

BAYER AG
FACHBEREICH TOXIKOLOGIE
Friedrich-Ebert-Str. 217-333
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Report no.: 19521

Date 20.9.1990

Unimoll 66

STUDY FOR SKIN AND EYE
IRRITATION/CORROSION IN RABBITS

by

Dr. T. Märtins

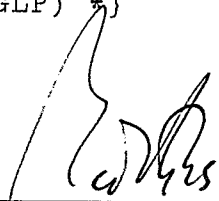
Study no.: T0034995

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GOOD LABORATORY PRACTICE STATEMENT

This study conforms to the OECD Principles of Good Laboratory Practice (GLP) *)



Dr. T. Martins
Study Director

12.9.90

Date

*) German version published in: Bundesanzeiger No. 42a
(March 2, 1983)

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2. STATEMENT OF THE QUALITY ASSURANCE UNIT

Study no.: T0034995

Test substance: Unimoll 66

This study was inspected by Quality Assurance on the dates given below. The results of the audit and inspections are conveyed in writing to the study director and, if necessary, also to the head of the institute, or other persons affected.


Date of check/inspection	Date of issue of inspection report
April 3, 1990	April 3, 1990
April 4, 1990	April 4, 1990

The results of the study and the methods used have been correctly reported.

Quality Assurance / GLP
Bayer AG

Date: September 11, 1990

Responsible:

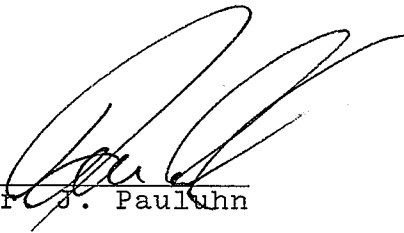

Dr. H. Lehn

3. SIGNATURES



Dr. T. Martins

Study Director



Dr. J. Pauluhn

Head of Department

4. SUMMARY

The irritant/corrosive effects of test substance 'Unimoll 66' were tested on the eye and skin of rabbits in accordance with the OECD Guidelines Nos. 404 and 405 for Testing of Chemicals.

Interpretation was based on the nature, intensity, and reversibility of the responses.

Results:

Skin: 'not irritating to the skin' (exposure period: 4 hrs).

Eye: 'not irritating to the eye' (exposure period: 24 hrs).

5. INTRODUCTION

Determination of the irritant/corrosive effects of the test substance 'Unimoll 66' on the skin and eye was conducted in accordance with the OECD Guidelines Nos. 404 and 405 for Testing of Chemicals. The rabbit is considered the standard animal species for this type of test, and is recommended in the test guidelines. Slight modifications from the guidelines (e.g. more accurate description and scoring of corneal defects, additional examination of aqueous humour) do not affect the validity of this study.

Information derived from this test served to indicate the possible existence of hazards likely to arise from exposure of skin, eyes, and associated mucous membranes to the product, and with respect to a proper handling served to permit classification (labelling) of the product.

The study was conducted at the Institute of Toxicology Agrochemicals, Fachbereich Toxikologie, Bayer AG, Wuppertal, Friedrich-Ebert-Str. 217-333.

Study no.: T0034995

Study period: 03.04.1990 - 10.04.1990

The test substance was administered on the first day of the study period.

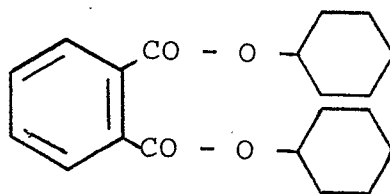
6. RESPONSIBILITIES

Head of Institute of Toxicology Agrochemicals: Dr. L. Machemer
Head of Department: Dr. J. Pauluhn
Study Director: Dr. T. Märtins
Test substance - identity: Dr. H.-J. Danz
Test substance - stability: Dr. A. Paetz
Monitoring of diet specification: Dr. G. Meister
Laboratory animal services: Dr. G. Meister
Climate control technology: Dipl. Ing. G. Strietholt
Archiving of study documentation: Dr. E. Löbbbecke
Quality assurance: Dr. H. Lehn
Quality assurance / Inspections: Dr. H.-P. Schulz
Quality assurance / Audit of report: Dr. H. Lehn

