CENTRE DE RECHERCHES BIOLOGIQUES

Baugy, June 24 1993

STUDY NO 920085 E

[redacted]

SAFETY STUDY IN THE RAT BY
ORAL ROUTE

Sponsor :
ELF ATOCHEM SA
Tours Iris
La Défense 10, Cedex 42
92091 PARIS LA DEFENSE - FRANCE

[redacted]

CHEMIN DE L'ORME - LE PAGE - 18023 BOURGES - TEL. (16) 48 26 18 05 - TELEX 780163 F - TÉLÉCOPIE (16) 48 26 11 87

STUDY : Safety study in the Wistar rat by oral route.

COMPOUND : [redacted]

SPONSOR : ELF ATOCHEM SA.

SPONSOR CONTACT : Mr REGNIER

ADDRESS : La Défense 10, Cedex 42
92091 PARIS LA DEFENSE - FRANCE

LOCATION OF STUDY : CENTRE DE RECHERCHES BIOLOGIQUES
Chemin de Montifault
18800 BAUGY - FRANCE

RESPONSIBLE STAFF FOR CERB :

Scientific and Technical Director :

S. RICHARD
Pharmacien, Docteur de 3ème Cycle
Maître en Pharmacologie

01/07/93
Date

Signature

Head of Toxicology Department :

C. AUDEVAL-GERARD
Docteur Vétérinaire
CES d'Ophtalmologie

30/06/93
Date

Signature

Study Director :

L. BAUDET
Ingénieur Biochimiste

30.06.93
Date

Signature

Quality Assurance :

C. VIGIER

29/06/93
Date

Signature

The authentic results of the experiment form the basis of the present report.

[redacted]

This report consists of 31 pages numbered from 1 to 31 including 4 appendices.

CONTENTS

I. SUMMARY

The aim of this study (limit test) was to verify that the maximum administrable oral dose of compound [redacted] as a suspension in distilled water, i.e 2000 mg/kg, according to Directive 67/548/EEC did not cause mortality of 50 % or more in rats. If this were not the case, a lower dose was to be administered.

2000 mg/kg of compound [redacted] as a suspension in distilled water, were administered orally in a volume of 10 ml/kg.

A group of control animals dosed under the same conditions as the animals treated with 10 ml/kg of distilled water served as a reference.

Animals were monitored daily for 14 days after administration of compound.

Animals were weighed on days D-1, D1, D4, D7 and D14.

Under the experimental conditions adopted, essential experimental findings were :

- no mortality was recorded during the study,
- no symptomatology was noted during the 14-day period following the administration of compound [redacted]
- mean body weight in animals treated with compound [redacted] did not differ significantly from that of the control animals,
- no macroscopic organ or tissue abnormalities were seen at autopsy of the animals treated with compound [redacted] and sacrificed after a 14-day observation period.

In conclusion, under the experimental conditions adopted, oral administration of the compound [redacted] at the dose of 2000 mg/kg did not cause any mortality in the male and female Wistar Rat.

II. EXPERIMENTAL PROTOCOL ADOPTED

II.1 AIM :

The aim of the study was to verify that oral administration in the Rat of the dose of 2000 mg/kg of the compound [redacted] under acceptable conditions of gavage, did not cause mortality of 50 % or more in rats.

II.2 METHOD :

Qualitative and quantitative evaluation of the toxic effects seen following single administration of the dose of 2000 mg/kg of compound [redacted] took place in the male and female Rat in accordance with the general requirements of OECD guidelines and requirements of 67/548 E.E.C. Guideline.

The protocol n° 92.04.10.04 signed by the legal responsible for the sponsor of the study and by the experimenters may be found in appendix 1.

The study was carried out in accordance with Good Laboratory Practices as published by:

- **the French Ministry of Social Affairs and National Solidarity :**
  State Secretariat for Health.
  Guideline concerning Good Laboratory Practices (GLP) in the area of experimental toxicology.
  Guideline dated May 31, 1983, official text No. 1065 ; reference SN-S83/25.

