period was 14 days after the treatment.

F) TEST PERFORMANCE

F.1) DOSAGE

F.1.1) EQUIPMENT

The exposure was performed in a 50L "only nasal" chamber (FIGURE N°1).

The mixture of air and test substance was generated with powder aerosol generator connected to the inhalation chamber by plastic tubing, to generate 12-15 air changes per hour. The air extracted from the chamber went through a treatment system that consisted on making it bubble in a hydrochloric acid 1% solution.

The inhalation chamber was maintained under a slight negative pressure throughout the exposure period, by a vacuum pump (ECAM Aspirex), and an airflux meter to regulate the air litres per minute to which the system is subjected.

Temperature and humidity were periodically controlled during the test.

F.1.2) EXPOSURE TO AEROSOL

A group of 5 male and 5 female rats received an only nasal exposure to aerosol concentration of the test substance during 4 hours. After completing the exposure, the residual test substance was removed from the facial area of each animal. Then they were returned to their corresponding cages and food and water was administered *ad libitum*.

The size of the aerosol particles was determined through drop measurement, which is obtained from emulsifying the cloud generated in the inhalation chamber, in vaseline.

The nominal concentration of the test substance was calculated for the exposure dividing the total amount of the aerosolized test substance (mg) by the total amount of air that flowed through the chamber (L).

Nominal Concentration Calculus:

Air quantity that circulated through the chamber during the four hours: 2000 Litres.

100 ml. of suspension	—————	2000 mg. of product
126 ml. of suspension	—————	X= 2520 mg. of product

Nominal	Nebulized product quantity (X)	2520 mg	
Concentration =	—————	=	————— = 1.05 mg/Kg
	Air quantity that circulated through the chamber during the four hours	2400 mg/L	

F.2) CLINICAL EXAM

During and following the exposure, observations were made and recorded systematically. Observed data were informed individually.

The clinical exam was carefully performed at least once a day and more frequently during the first day, carrying out the necropsy or refrigeration of those animals found dead, isolation or sacrifice of weak or moribund animals.

Cageside observations were made and any change in the skin and/or fur, eyes, mucous, respiratory, circulatory and autonomous and central nervous system, somatomotor activity and behaviour pattern were recorded. Particular attention was directed to the observation of tremors, convulsions, salivation, diarrhea, lethargy, sleepiness and coma.

Animals were weighed shortly before the test substance administration and then at weekly intervals and at time of death or the end of the test. Changes in weight were calculated and recorded when survival exceeded one day. At the end of the test surviving animals were sacrificed with carbon dioxide.

F.3) ANATOMY - PATHOLOGY

The general necropsy of all the tested animals was performed by veterinarian and all macroscopic pathological changes were recorded.

G) RESULTS

Results are summarized in a tabular form.

Data of the inhalation chamber atmosphere (TABLE N° 1).

Clinical behaviour within 14 days (TABLE N° 2).

The body weight of the animals was maintained within the physiological variability range of the test system (TABLE N° 3).

At the end of the test surviving animals were sacrificed with carbon dioxide, carrying out the corresponding necropsies (TABLE N° 4).

The LC₅₀ value is related with the observed toxic effects and the necropsy results. This value is a relatively coarse measurement useful as an expression of the lethal potential of the test substance by the inhalation route.

H) CONCLUSION


The Median Lethal Concentration (**LC₅₀**) of the test product **NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO** by inhalation over 4 hours in Sprague Dawley rats was **GREATER THAN 1.05 mg/L**. The analytical concentration could not be determined due to a dose of 1.05 mg / L readings were not detected because the method detection limit is 1,000 mg / L and the results were below this value.

I) REFERENCES


Good Laboratory Practice – ENV/MC/CHEM (98) 17 OECD.

Guideline for Chemical Tests, N° 403, “Acute Inhalation Toxicity” by the Organization for Economic Cooperation and Development (OECD). Adopted on 12.06.81, SOP: “Acute Inhalation Toxicity in rats” (POE 25-BI/21) and SOP “Evaluation of samples of acute toxicity test on Fish and Acute Inhalation Toxicity Rats” (POE 183 – MA/59).

