From: Zebet
Sent: Wednesday, December 15, 2004 4:46 PM
To: Stokes, William (NIH/NIEHS); Schechtman, Leonard M (FDA); Tice, Raymond (NIH/NIEHS); Thomas Hartung
Subject: public comment to ICCVAM Expert Panel Review of in vitro methods for identifying ocular corrosives

<<H. Spielmann letter to Bill Stokes Director>>
<<1-Spielmann public comment to ICCVAM-NICEATM.pdf>>
<<2-ATLA96-annexes.pdf>>
<<3-GermanHetCamStudy Folder>>
<<4-Hsp BRD letter 09-07-2004.pdf>>
<<5-French-Guideline_eye_irritation.pdf>>

Dear Bill,

in response to the publication of the BRDs of the four in vitro eye irritation test on the internet on November 1, 2004, and the request for public comments, I am submitting my comments today to meet the deadline set for the peer review process. I am submitting comments to the HET-CAM BRD on behalf of the Federal German Institute for Risk Assessment, since the HET-CAM data that were generated in a national German validation study of the HET-CAM test. I have submitted the data set for the German HET-CAM validation study to you earlier this year and as far as I can judge from the HET-CAM BRD that you have published on the internet, the evaluation may not have been conducted properly due to misinterpretation of the documents that we have provided. I hope that my comments will support NICEATM in the evaluation of the HET-CAM test. My colleagues and I will be happy to provide you and NICEATM with further information, whenever you need it. I am looking forward to your response
With the best regards

Sincerely
Horst Spielmann

--
Dr. med. Horst Spielmann
Direktor und Professor
Head of Dept. "Scientific Services"
and Head of ZEBET

ZEBET at the BfR
Diedersdorfer Weg 1
D-12277 Berlin
Tel: +49-1888-412-2270
Fax: +49-1888-412-2958
email: zebet@bfr.bund.de
& spielmann.zebet@bfr.bund.de

ZEBET http://www.bfr.bund.de/cms/detail.php?id=1591
Zentralstelle zur Erfassung und Bewertung von
Ersatz-und Ergaenzungsmethoden zum Tierversuch

(National German Centre for the Documentation and
Evaluation of Alternatives to Testing in Animals)

BfR http://www.bfr.bund.de/cms/detail.php?template=internet_en_index_js
Bundesinstitut fuer Risikobewertung
(Federal Institute for Risk Assessment)

Please visit the website of the 5th World Congress on
Alternatives & Animal Use in the Life Sciences
August 21-25, 2005 in Berlin, Germany
http://www.ctw-congress.de/act2005/

Risiken erkennen – Gesundheit schützen

Bundesinstitut für Risikobewertung (BfR) • Postfach 33 00 13 • D - 14191 Berlin

Bundesinstitut für Risikobewertung
Postfach 33 00 13
D - 14191 Berlin
Tel. 0 30 - 84 12 - 0
Fax 0 30 - 84 12 - 47 41
bfr@bfr.bund.de
www.bfr.bund.de

Dr. William S. Stokes
Director, NICEATM
National Institue of Environmental
Health Sciences
P.O. Box 12233
MD EC-17
Research Triangle Park, NC 27709
USA
by e-mail stokes@niehs.nih.gov

Ihre Zeichen und Nachrichten vom	Gesch.-Z.: Bitte bei Antwort angeben	Tel.-Durchwahl/Fax	Datum	Org.-Einheit/Ansprechpartner
01. November 2004		fone-2270 fax -2958	15.12.2004	Head of Deptartment 3 & Head of ZEBET

Zebet Zentralstelle zur Erfassung und Bewertung von Ersatz- und Ergänzungsmethoden zum Tierversuch im BfR, ☎+49-(0)1888-412-2270; F**ax** –2958; E-mail: zebet@bfr.bund.de

ICCVAM EXPERT PANEL REVIEW OF IN VITRO TEST METHODS FOR IDENTIFYING OCCULAR CORROSIVES AND SEVERE IRRITANTS

Public comment concerning the HET-CAM Background Review Document (BRD)

Dear Dr. Stokes,

as you know I served as an expert at the extended working group meeting organized by the ICCVAM Ocular Toxicity Working Group (OTWG) on April 19 and 20, 2004, in Bethesda, Maryland. Currently I am serving as an expert for the IRE (Isolated Rabbit Eye) test in the expert review panel of in vitro tests for identifying ocular corrosives and severe irritants.

To support the ICCVAM Expert Panel Review I have submitted several data sets for review that were generated in a national German validation study of the HET-CAM test as head of ZEBET, the National German Center for Documentation and Evaluation of Alternatives to Testing in Animals, at the BfR, the National Institute for Risk Assessment. In order to avoid any conflicts of interest and due to time constraints in my new position as head of the department "scientific services" of the BfR, I have so far not commented on the HET-CAM BRD, that you have circulated for public comment on behalf of NICEATM on November 1, 2004.