- **EEC Guideline 87/18. This guideline refers to recommendation CC81/30 Appendix 2 of the OECD.**

- **Food and Drug Administration : GLP 21 CFR Part 58 dated December 22, 1978 and amendments of April 11, 1980 and September 4, 1987.**

II.3 COMPOUND :

The technical data and the analytical certificate concerning the compound are supplied with the study report in Appendix 2.

- Name : [redacted]
- Batch No : [redacted]
- Record number (CAL): [redacted]
- Origin : ELF ATOCHEM SA.
- Date received : Saturday April 18 1992.
- Amount : 1 bottle of 107 g.
- Appearance : [redacted]
- Storage conditions : The compound was stored at room temperature, sheltered from light, in its original packaging.

II.4 ANIMALS :

- SPECIES : SPF (Specific Pathogen Free) Wistar Rat.
- ORIGIN : CHARLES RIVER - 76410 ST AUBIN LES ELBEUF-FRANCE specialized breeding station.
- AGE : over 6 weeks at the time of administration.
- SEX : Male and female animals. Females were nulliparous and non-gravid.
- NUMBER : Five males and five females per dose.
- ACCLIMATIZATION : For 5 days before random distribution into treatment groups, in the area where the experiment was to take place.
- DATE OF DELIVERY : 22.04.1992.
- DISTRIBUTION BY GROUP : The day prior to the study, on D-1, animals were randomized into the different treatment groups on the basis of the criterion of body weight. Randomization was separate for each sex.
- IDENTIFICATION : They were identified in accordance with standard operating procedures at the Center.
- HOUSING : Five male or female animals from each treatment group were kept per cage of standard size, on dust-free white wood shavings as bedding, sterilized by irradiation.

  These cages were placed in an air-conditioned animal house (18-22°C) kept at a constant relative humidity of between 45 % and 65 %, in which recycled filtered air was changed approximately ten times per hour. The artificial daylight cycle was 12 hours light and 12 hours darkness.
- FOOD : UAR A04 C-10 (subjected to quality control and sterilized by irradiation). An analytical certificate may be found with the study report in Appendix 3.
- DRINKING WATER : Softened tap water distributed 'ad libitum' in polycarbonate feed bottles with a stainless steel teat. A water sample was taken every three months and sent to the Direction des Services Vétérinaires, 216 rue Louis Mallet, 18014 BOURGES CEDEX, FRANCE for analysis. The water analytical certificate in Appendix 4 corresponds to the sample taken at the closest date of the start of the present study.

II.5 ADMINISTRATION OF COMPOUND :

Compound [redacted] was administered to animals fasting of food since the previous day. It was administered to the animal by single dose, by gavage, using a cannula of appropriate size.

After administration of compound, animals remained deprived of food for a period of 3 to 4 hours approximately.

- DOSE ADJUSTMENT :

The dose administered was expressed in mg/kg and adjusted to the weight of the animal determined just before administration.

- NUMBER OF DOSES :

The dose of 2000 mg/kg was administered in accordance with acceptable conditions of gavage under the study conditions.

- FORM OF ADMINISTRATION :

The compound was administered as a suspension in distilled water.

- VOLUME ADMINISTERED :

The volume administered was 10 ml/kg of body weight.

- METHOD OF PREPARATION :

6 g of compound [redacted] were weighed. Distilled water was then added in sufficient amount to obtained a 30 ml preparation. A [redacted] suspension was obtained.

Control animals were dosed with 10 ml/kg of distilled water under the same conditions as treated animals.

II.6 WEIGHING :

Animals were routinely weighed on the following days:

- day of randomization, on D-1,
- fasting on D1, day of administration,
- on days D4, D7 and D14 during the study.

II.7 CLINICAL MONITORING OF ANIMALS :

Animals were regularly monitored on the day of administration. They were then examined clinically at least once a day for 14 days.

Findings were routinely noted using clinical case report form individual for each animal.

II.8 AUTOPSY :

All animals dying during the course of the study were autopsied as rapidly as possible and their main organs examined macroscopically (liver, spleen, kidneys, stomach, lungs, heart).