7. METHODS

7.1. Test substance

Test substance: Unimoll 66
Batch/Lot no.: 5533
Sample no.: DZA-UER-8916770-A
Manufacturer: Bayer AG, Leverkusen
Purity: 99.91 % (see annex, appendix 3.)
Identity/Stability: guaranteed for the study period
Storage: refrigerator, in darkness
CAS registry no.: 84-61-7
Chemical name: 1,2-Benzenedicarboxylic acid,
dicyclohexylester
Structural formula:



Sum formula: $C_{20}H_{19}O_4$
Molecular weight: 323 g/mol

Physico-chemical properties:

Appearance: white powder
pH: 6.0 - 6.2 (saturated aqueous solution)

7.2. Experimental animals and husbandry

7.2.1. Species and species justification

The study was conducted on rabbits - an animal species recommended in the guidelines for this type of study.

Healthy adult albino rabbits, strain HC:NZW (breeder Interfauna U.K. Ltd., Wyton, Huntingdon, England) were used. The health of the animals was routinely examined for the main specific pathogens by the breeder. No vaccinations or treatment with antibiotics were performed prior to receipt of the animals or during the acclimatization phase or study period. If females were used they were nulliparous and nonpregnant.

7.2.2. State of health

After a treatment-free period or after the acclimatization phase, the animals were examined one day prior to the start of the study to establish that they were biologically normal. Only animals not exhibiting any alterations to skin or eyes were used. For reasons of animal welfare, rabbits from former studies having tolerated treatment without signs were also used. To prevent interactions of different test substances in those animals the opposite skin area/eye which had served as control in the preceding study was treated in this study.

7.2.3. Housing and feeding conditions

The rabbits were individually housed in stainless steel cages with flat rod bases or plastic cages with perforated bases, under standardized conventional conditions. Excrement trays beneath the cages contained low-dust (wood) bedding (type S 8/15, Ssniff Spezialdiäten GmbH, Soest). Bedding was regularly spot-checked for contaminants at the instance of the Department of Laboratory Animal Services (Head: Dr. G. Meister), and changed at least twice weekly.

Identification of animals: The rabbits were identified by individual ear marks (tattoos) and cage cards.

Acclimatization: Prior to the initiation of the treatment the animals were kept for at least 14 days in the quarantine station of the Department of Laboratory Animal Services and monitored for diseases. During this period pooled faeces specimens were examined for *Coccidia* oocysts.

Animal housing conditions: All the animals in this study were kept in one room. For capacity reasons, rabbits treated with other test substances were also housed in the same room.

Adequate separation, clear cage and individual marks, as well as appropriate organization of working procedures ensured that the test animals were not mixed up.

Climatic conditions in animal room:

The environmental conditions were adjusted as follows:

Room temperature: 20 ± 3 °C
Humidity, relative: approx. 50 %
Light-/Dark cycle: 12 hours, artificial illumination
from 6 to 18 hrs CET
Intensity of illumination: approx. 27 Watt/m²
Air exchange rate: approx. 10 times per hour

The humidity and air temperature were continuously recorded using a calibrated thermohygrograph (type 252, Lambrecht Co., Göttingen).

Occasional excursions from these conditions, e. g. due to cleaning of the room, had no detectable influence on the outcome of the study.

Cleaning, disinfection, pest control: All room surfaces were cleaned at least once per month, except for the room floor which was cleaned once per week, and disinfected with Zephirol®-10% (1% in water). Thereby, contamination of the feed and contact with the animals was avoided. No pest control was performed in the animal rooms. The drinking apparatus was cleaned once a week. Animals were transferred to clean cages at least once per month.

Nutrition:

Feed: Standard diet "Ssniff K 4" (Ssniff Spezialdiäten GmbH, Soest), approx. 100 - 120 g per animal/day; once per day in the morning.

Water: Tap water; ad libitum.

The nutritive composition and contaminant-content of the standard diet were routinely spot-checked and analysed at the instance of the Department of Laboratory Animal Services.

The tap water was of drink-water quality (Drink Water Ordinance of May 22, 1986, Federal Law Gazette (Bundesgesetzblatt) Part I, page 760). The drink-water was regularly examined at the instance of the Quality Assurance, BAYER AG. The results of the feed and water analyses provided no evidence of interference with the study objective.