However, after studying the HET-CAM BRD and taking into account my responsibility as principal scientist and author of the documents that I submitted to NICEATM and also the substantial funding of the validation study by the Federal German Minister for Research and Technology (BMBF), I want to comment on the HET-CAM BRD, since some of the information that I provided is not documented appropriately in the HET-CAM BRD. In particular the extensive biostatistical evaluation of the study (Spielmann et al., 1996), which was conducted in a joint national biostatistical project that was funded by the Federal German Minister for Research and Technology (BMBF), has not been taken into account although I have on several occasions offered to support the experts at NICESATM.

For the reasons given, I want to ask you to provide the experts of NICEATM and the expert panel of the HET-CAM BRD with the enclosed information, which may help to better evaluate the HET-CAM documents that I have submitted.

If you need further information, please do not hesitate to contact me.

With the best regards
Sincerely

H. Spielmann

Dr. med. Horst Spielmann
Direktor und Professor
Head of Dept. 3 “Scientific Services”
and Head of ZEBET

Encs. 5

ICCVAM EXPERT PANEL REVIEW OF IN VITRO TEST METHODS FOR IDENTIFYING OCCULAR CORROSIVES AND SEVERE IRRITANTS

Public comment concerning the HET-CAM Background Review Document (BRD)

by Horst Spielmann (BfR, Berlin, Germany)

Background of the HET-CAM validation study in Germany

At the time, when the validation study of the HET-CAM test was started in Germany, in 1987, no scientific concept had been developed for the experimental validation of in vitro toxicity tests. At the first international workshop on the validation of in vitro toxicity tests held in Amden (Switzerland) in 1990, I was able to give major input from the experience of the German HET-CAM validation trial. After the recommendations of this workshop on the concept how to conduct validation studies, which were published in 1990 (Balls et al, 1990), we tried to incorporate these principles into the German HET-CAM validation study. In an early publication on the *"interlaboratory assessment of alternatives to the Draize eye irritation test in Germany"* (Spielmann et al, 1991) we have therefore outlined in the introduction that "*the validation project consist of the following three parts as suggested by a recent CAAT/ERGAAT workshop (Balls et al.1990): (i) a preliminary phase, (ii) an interlaboratory assessment, (iii) the development of a database of results.*"

Taking into account the failure of the Amden concept (Balls et al., 1990) for the validation of toxicity tests, in 1995 two new essential elements were added, the prevalidation phase and the incorporation of biostatistically based prediction models (PMs)/data interpretation procedures (DIPs) (Balls et al. 1995). The new concept for the validation of toxicity tests was internationally accepted at the OECD level in 1996 (OECD, 1996) and it is based on the ICCVAM and ECVAM principles for the validation of toxicity tests
We have tried to implement the new validation principles into our on-going validation study of the HET-CAM test in the following manner:

1. **Establishing the HET-CAM test in laboratories participating in the validation study**
   In the "preliminary phase" of our study (Kalweit et al., 1987; Kalweit et al. 1990) the HET.-CAM test was established in the participating laboratories. Intra- and inter-

laboratory reproducibility was determined with five test chemicals (2-butoxyethanol, dimethlysulphoxide (DMSO), triethanolamine, SDS and zinc pyridinethione). We have published the results in 1990 (Kalweit et al. 1990) and we have indicated in the results section (pg 703) "***that at this stage of the validation study, a comparison of the data from the two in vitro tests (the second one is the 3T3 NRU cytotoxicity test) with in vivo data from the Draize rabbit eye test or even human data is not possible."***
The inter-laboratory reproducibility in eight laboratories is shown for the endpoint irritation score (IS) for two test chemicals in Figure 1 (butoxyethanol) and in Figure 2 (dimethylsulfoxide). **According to our evaluation, the interlaboratory reproducibility of the HET-CAM test is quite satisfactory for the two chemicals.** To assess the predictive value of the HET-CAM test, classifications obtained with the five test chemicals are compared to the classification according to EU standards for existing chemicals in 1990 in Table 1. The table shows that the in vivo corrosive test chemical induced the highest IS score in the HET CAM test and that the chemical, which induced only a slight reaction in the rabbit eye also induced the lowest increase in the IS score.
Conclusion: The inter-laboratory reproducibility of the HET-CAM test was shown with five test chemicals in eight laboratories and the severity of reaction in the HET-CAM test corresponded to the irritating effects of the substances in the Draize rabbit eye test..

2. **Inter-laboratory reproducibility**

In our second publication (Spielmann et al., 1991) we reported the results of the "interlaboratory assessment" stage of the HET-CAM test validation study (*and of the 3T3 NRU cytotoxicity tests*) in 12 laboratories. In the statistics section we reported that the estimates for the interlaboratory reproducibility was calculated according to the recommendations of the International Standard Organization (ISO 5725) for the 3T3NRU test. To assess the interlaboratory reproducibility of the HET-CAM test in the same study, the classification results of individual laboratories were compared, using the Irritation Score (IS) as described in the INVITOX/ECVAM protocol (Spielmann and Liebsch, INVITTOX 1992).
The "interlaboratory assessment phase" was conducted with 10% solution of coded chemicals. Since 5 out of the 32 chemicals, which could not be tested as 10% solutions in either water or oil due to low solubility, interlaboratory variability could only be deter-

mined for 27 out of the 32 chemicals.