All animals surviving at the end of the 14-day observation period were autopsied on D15 and the main organs as cited above were studied macroscopically.

II.9 DATA ENTRY OF RESULTS :

All results were recorded as and when obtained using forms identified by the study number.

II.10 REPORT :

The experimental report included all findings noted during the course of the study, and in particular information concerning :
- obervation of animals,
- recording of mortality and of its causes,
- body weight change,
- macroscopic examination of the main organs.

II.11 QUALITY ASSURANCE :

The Quality Assurance unit ensured that working procedures relative to this type of study were strictly complied with by periodic inspections at random over the course of the year.

Data in the experimental report were audited by the Quality Assurance Unit, in accordance with standard operating procedures at the Centre.

II.12 RECORDS :

The protocol, the raw data, the report, correspondence and a sample of the compound have been stored for five years at CERB - 18800 BAUGY - FRANCE starting from the date of the final report.

All the end of this period, CERB will contact the sponsor in order to jointly determine to either :
- continue storage of records,
- return the data to the sponsor,
- destroy the data.

III. RESULTS

III-1 DEVIATION FROM PROTOCOL No 92.04.10.04 :

- Housing :
  5 male or female animals from the same treatment group were kept per cage of standard size, on an ABSORB PLUS vegetable bedding (particle size 8/10) following a new bedding selected by CERB.

- Form of administration :
  The compound was administered as a suspension in distilled water and not as a solution.

- Weighing :
  Animals were weighed on D4 and not on D3.

III.2 DATES OF STUDY :

Date of start of study : D1 = 28.04.1992.
Date of end of study : D15 = 12.05.1992.

III.3 MORTALITY (expressed in %) :

[redacted] mg/kg	MORTALITY KINETIC								
	D1			D2	D3	D4	D5	D6	D7	D14
	+ Imm.	< 3h	< 8h							
MALE RATS										
0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
FEMALE RATS										
0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0

+ Imm. : Immédiate

III.4 PERCENTAGE MORTALITY :

DOSE mg/kg	VOLUME ml/kg	CONCENTRATION AS [redacted] g/100 ml	MORTALITY PER 5 RATS (%)	
			MALES	FEMELLES
0	10 *	0	0	0
2000	10	20	0	0

* : distilled water.

No mortality was recorded during the study.

III.5 CLINICAL MONITORING :

No symptomatology was recorded during the 14-day period following administration of compound [redacted]

III.6 WEIGHT CHANGES (g) - Mean results :

Mean body weights and mean percentage variations in body weight of animals during the course of the trial are shown in table I overleaf.

Mean body weight in animals treated with compound [redacted] did not differ significantly from that of the control animals.

TABLE I

[redacted]

BODY WEIGHT CHANGE - MEAN RESULTS (g)
PERCENTAGE WEIGHT VARIATION / D-1
RATS

MALES

DOSES		D-1	D4	D7	D14
0MG/KG	count	5	5	5	5
	mean	199.8	229.8	250.0	302.8
	stdev	5.4	5.5	7.2	13.7
	sem	2.4	2.5	3.2	6.1
	%		15.0	25.1	51.6
2000MG/KG	count	5	5	5	5
	mean	199.6	228.8	250.8	299.6
	stdev	3.8	1.6	5.8	10.9
	sem	1.7	0.7	2.6	4.9
		NS	NS	NS	NS
	%		14.6	25.7	50.1

FEMALES

DOSES		D-1	D4	D7	D14
0MG/KG	count	5	5	5	5
	mean	156.2	174.4	180.8	204.6
	stdev	2.9	4.1	4.9	6.5
	sem	1.3	1.8	2.2	2.9
	%		11.7	15.7	31.0
2000MG/KG	count	5	5	5	5
	mean	156.2	174.8	182.4	206.2
	stdev	3.3	5.9	5.2	6.6
	sem	1.5	2.7	2.3	3.0
		NS	NS	NS	NS
	%		11.9	16.8	32.0

stdev : standard deviation.
sem : standard error mean.
NS : non-significant difference at threshold of 5 p.100 in comparison with control group ($p > 0.05$).
% : percentage weight variation / D-1.