Drink-water was supplied either in polycarbonate bottles containing approx. 750 ml (SPIEGEL, A., GOENNERT, R., Zschr. Versuchstierkunde 1, 38 (1961), and MEISTER, G., Zschr. Versuchstierkunde 7, 144-153 (1965)) or from automatic watering.

7.2.4. Weight of animals

The animals were weighed immediately before application of the test substance.

7.2.5. Randomization

Each rabbit was randomly assigned to the respective treatment groups. Randomization was performed by means of a random number generator with varying starting conditions, using an Apple 2e, Fachbereich Toxikologie (Software PAULUHN, J., unpublished).

7.3. Guidelines

The described experimental methods were conducted in accordance with OECD Guidelines Nos. 404 and 405 for Testing of Chemicals. This study also fulfilled the requirements of the corresponding EEC Directive 84/449/EEC and where technically feasible the corresponding US-EPA Guideline. For reasons of animal welfare, only three rabbits per administration route were used in accordance with the German Animal Protection Act and the OECD Guidelines Nos. 404 and 405, irrespective the requirements of other guidelines for testing for local irritant effect on rabbits. Only to clarify equivocal responses the number of animals was increased from three to six. The irritation indices were calculated in accordance with Guideline 83/467/EC (EC Gazette, L 257). Other indices may be calculated from the available data.

7.4. Test methods

7.4.1. Test for irritant/corrosive effects - skin

7.4.1.1. Procedure

Approximately 24 hours before the test, fur was shorn from the dorso-lateral area of the trunk (6 x 6 cm) of each of three rabbits (electric hair clipper, Aesculap® Co., Tuttlingen, clipper head GT-730 1/2 mm).

500 mg of test substance were moistened with water (to ensure good contact with the skin) and subsequently applied to a hypoallergenic Hansamed® - patch (Beiersdorf no. 2342 PV3). A further patch was moistened with water. The patches prepared in this way were placed on the opposite dorso-lateral areas of the trunk of each animal and were loosely held in place with a semioclusive dressing (Fixomull® - Stretch Klebevlies, Beiersdorf no. 2293) for the duration of the exposure period.

Thus, access by the animal to the patch and resultant ingestion/inhalation of the test substance was prevented. The treated skin area was approx. 6 cm² in size. After an exposure period of four hours, the dressing and patches were removed. The exposed skin areas were carefully washed with water without altering the existing response, or the integrity of the epidermis. The contralateral skin area not treated with test substance served as control.

7.4.1.2. Clinical observations and scoring

Dermal irritation was scored and recorded after termination of exposure at the times given in table 1. The degree of erythema/eschar formation and oedema formation was recorded as specified by DRAIZE (see appendix 1.1.), and any serious lesions or toxic effects other than dermal irritation were also recorded.

7.4.1.3. Evaluation of results

For each animal the DRAIZE scores recorded approx. 24, 48, and 72 hours after application were added. The total of these three values was divided by three to give the irritation index. This index was separately calculated for erythema/eschar formation and for oedema formation. Where three animals were used, interpretation was based on the individual indices obtained from the two most sensitive animals (for detailed interpretation criteria see appendix 1.2.). Where more than three animals were used, the mean irritation index was calculated by averaging the total scores of all rabbits tested. If delayed reactions occurred, or where no irritation indices could be calculated (e. g. due to coloration by the test substance) other interpretation criteria were applied.

7.4.2. Test for irritant/corrosive effects - eye

7.4.2.1. Procedure

After gently pulling the lower lid away from the eyeball a volume of 100 µl test substance - equivalent to approx. 40 mg - was placed into the conjunctival sac of one eye of each of three rabbits. The lids were then gently held together for about one second in order to limit loss of the material. The other eye remained untreated and served as control. 24 hours after instillation of the test substance the treated eye was rinsed with saline.

7.4.2.2. Clinical observations and scoring

Eye irritation was scored and recorded at the times after administration given in table 2. The signs of cornea (opacity and area affected), iris (hyperaemia, reaction to light), conjunctivae - i.e. conjunctiva of bulbus, lids, and nictitating membrane - (erythema, chemosis), and discharge were recorded as described by DRAIZE (see appendix 2.1.), and the aqueous humour (opacity) as described by MCDONALD and SHADDUCK. In addition any serious lesions or toxic effects other than ocular ones were recorded. The examinations of cornea, iris and aqueous humour were facilitated using optical instruments (e.g. hand slit-lamp). To define epithelial damage, one drop of a 1 % fluorescein solution was applied to the corneal surface 24 hours after administration of the test substance; where positive effects were recorded this was repeated at the later observation times. The eye was then rinsed with saline to remove excess and nonabsorbed fluorescein. Evaluation was performed by means of ultraviolet illumination (area) in a darkened room and diffuse white illumination (intensity), according to MCDONALD and SHADDUCK (see appendix 2.1.).