The data contained in this report as well as the conclusion are the accurate reproduction of the raw data registered on the logbook **3.TIA**, pages 003347 to 003351.



MICROQUIM S.A.
XIMENA ALVARADO
Téc. Bióloga
Director de Estudio
Study Director



MICROQUIM S.A.
Dr. ALEJANDRO D. LUCINI
Lic. en Ciencias Químicas
Director de Estudio
Study Director

FIGURE N° 1: INHALATION CHAMBER DESIGN: Lateral view of the inhalation chamber.

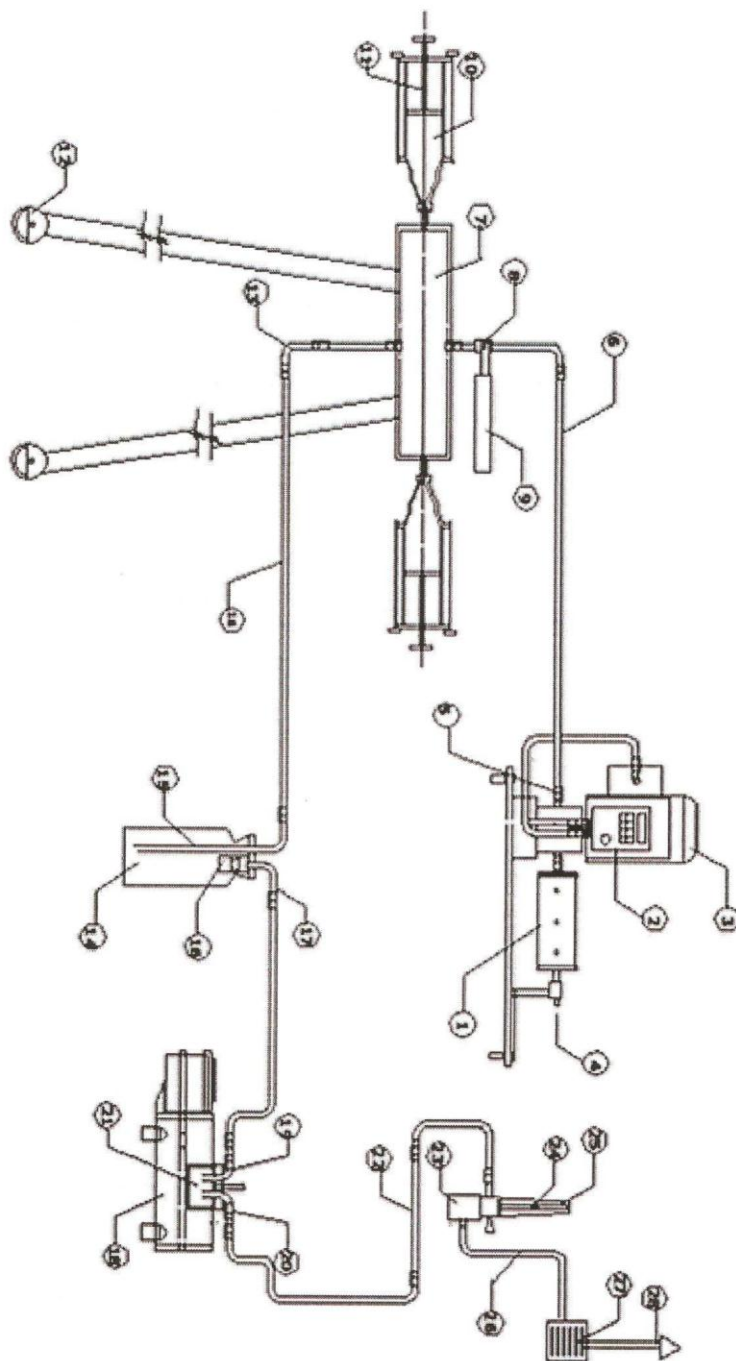


FIGURE Nº 2: INHALATION CHAMBER DESIGN: Upper view of the inhalation chamber.