III.7 AUTOPSY EXAMINATIONS :

No macroscopic organ and tissue abnormalities were seen at autopsy of the animals treated with compound [redacted] and sacrificed after a 14-day observation period except some congestive points noted on the thymus in control female no 920307.

III.8 CONCLUSION :

At request of ELF ATOCHEM S.A, a safety study in the Rat by oral dosing was undertaken on compound [redacted]

Under the experimental conditions adopted, compound [redacted] administered orally at the dose of 2000 mg/kg did not cause any mortality in the male and female Wistar Rat.

APPENDIX 1

Protocol no 92.04.10.04

TRIAL : [redacted]
Safety study in the rat by oral route

SPONSOR : ELF ATOCHEM SA
La Défense 10, Cedex 42
92091 PARIS LA DEFENSE-FRANCE

SITE OF TRIAL: CENTRE DE RECHERCHES BIOLOGIQUES
Chemin de Montifault
18800 BAUGY-FRANCE

APPROBATION :

SPONSOR CONTACT :

Mr REGNIER	22.04.92 --------- Date	---------- Signed

RESPONSIBLE STAFF FOR CERB :

Scientific and Technical Director :

S. RICHARD	14.04.92 --------- Date	---------- Signed

Head of Toxicology Department :

C. AUDEVAL-GERARD	14.04.92 --------- Date	---------- Signed

Study Director :

L. BAUDET	13.04.92 --------- Date	---------- Signed

Quality Assurance :

C. VIGIER	14.04.92 --------- Date	---------- Signed

([redacted])

Safety study in the rat by oral dosing

I- AIM :

Verify that oral administration in the Rat of the dose of 2000 mg/kg of the compound [redacted] under acceptable conditions of gavage, does not cause mortality of 50 % or more in rats. If this is not the case, a dose of 200 mg/kg is to be administered.

II- METHOD :

Qualitative and quantitative evaluation of the toxic effects seen following single administration of the dose of 2000 mg/kg of compound [redacted] takes place in the male and female Rat in accordance with the general requirements of OECD guidelines and requirements of 67/548 E.E.C. Guideline.

The study is carried out in accordance with Good Laboratory Practices as published by:

- **the French Ministry of Social Affairs and National Solidarity :**
  State Secretariat for Health.
  Guideline concerning Good Laboratory Practices (GLP) in the area of experimental toxicology.
  Guideline dated May 31, 1983, official text No. 1065 ; reference SN-S83/25.

- **EEC Guideline 87/18. This guideline refers to recommendation CC81/30 Appendix 2 of the OECD.**

- **Food and Drug Administration : GLP 21 CFR Part 58 dated December 22, 1978 and amendments of April 11, 1980 and September 4, 1987.**

III. COMPOUND FORAPERLE 321:

DATA SUPLIED BY THE SPONSOR :

The substance information sheet and the analytical certificate were received on April 10 1992.

DATA TO BE SUPPLIED BY THE SPONSOR :

Please fill in the test substance information sheet.

AMOUNT OF COMPOUND TO BE SUPPLIED :

10 ml of compound [redacted] will be necessary for carrying out this study.

IV-4 ANIMALS :

- SPECIES : SPF (Specific Pathogen Free) Rat Wistar.
- ORIGIN : From the CHARLES RIVER - 76410 ST AUBIN LES ELBEUF- FRANCE specialized breeding station.
- AGE : over 6 weeks at the time of administration.
- SEX : Male and female . Females are nulliparous and non-gravid.
- NUMBER : Five males and five females per dose.
- ACCLIMATIZATION : For at least 5 days before random distribution into treatment groups, in the area where the experiment is to take place.
- DISTRIBUTION BY GROUP : The day prior to the study, on D-1, (not before D-3 ie 72 hours before the study) animals are randomized into the different treatment groups on the basis of the criterion of body weight.
- IDENTIFICATION : Animals identified by cage, separately, by picric acid tagging.
- HOUSING : Five male or female animals from the same treatment group are kept per cage of standard size, on dust-free white wood shavings as bedding, sterilized by irradiation.