7.4.2.3. Evaluation of results

Only effects persisting for more than 24 hours were included in the evaluation. The irritation indices / mean irritation indices were calculated for cornea (degree of opacity), iris, erythema and swelling (chemosis) of the conjunctivae as described in section 7.4.1.3. Where three animals were used, interpretation was based on the individual indices obtained from the two most sensitive animals (for detailed interpretation criteria see appendix 2.2.). Where there were delayed reactions, or where no irritation indices could be calculated (e. g. coloration by the test substance), other interpretation criteria were applied.

7.5. Photography

Where photographically possible pictures of significant signs are taken 72 hours after application and at the end of the observation period (Camera CANON® A-1, shutter speed 1/60 sec, lens CANON® FD 50/3.5 Macro, aperture 16, ring flash COKIN® (intensity of illumination reduced by neutral grey filters), AGFA-GEVAERT color negative film 100 ASA).

7.6. Archiving of documentation

All the study-related documentation is kept in the archive of the Fachbereich Toxikologie, BAYER AG, Wuppertal-Elberfeld, FRG, in compliance with GLP. The results of the examinations

of the state of health of the animals and the analyses of feed and bedding are kept in the Department of Laboratory Animal Services (Zentralstelle für Versuchstierfragen), Bayer AG, Wuppertal-Elberfeld, FRG. The results of the drink-water analyses are kept at Quality Assurance, PH-AQS, Bayer AG, Wuppertal-Elberfeld, FRG.

8. RESULTS

8.1. Test for acute dermal irritation/corrosion

The individual findings at the various observation times are summarized in Table 1.

Table 1: Test for irritant effect on the skin (expos.: 4 hrs)

animal no.	body weight	DRAIZE grade after						Irrit. Index	
		1h	24h	48h	72h	7d	14d	e	o
		e o	e o	e o	e o	e o	e o	e	o
A17	(3.2 kg)♀	0 0	0 0	0 0	0 0	0 0	- -	0.0	0.0
A1	(3.3 kg)♀	0 0	0 0	0 0	0 0	0 0	- -	0.0	0.0
A27	(3.3 kg)♀	0 0	0 0	0 0	0 0	0 0	- -	0.0	0.0

For grading see appendix 1.1.

e = erythema and eschar formation

o = oedema formation

- = not examined

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8.2. Test for acute ocular irritation/corrosion

The individual findings at the various observation times are summarized in Table 2.

Table 2: Test for irritant effect on the eye (expos. 24 hrs)

animal no. (body weight)	tissue	signs	DRAIZE grades							Irrit. Index
			1h	24h	48h	72h	7d	14d	21d	
A40 ♀ (3.4 kg)	cornea	o	0	0	0	0	0	-	-	0.0
		a	0	0	0	0	0	-	-	
	fluorescein	i	-	0	-	-	-	-	-	
		a	-	0	-	-	-	-	-	
	iris		0	0	0	0	0	-	-	0.0
	conjunctivae	r	0	0	0	0	0	-	-	0.0
		s	0	0	0	0	0	-	-	0.0
	aqueous humour discharge		0	0	0	0	0	-	-	
			0	0	0	0	0	-	-	
A5 ♀ (3.3 kg)	cornea	o	0	0	0	0	0	-	-	0.0
		a	0	0	0	0	0	-	-	
	fluorescein	i	-	0	-	-	-	-	-	
		a	-	0	-	-	-	-	-	
	iris		0	0	0	0	0	-	-	0.0
	conjunctivae	r	0	0	0	0	0	-	-	0.0
		s	0	0	0	0	0	-	-	0.0
	aqueous humour discharge		0	0	0	0	0	-	-	
			0	0	0	0	0	-	-	
A25 ♀ (3.4 kg)	cornea	o	0	0	0	0	0	-	-	0.0
		a	0	0	0	0	0	-	-	
	fluorescein	i	-	0	-	-	-	-	-	
		a	-	0	-	-	-	-	-	
	iris		0	0	0	0	0	-	-	0.0
	conjunctivae	r	0	0	0	0	0	-	-	0.0
		s	0	0	0	0	0	-	-	0.0
	aqueous humour discharge		0	0	0	0	0	-	-	
			0	0	0	0	0	-	-	