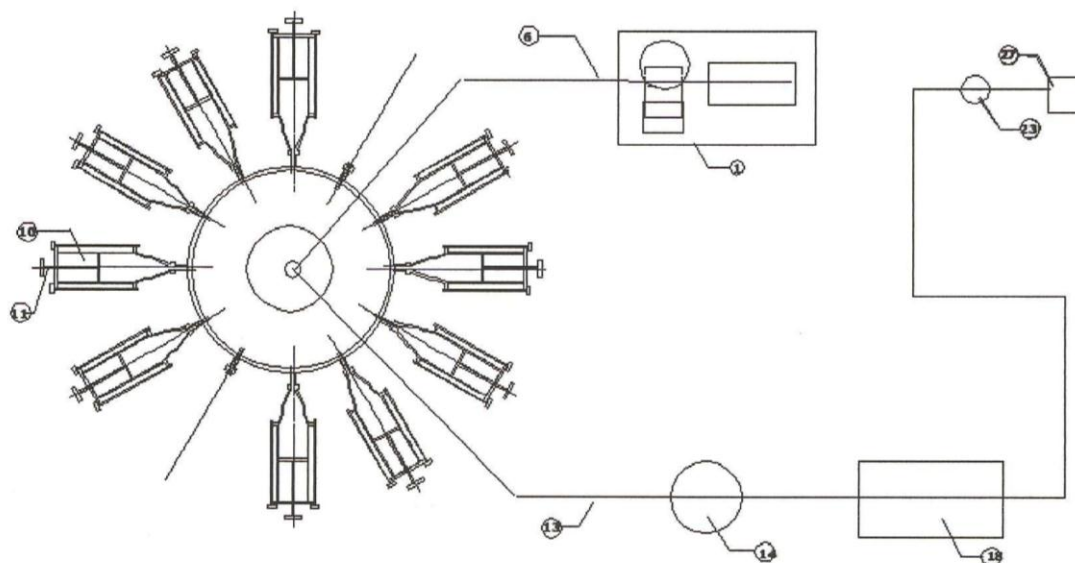


FIGURE Nº 2: INHALATION CHAMBER DESIGN: Upper view of the inhalation chamber.

1. Nebulizer
2. Air regulador
3. Short Tubular Hoops of non-toxic plastic material
4. Non-toxic unbreakable Polycarbonate Vase
5. Diaphragm cup of plastic material
6. Large Curled Tubulure of non toxic plastic material inserted in the Inhalation Chamber
7. Inhalation Chamber
8. Ingress Regulator of the Inhalation Chamber
9. Regulator Crank Handle of the Inhalation Chamber
10. Inhalation Chamber Container
11. Container Plunger
12. Mobile Support of the Inhalation Chamber
13. Large Curled Tubulure inserted to the flask
14. Receptor Bubbling Flask Post Camera
15. Glass Tube inserted to the Flask
16. Egress Filtre Flask
17. Plastic Curled Tubulure inserted to the Aspirator
18. Aspirator
19. Aspiration Valve
20. Compression Valve
21. Aspiration Pump
22. Plastic Plain Tubulure inserted to the Presion Measure
23. Presion Counter Base
24. Floating Sphere Indicator
25. Graduated Scale
26. Plastic Plain Tubulure
27. Extractor Motor Grid
28. Exit

TABLE N° 1:

INHALATION CHAMBER ATMOSPHERE DATA:

TABLE N° 1a: SUMMARY OF THE AEROSOL GENERATION AND ATMOSPHERE DATA OF THE INHALATION CHAMBER:

CHAMBER AND EXPOSURE DATA

Chamber volume (L)	50 L
Stabilization time (min)	30'
Air Changes per hour	12-15

AEROSOL CONCENTRATIONS

Calculus of the nominal concentration (mg/L)	1.05
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ANALYSIS OF AEROSOL PARTICLES SIZE

Median aerodynamic diameter (μm)	3.86
---	------

ENVIRONMENT DATA OF THE CHAMBER

Temperature range ($^{\circ}\text{C}$)	20 - 22
Humidity range (%)	50 - 95
Oxygen content (%)	21