  These cages are placed in an air-conditioned animal house (18-22°C) kept at a constant relative humidity of between 45 % and 65 %, in which recycled filtered air is changed approximately ten times per hour. The artificial daylight cycle is 12 hours light and 12 hours darkness.

- FOOD : UAR A04 C-10 foodstuff (subjected to quality control and sterilized by irradiation). An analytical certificate is included in the study report.

- DRINKING WATER : Softened tap water distributed 'ad libitum' in polycarbonate feed bottles with a stainless steel teat. A water sample is taken every three months and sent to the Direction des Services Vétérinaires, 216 rue Louis Mallet, 18014 BOURGES CEDEX, FRANCE for analysis. A water analytical certificate is included in the study report.

IV-2 ADMINISTRATION OF COMPOUND [redacted]

Compound [redacted] is administered to animals fasting of food since the previous day (approximately 16 hours). It is administered to the animals distributed into groups by single dose, by gavage, using a cannula of appropriate size.
After administration of compound, animals remain deprived of food for a period of 3 to 4 hours approximately.

IV-2-1- Dose adjustment :

The dose administered is expressed in mg/kg and adjusted to the weight of the animal determined just before administration.

IV-2-2 Number of doses :

2 doses including the zero dose (controls) are carried out during the study.

Group 1 : 10 rats (5 males and 5 females) : Controls (Dose 0)
Group 2 : 10 rats (5 males and 5 females) 2000 mg/kg of compound [redacted] This dose is administered in accordance with acceptable conditions of gavage under the study conditions.

IV-2-3 Form of administration :

The compound is administered as a solution in distilled water.

Control animals are dosed with the vehicle only under the same volume as the treated animals.

IV-2-4 Volume administered :

10 ml/kg of body weight.

V-3 WEIGHING :

Animals are routinely weighed on the following days:

- day of randomization ;
- fasting on D1, day of administration,
- on days D3, D7 and D14 during the study.

IV-4 CLINICAL MONITORING OF ANIMALS :

Animals are regularly monitored on the day of administration. They are then examined clinically at least once a day for 14 days.

Findings are routinely noted using clinical case report form individual for each animal.

IV-5 AUTOPSY :

All animals dying during the course of the study are autopsied as rapidly as possible and their main organs examined macroscopically (liver, spleen, kidneys, stomach, lungs, heart).

All animals surviving at the end of the 14-day observation period are autopsied on D15 and the main organs as cited above are studied macroscopically.

All organs showing obvious evidence of general pathology are fixed in an appropriate agent for possible subsquent histopathology (not included in estimate).

V DATA ENTRY OF RESULTS :

All results are recorded as and when obtained using forms identified by the study number.

VI REPORT :

The experimental report includes all findings noted during the course of the study, and in particular information concerning :
- obervation of animals,
- recording of mortality and of its causes,
- body weight change,
- macroscopic examination of the main organs.

VII QUALITY ASSURANCE :

The Quality Assurance unit ensures that working procedures relative to this type of study are strictly complied with by periodic inspections at random over the course of the year.

Data in the experimental report are audited by the Quality Assurance Unit, in accordance with standard operating procedures at the Centre.

VIII- RECORDS :

The protocol, any possible amendements, the raw data, the report, correspondence and a sample of the compound are stored for five years at CERB - 18800 BAUGY, FRANCE.

At the end of this period, CERB will contact the sponsor in order to jointly determine to either :

- continue the storage of the records,
- return the data to the sponsor,
- destroy the data.

IX - PLANIFICATION :

Date of start of study : Week of April 27 1992.
Date of end of study : At the end of the study.
Date of submission of draft report : 1rst fortnight of June 1992
Date of submission of the English summary : at the final report submission.