For grading see appendix 2.1.

o = opacity, a = area, i = intensity

r = redness, s = swelling

- = not examined

Sp

9. INTERPRETATION AND CONCLUSION

The irritant/corrosive potential of the test substance 'Unimoll 66' was studied on the skin and eye of the rabbit in accordance with the OECD Guidelines Nos. 404 and 405 for Testing of Chemicals. Whilst considering OECD Interpretation Guides results were interpreted in conjunction with the nature, intensity, and reversibility of the responses observed.

The results indicate that the test substance may be regarded as 'not irritating to the skin' and 'not irritating to the eye'.

The study reveals that the test substance does not have an irritant potential on skin and eye.

10. ANNEX

Appendix 1.1. Evaluation of skin reaction

Erythema (redness) and eschar formation

	Value
- no erythema	0
- very slight erythema (barely perceptible)	1
- well-defined erythema	2
- moderate to severe erythema	3
- severe erythema to slight eschar formation (injuries in depth)	4

Oedema formation

- no oedema	0
- very slight oedema (barely perceptible)	1
- slight oedema (edges of area well defined by definite raising)	2
- moderate oedema (raised approx. 1 mm)	3
- severe oedema (raised more than 1 mm and extending beyond area of exposure)	4

Appendix 1.2. Interpretation criteria - skin

interpretation	irritation index
- NO IRRITATION	0.0 to 0.99
- SLIGHT IRRITATION	1.0 to 1.99
- MODERATE IRRITATION	2.0 to 2.99
- SEVERE IRRITATION	3.0 to 4.0
- CORROSIVE: irreversible extensive tissue damage such as necrosis, ulcerations or scarring within observation period.	

Appendix 2.1. Evaluation of eye reaction

A) Cornea

<u>Opacity: Degree of density</u> (area most dense taken for reading)		Value
- no ulceration or opacity		0
- scattered or diffuse areas of opacity (other than slight dulling of normal lustre) details of iris clearly visible		1*
- easily discernible translucent area, details of iris slightly obscured		2*
- nacreous area, no details of iris visible, size of pupil barely discernible		3*
- completely opaque cornea, iris not discernible through the opacity		4*
<u>Area of cornea opacity:</u>		
- 1/4 or less, but not 0		1
- more than 1/4, but less than 1/2		2
- more than 1/2, but less than 3/4		3
- more than 3/4 up to complete surface		4

B) Fluorescein staining (epithelial defects)

<u>Intensity</u>		
- absence of staining		0
- slight staining, underlying structures easily visible		1
- moderate staining, underlying structures easily visible, although there is some loss of detail		2
- marked staining, underlying structures barely visible but not completely obliterated		3
- extreme staining, underlying structures cannot be observed		4

To assess the area the criteria of A) were used. In addition, differentiation was made between scattered punctate and confluent diffuse areas.

C) Iris

- | | |
|--|----|
| - normal | 0 |
| - markedly deepened rugae, congestion, swelling, moderate circumcorneal hyperaemia, or injection, any of these or combination of any of thereof, iris still reacting to light (sluggish reaction is positive). | 1* |
| - no reaction to light, haemorrhage, gross destruction (any or all of these) | 2* |

D) Aqueous flare

- | | |
|--|---|
| - light beam in the anterior chamber not visible (no Tyndall effect) | 0 |
| - Tyndall effect barely discernible, intensity of light beam in the anterior chamber less than intensity of light passing through lens | 1 |
| - Tyndall effect in the anterior chamber easily discernible, intensity of light beam equal to slit beam passing through lens | 2 |
| - Tyndall effect easily discernible, intensity of light beam greater than slit beam passing through lens | 3 |

Tyndall phenomenon: Scattering illumination arising when a collected light beam passes through a colloidal solution.