TABLE 1b:
ENVIRONMENT DATA OF THE CHAMBER:

Time (*) (min.) (0.1 mg/L)	Temperature (°C)	Relative humidity (%)	Oxygen (%)
30	20	50	21
60	20	59	21
120	21	68	21
180	21	80	21
240	22	95	21
MEDIA	20.8	70.4	21

TABLE 1c:
PARTICLE SIZE ANALYSIS:

Particles Diameter (µm)	Quantity
≤1.0	6
≈2	15
≈3	59
≈4	60
≈5	35
≈6	15
≥7.0	10
Total particles	200

MEDIAN AERODYNAMIC DIAMETER OF THE PARTICLES 3.86µm
STANDAR DEVIATION: 1.07 µm

TABLE 2:

ACUTE INHALATORY TOXICITY TEST
INDIVIDUAL CLINICAL OBSERVATIONS AND MORTALITY

ANALYZED SAMPLE: NES FUNGICIDA, ACARICIDA E INSECTICIDA
SELECTIVO - LIQUIDO
SPONSOR: AJIM S.R.L
DATE OF THE END OF THE TEST: 13.04.10
ANALYSIS NUMBER: BIBR 6 -30392

Dose mg/L	Animal N° and sex		Observation effects Post-administration																	
			Hours				Days													
			0	1	2	4	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.05	1	Female	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2	Female	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3	Female	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4	Female	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5	Female	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	6	Male	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7	Male	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8	Male	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9	Male	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	10	Male	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

- Notes:
- 0: NO SYSTEMIC TOXIC SIGNS WERE OBSERVED
 - 1: SYSTEMIC TOXIC SIGNS WERE OBSERVED
 - 2: ANIMAL MORTALITY
 - 2*: EUTHANASIED ANIMAL

- SIGNS:
- a.- MORTALITY DATA: No animal mortality was recorded during the observation period.
 - b.- CLINICAL OBSERVATIONS: Animals presented the following toxic signs: tremors, lethargy and incoordination.
 - c.- NECROPSIES: No abnormalities were observed.

TABLE 3:

ACUTE INHALATORY TOXICITY TEST
INDIVIDUAL BODY WEIGHTS

ANALYZED SAMPLE: NES FUNGICIDA, ACARICIDA E INSECTICIDA
SELECTIVO - LIQUIDO
SPONSOR: AJIM S.R.L
DATE OF THE END OF THE TEST: 13/04/10
ANALYSIS NUMBER: BIBR 6 -30392

Dose mg/L	Animal N° and sex		Weight (g) at days		
			0	7	14
1.05	1	Female	229	237	246
	2	Female	228	237	246
	3	Female	224	232	240
	4	Female	228	235	245
	5	Female	225	226	246
	6	Male	241	254	267
	7	Male	245	259	274
	8	Male	242	254	267
	9	Male	243	256	271
	10	Male	243	259	273

TABLE 4:

ACUTE INHALATORY TOXICITY TEST
INDIVIDUAL NECROPSIES

ANALYZED SAMPLE: NES FUNGICIDA, ACARICIDA E INSECTICIDA
SELECTIVO - LIQUIDO
SPONSOR: AJIM S.R.L
DATE OF THE END OF THE TEST: 13.04.10
ANALYSIS NUMBER: BIBR 6 -30392

Dose mg/L	Animal N° and sex		Mortality time	Macroscopic Observations
1.05	1	Female	14 days (*)	No abnormalities were observed
	2	Female	14 days (*)	No abnormalities were observed
	3	Female	14 days (*)	No abnormalities were observed
	4	Female	14 days (*)	No abnormalities were observed
	5	Female	14 days (*)	No abnormalities were observed
	6	Male	14 days (*)	No abnormalities were observed
	7	Male	14 days (*)	No abnormalities were observed
	8	Male	14 days (*)	No abnormalities were observed
	9	Male	14 days (*)	No abnormalities were observed
	10	Male	14 days (*)	No abnormalities were observed

(*) Sacrificed animal after the observation period

TABLE 5:

**DETERMINATION OF THE ANALYTICAL CONCENTRATION
OF THE TEST SUBSTANCE**

Methodology: AOAC 980.02 (Gravimeter)

For the substance collection, the air extractor from the chamber was bubbled at different times set in advance, in a hydrochloric acid 1%, retaining in this way the substance in that solution. The analytic measures at the following test times were performed by AOAC 980.02 (Gravimeter) analysis, in order to demonstrate that the concentration was maintained along the test:

N° of sample	Time (min.)	Concentration (mg/L)
1	30	Undetectable
2	60	Undetectable
3	120	Undetectable
4	180	Undetectable
5	240	Undetectable

The analytical concentration could not be determined due to a dose of 1.05 mg / L readings were not detected because the method detection limit is 1,000 mg / L and the results were below this value.

ANNEX I
Reference to the Toxicological Classification

Toxicological classification of the World Health Organization (WHO), stated in the Guidelines for the classification of pesticides (2004), as it is detailed in the following table:

Class	Hazard Classification	WHO Classification according to hazard	LC ₅₀ (mg/L)
I	Very toxic	Extremely hazardous	≤ 0,2
II	Harmful	Moderately hazardous	> 0,2 a 2
III	Caution	Little hazardous	> 2 a 20
IV		Generally non hazardous products	> 20

ANNEX II

GLP Certificate

Página 1 de 1

OAA ✓

Organismo
Argentino de
Acreditación

Reconocido
Internacionalmente
por ISO 15189
por ILAC, IRAP y AAC

Av. Julio A. Roca 651 B° Sec. 8 y 9
(C1007ABB) Bs. As. Argentina
Teléfono: 54-11 4349-3962 / 3 / 4
info@oaa.org.ar | www.oaa.org.ar

**CERTIFICATE OF COMPLIANCE WITH OECD
PRINCIPLES OF GOOD LABORATORY
PRACTICE**

Granted to the Testing Facility

MICROQUIM S.A.

División Biomicro

The Argentine Accreditation Body -OAA- declares that according to the requirements of its Good Laboratory Practice Monitoring Program, the Test Facility MICROQUIM S.A. DIVISIÓN BIOMICRO carries out the non-clinical studies mentioned in this certificate in compliance with the Principles of Good Laboratory Practice of the Organisation for Economic Co-operation and Development -OECD- (1998).

REGISTRATION OF COMPLIANCE WITH GPL No 02

AUTHORIZED REPRESENTATIVE: Lic. Alejandro LUCINI

Area of expertise:

- 2- toxicity testing
- 4- environmental toxicity studies on aquatic and terrestrial organisms

These types of non-clinical studies are performed in AGROCHEMICAL.

Carried out in: MICROQUIM S.A., DIVISIÓN BIOMICRO

Address of the Facility: Costa Rica 4776 – Partido de Malvinas Argentinas

Inspection Date:

October 5 and 6, 2009

Inspection and study audit

President
Higinio B. Ridolfi

This certificate was issued in Buenos Aires on January 4, 2010.

Study N° BIBR 6 – 30392

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MICROQUIM S.A.
Department of
Biological Studies

QUALITY ASSURANCE UNIT STATEMENT

TITLE: Acute Inhalation Toxicity of NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO in Rats (*Rattus norvegicus*)

TEST SUBSTANCE: NES FUNGICIDA, ACARICIDA E INSECTICIDA SELECTIVO - LIQUIDO

STUDY NUMBER: BIBR 6 – 30392


This study was audited during its different stages. For this study, the final report was compared with the study plan and the Standard Operating Procedures (SOP).

The report is in accordance with the obtained data.

The audit was carried out according to the Standard Operating Procedures (SOP) established in the Procedures Manual of MICROQUIM S.A.

The audit report was remitted to Direction and the Study Director, filing a copy of it in the “Internal Audits” archive of the Quality Assurance Unit of MICROQUIM S.A.

Audit N°	Audited area / Details	Audit Date
8641.a	Audit's Study Plan	03.18.10
8641.b	Audit's Study	04.01.10
8641.c	Final report revision.	07.16.10
8641.d	Audit's Report to Direction and the Study Director	07.19.10


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