APPENDIX 2

Technical data and analytical certificate
concerning compound

SERVICE DE TOXICOLOGIE
CONFIDENTIEL
Avril 1992

elf atochem sa
La Défense 10, cédex 42
92091 Paris-La Défense
France

FICHE D'INFORMATIONS

[redacted]

IDENTIFICATION

Nom commun : [redacted]
Nom chimique :

Origine; n° de lot :
N° d'archivage (CAL) :

PROPRIETES PHYSICO-CHIMIQUES

Apparence :
Viscosité :
Température ébullition :
pH :
Densité :
Point d'éclair :
Solubilité :

INFORMATIONS TOXICOLOGIQUES ET PRECAUTION D'EMPLOI

Aucune information disponible.

CONDITIONS DE CONSERVATION ET DE DESTRUCTION

Conservation	: A l'obscurité et à l'abri de la chaleur.
Stabilité	: Stable jusqu'en Avril 1993 dans ces conditions de stockage
Destruction	: Incinération.

elf atochem sa
4, cours Michelet, cedex 42
92091 Paris La Défense 10
France

ATO

BULLETIN D'ANALYSE

[redacted]

[redacted]

8 Avril 1992

Jean-François Régnier

Service de Toxicologie

APPENDIX 3

Analytical certificate concerning foodstuff

FICHE DE CONTROLE
CONTROL SHEET

ALIMENT A04C-10 N° LOT: 11219 — 28
FOODSTUFF

UTILISATEUR :
user

CENTRE RECHERCHES BIOLOGIQUES
CHEMIN DE MONTIFAULT
18800 BAUGY

NOMBRE DE SACS DANS LE LOT : 561 à 1400 *
Number of bags in the lot
DATE LIMITE DE VENTE conseillée : 19.03.92
last selling date
DATE LIMITE D'UTILISATION : 19.06.92
last utilization date

CONTROLE D'HOMOGENEITE : +++
consistency check

CONTROLE COMPOSITION CENTESIMALE : +++
centesimal composition control

CONTROLE DE LA QUALITE PHYSIQUE
PHYSICAL QUALITY CONTROL

Diamètre des pellets diameter of pellets	16,13	±0,05	mm
Longeur des pellets Length of pellets	24,0	±3,1	mm
Résistance à l'écrasement crushing strength	20,7	±1,3	Kg/cm2
Résistance à l'abrasion scratch resistance	98,8		%
Fines dust	< 1		%
Poids moyen Medium weight	5,4	±0,7	g

CONTROLE DE LA QUALITE NUTRITIVE
NUTRITIVE QUALITY CONTROL

Témoin d'incorporation mélange minéral (Na) : +
incorporation counter sample mineral mixture (Na)
Témoin d'incorporation prémélange oligo-éléments (Mn) : +
incorporation counter sample trace element premixing (Mn)
Témoin d'incorporation prémélange vitamines (Vit.A) : +
incorporation counter sample vitamin A premixing

Eau water	12,4	%
Proteines protein	17,7	%
Lipides lipids	3,2	%
Glucides (E.N.A.) carbohydrates (NFE)	58,0	%
dont Amidon of which starch	40,8	%
Cellulose cellulose	3,5	%
Minéraux totaux ash	5,2	%
dont Ca	8400	mg/kg
of which P	5600	mg/kg
Na	2300	mg/kg
K	6500	mg/kg
Mn	91	mg/kg
Vitamine A	5500	UI/kg
Vitamine C	/	mg/kg

Company Sanitized. Does not contain TSCA C

CONTROLE DES CONTAMINANTS

BACTERIOLOGIQUES
bacteriological

Germes revivifiables...	< 10	/g
regenerating germs		
Coliformes.....	0	/g
E.Coli.....	0	/g
Anaérobies S.R.....	0	/g
Salmonella.....	0	/25g

MYCOTOXIQUES
mycotoxic

aflatoxines...	< 1	µg/kg
Ochratoxines..	< 12	µg/kg
Zéaralénone...	< 50	µg/kg
Stérigmatocystine.	< 30	µg/kg

PESTICIDES
pesticides

Organo-chlorés
organochlorides

Lindane.....	< 1	µg/kg
a HCH.....	< 1	µg/kg
Heptachlore.....	< 1	µg/kg
DDT.....	< 1	µg/kg
DDE.....	< 1	µg/kg
Dieldrine.....	< 1	µg/kg
Endosulfan.....	< 1	µg/kg
PCB.....	< 1	µg/kg
Autres O.Chlorés.....	< 1	µg/kg
Other O.Chl.		