E) Conjunctivae

Erythema (redness)

- | | |
|--|----|
| - blood vessels normal | 0 |
| - some blood vessels definitely hyperaemic (injected) | 1 |
| - diffuse, crimson colour, individual vessels not easily discernible | 2* |
| - diffuse, beefy redness | 3* |

Chemosis: lids and/or nictating membranes

- | | |
|--|----|
| - no swelling | 0 |
| - any swelling above normal (includes nictating membranes) | 1 |
| - obvious swelling with partial eversion of lids (ectropium) | 2* |
| - swelling with lids about half closed | 3* |
| - swelling with lids more than half closed | 4* |

Starred figures indicate a positive effect

F) Discharge

- | | |
|---|---|
| - no discharge | 0 |
| - slightly increased discharge | 1 |
| - discharge with slight moistening of periorbital areas | 2 |
| - discharge with considerable moistening of periorbital areas | 3 |

Appendix 2.2. Interpretation criteria - eye

Interpretation is based on the following scale:

- SLIGHT IRRITATION

	irritation index
cornea opacity	1.00 to 1.99
hyperaemia of iris, reaction to light	≥ 0.5
erythema of conjunctivae	1.00 to 2.49
chemosis	1.00 to 1.99

changes persisting for more than 24 hours,
reversible within 7 days or less

- MODERATE IRRITATION

	irritation index
cornea opacity	2.00 to 2.99
hyperaemia of iris, reaction to light	1.00 to 1.50
- with 3 animals used	1.00 to 1.99
erythema of conjunctivae	≥ 2.5
chemosis	≥ 2.0

injuries persisting for more than 24
hours, reversible within 14 days or less

- SEVERE IRRITATION

see moderate irritation, however reversible
within 21 days or less.

- CORROSIVE (DANGER OF SERIOUS EYE DAMAGE)

	irritation index
cornea opacity	≥ 3.0
hyperaemia of iris, reaction to light	> 1.5
- with 3 animals used	= 2.0

or other significant tissue destructions (necrosis), that
persist or are expected to persist for 21 days or more.

Appendix 3. Analysis of test substance

Abschlußbericht

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Identitätsprüfung und Analytische Stoffbilanz

BAYER AG
ZF-DZA/Analytik Uerdingen
Werk Uerdingen, Geb. R79
D-4150 Krefeld 11

Datum: 09.02.1990
Studien-Nr.: A88/0041/01 UER
Prüfleiter: Dr. Danz
Vertreter: Dr. Knopf

Prüfsubstanz: Unimoll 66
Auftraggeber: Dr. Paetz, BALK

Auftrag-Nr. (DZA-UER): 16770/1989
Auftrag-Nr.: 88/029/1

Chemische Bezeichnung: Phthalsäure-dicyclohexylester
(Dicyclohexylphthalat)

Summenformel : $C_{20}H_{19}O_4$ Molare Masse: 323 g/mol

CAS-Name : 1,2-Benzenedicarboxylic acid, dicyclohexylester
CAS-Nr. : 84-61-7
Produkt-Nr. : 402 028-00 Charge/Partie: 5533
Probenummer : DZA-UER-8916770-A Datum Probenahme: 28.08.1989
Herstellbetrieb : Weichmacher, R34 Herstellungsdatum: 27.08.1989

Beginn der Prüfung : 20.12.1989
Ende der Prüfung : 08.02.1990

1. Beschreibung der Methoden und Einzelergebnisse

Der Ablauf der Untersuchung ist in der SOP HXX0026004 geregelt.

1.1 Identität d. IR

Methode-Nr.: 2301-0139301-88D

2301-0165701-89D

Laborleiter: Dr. Holter

Ergebnis: Die IR-Spektren bestätigen die Identität des analysierten Musters.

1.2 Untersuchungen zur Bilanzierung

1.2.1 Prüfung: Gehalt und NebenkompONENTEN, GC

Methode Nr.: 2301-0173001-89D

Laborleiter: Dr. Schultz

Ergebnis: 99,91 Fl.-% Phthalsäure-dicyclohexylester

1.2.2 Prüfung: Sulfatasche

Methode Nr.: 23 86/1 96 1128/01

Laborleiter: Dr. Bissinger

Ergebnis: < 0,01 % / < 0,01 %

1.2.3 Prüfung: Wasser, K.Fischer

Methode Nr.: 2301-0082204-89D

Laborleiter: Dr. Knopf

Ergebnis: < 0,01 %

Abschlußbericht

Seite 2 von 3

Identitätsprüfung und Analytische Stoffbilanz

BAYER AG
ZF-DZA/Analytik Uerdingen
Werk Uerdingen, Geb. R79
D-4150 Krefeld 11

Datum: 09.02.1990
Studien-Nr.: A88/0041/01 UER
Prüfleiter: Dr. Danz
Vertreter: Dr. Knopf