Organo-phosphorés
organophosphates

Malathion.....	495	µg/kg
Pyrimiphos CH3..	105	µg/kg
Chlorpyriphos CH3	85	µg/kg
Diméthoate.....	< 5	µg/kg
Phosalone.....	< 5	µg/kg
Autres O.PH.....	< 5	µg/kg
others O.PH		

METAUX LOURDS
Heavy metals

Plomb.....	259	µg/kg
lead		
Mercure.....	49	µg/kg
Mercury		
Arsenic.....	301	µg/kg
Arsenic		
Cadmium.....	73	µg/kg
cadmium		
Sélénium	164	µg/kg
selenium		

DERIVES NITROSES
Nitro-compounds

NO3.....	108	mg/kg
NO2.....	6,8	mg/kg
NDMA	0,5	µg/kg
NDEA.....	< 0,05	µg/kg
NDBA.....	0,3	µg/kg
NDPA.....	< 0,05	µg/kg
NPip.....	< 0,05	µg/kg
NPy.....	< 0,05	µg/kg

N° DES SACS : 850 à 874 soit 625 KG (BL.2380)
nb of bags

CONTROLE(S) SPECIFIQUE(S) sur demande : Irradié à 10 kGy

specific test(s) on request

REMARQUES : Conforme aux normes du NCTR.

DATE : 6 FEVRIER 1992

Michel HUARD
DIRECTEUR SCIENTIFIQUE

Assurance Qualité.
Scientific Manager

Quality Insurance

APPENDIX 4

Analytical certificate concerning water

GÉNÉRAL DU Cher

LABORATOIRE DÉPARTEMENTAL VÉTÉRINAIRE

agréé par le Ministère de la santé

RESULTAT D'ANALYSE D'EAU

N°d'Analyse: 920279 **N° d'Ordre:** 394

***Type d'analyse:** B3 + 12P

Prélèvement d'eau parvenu le: Lundi 17 Février 1992

Effectué par: C.E.R.B. **Agent:** le client

Origine: Robinet de l'évier

Lieu: CONVENTIONNELLE RATS

Commune: BAUGY

Physicochimie	Résultats	Normes*
Turbidité en U Jackson	0,3	< 2 U
Résistivité µS/cm	642	.....
PH	7,4	6,5-9
Oxydabilité KMnO4 mg/l	0,8	< 5
Dureté en °Français	10	.....
T.A.C en °Français	25	.....
Ammoniaque en mg/l	0	< 0,5
Nitrites en mg/l	0	< 0,1
Nitrates en mg/l	59	< 50
Sulfates en mg/l	56	< 250
Chlorures en mg/l	22	< 200
Fer en mg/l	0	< 0,2
Manganèse en mg/l		< 0,05
Fluor en mg/l		< 1,5
		.....
		< 5

Bactériologie	Résultats	Normes*
Coliformes thermotolérants/100ml	0	0
Streptocoques fécaux/100ml	0	0
Coliformes/100ml	0	0-95%
Dénombrement des bactéries aérobies revivifiables à 37°C/ml	< 1	.....
" " à 22°C/ml	< 1	.....
Spores de bactéries anaérobies sulfito-réductrices/20ml	0	≤ 1
" " /100ml		0
Salmonelles		0
Staphylocoques pathogènes		0
		0

*:Selon decret N°89-3 et suivants.

Bourges,le: Mardi 25 Février 1992

Le Directeur du Laboratoire

Jean Marie GUERAUD