Prüfsubstanz: Unimoll 66
Auftraggeber: Dr. Paetz, BALK

Auftrag-Nr. (DZA-UER): 16770/1989
Auftrag-Nr.: 88/029/1

- 1.2.4 Prüfung: pH-wert einer gesättigten wäßrigen Lösung
Methode Nr.: 23 86/1 41 1066/01
Laborleiter: Dr. Holter
Ergebnis: 6,0 / 6,2 / 6,2

2. Bewertung und Kommentar

- Stoffbilanz ist nach dem Stand der Technik vollständig
- Rohdaten sind überprüft und archiviert worden

3. Erklärung

Die Untersuchung wurde entsprechend den OECD-Grundsätzen der "Guten Laborpraxis (GLP)" durchgeführt.

4. Archivierung

Der Prüfplan sowie die weiteren Versuchsunterlagen sind im Archiv von ZF-DZA/UER, BAYER AG Uerdingen, Geb. R79, hinterlegt.

Krefeld, den 9.2.90 Prüfleiter: *Danz*

Abschlußbericht

Seite 3 von 3

Identitätsprüfung und Analytische Stoffbilanz

BAYER AG
ZF-DZA/Analytik Uerdingen
Werk Uerdingen, Geb. R79
D-4150 Krefeld 11

Datum: 09.02.1990
Studien-Nr.: A88/0041/01 UER
Prüfleiter: Dr. Danz
Vertreter: Dr. Knopf

Prüfsubstanz: Unimoll 66
Auftraggeber: Dr. Paetz, BALK

Auftrag-Nr. (DZA-UER): 16770/1989
Auftrag-Nr.: 88/029/1

Beteiligte Personen, die Beiträge zum Abschlußbericht geleistet haben:

09.02.90
.....
(Datum)

.....
(Dr. Holter)

9.2.90
.....
(Datum)

.....
(Dr. Schultz)

9.2.1990
.....
(Datum)

.....
(Dr. Bissinger)

3-2-90
.....
(Datum)

.....
(Dr. Knopf)

Anlagen: Erklärung der Qualitätssicherungseinheit (QSE)

Verteiler: GLP-Archiv UER (Original) Dr. Pohl z.Ktn.
Dr. Häberle, Koordination Altstoffe, LEV, Geb.013
Dr. Paetz, BALK, LEV, Geb.D8
Prüfleiter: Dr. Danz
PM

Dr. Wiemann
Dr. Löser, PH-FE, ELB 500

11. REFERENCES

- EEC Directive 84/449/EEC, Part B: "Acute Toxicity - No. B.4. Skin Irritation and No. B.5. Eye Irritation", EC Gazette, L 251, 19.9.1984.
- EPA - TSCA Test Guidelines "Primary Dermal Irritation (§ 798.4470) and Primary Eye Irritation (§ 798.4500)". US - Fed. Reg. 50 (188), 27. 9. 1985.
- McDonald, T. O. and Shaddock, J. A. (1987): Eye Irritation. in: Marzulli, F. N. and Maibach H.I. (Editors): Dermato-toxicology and Pharmacology, 3rd ed. (Series: Advances in Modern Toxicology, Vol. 4). Wiley, New York, London, p. 641-696.
- OECD Guideline No. 404 for Testing of Chemicals. "Acute Dermal Irritation/Corrosion"; Adopted 12.5.1981.
- OECD Guideline No. 405 for Testing of Chemicals. "Acute Eye Irritation/Corrosion"; Adopted 24.2.1987.
- OECD GLP Notification of OECD Principles of Good Laboratory Practice (GLP). Bundesanzeiger 35, No. 42a, 2.3.1983.
- OECD Provisional Data Interpretation Guides for Initial Hazard Assessment of Chemicals. ENV/CHEM/CM/83.3, Annex II, 2.2 and 2.3, 30.5.1983.

End of report