Moreover the “interlaboratory assessment ” stage also served to improve the prediction model (IS score) and the preliminary test protocol, which was finalized by the end of this stage. As a consequence, there was a considerable variability in the results obtained with the preliminary HET-CAM protocol. Since it was the goal to classify chemicals for their eye irritation potential according to HET-CAM results, in Table 2 of the publication by Spielmann et al. 1991 an IS score of 10 is used to discriminate between severely irritating and non irritating chemicals. Since not all of the laboratories provided results for each test chemical, in some cases data are only given for 11 chemicals. Table 2 shows that the results obtained with the preliminary protocol were reproducible at the lower and upper end of the Draize eye irritation scale while there was a considerable variability in the medium range in a similar manner as in the Draize rabbit eye test (Weil and Scala, 1971; Balls et al. 1995).

Another important aspect of the “interlaboratory assessment” stage of the study was that for animal welfare reasons no Draize eye tests were conducted in rabbits and existing chemicals were chosen as test chemicals, for which Draize eye test data were available in the files of the Federal Health Office BGA, which is termed BfR today. Thus, the HET-CAM data in this early stage can only be compared to the classification that were used for regulatory purposes in the EU in 1991.

Conclusion: The second stage of the German HET-CAM validation study (Spielmann et al. 1991) was conducted as an “interlaboratory assessment” to determine the interlaboratory reproducibility of the test and to improve the test protocol. No Draize rabbit eye tests were performed and high quality data from the files of BGA were used to assess the predictive value of the HET-CAM test.

3. Development of a HET-CAM data base

It was the goal of the third stage of the German validation study of the HET-CAM test “to develop a data base“ of up to 200 chemicals according to the recommendations of the Amden workshop (Balls et al. 1990, *see section 1*). We have , therefore, tested 136 chemicals provided by participating companies of the German chemical industry in the HET-CAM test. The companies also provided the Draize rabbit eye test results for each of the chemicals. In order to test 136 chemicals within an acceptable time frame and since the reproducibility had been established previously (Spielmann et al., 1991, *see #2*), it was decided to test each chemical coded under blind conditions in two laboratories.

In the first short publication of the third stage of the study (Spielmann et al., 1993), the data base development stage, we have classified the 136 chemicals according to their HET-CAM data by applying an empirically derived prediction model, in which the Irritation Score (IS) and the Irritation Threshold Concentration (ITC) were combined. The results for the 136 chemicals are summarized in Table 2, in which differences in the classification results by the two laboratories are described in detail. It has to be taken into account that at the time, when the validation study was conducted, the classification criteria of the Draize eye test for severely eye irritating chemicals (R 41) were changed to include also mildly and moderately irritating chemicals, which are inducing irreversible damage. Therefore, to the R-41 classification group (Group 5) we have added two subgroups of moderate or mild irritating chemicals, that are inducing irreversible during a 21 day period after treatment have been added (Group 4 + Group 3). In this short publication an overall evaluation of the results of the "database development" stage is given.

Conclusion: Since this publication (Spielmann et al., 1993) only served to give a short summary of the results obtained with 136 chemicals in the "the database development" stage, no individual data of the results of the HET-CAM test or of the corresponding Draize eye test data are given.

4. **Detailed analysis of 200 chemicals tested in the HET-CAM test**

A detailed analysis of all of the data obtained with 200 chemicals in all stages of the German validation study of the HET-CAM test was published in 1996 (Spielmann et at., 1996; *117 pages !*). The most important element of the publication, the background data used in the biostatistical analysis is documented in the 7 Appendixes (I – VII). To facilitate the review process we have in June of 2004 submitted upon request of NICEATM an MS.EXCEL file with the complete data set that was used in the analysis of our publication to NICEATM. ***Although NICEATM has acknowledged the receipt of this MS.EXCEL data file (entitled ATLA96-annexes.xls) in July of 2004, this important document is not mentioned in the HET-CAM BRD and it is missing in the list of references.***

Thus, from the scientific point of view an important document of the German validation study is missing in the HET-CAM BRD. Moreover, the way in which the results are reported is not correct. I am now referring to chapter 5.0 of the HET-CAM BRD entitled "HET-CAM test method data and results". In section 5.4.8 of the HET-CAM BRD our publication (Spielmann et al., 1996) is evaluated in the following manner (pg. 5-13, lines 358-361): "***In this evaluation of the HET-CAM test method, 118 test substances were evaluated in one laboratory.*** *HET-CAM test method data on the 118 substances were included in the published report as were the corresponding ocular irritancy classification for each substance****. Detailed in vivo data were not available for test substances, however classifications according to EU.***"

In contrast to this statement the second paragraph of the summary of our publication (Spielmann et al., 1996) reads as follows*: .. ,a 2-year database development was conducted as Phase II, during which 166 code chemicals were tested in the two in vitro tests (HET-CAM and 3T3 NRU cytotoxicity test),* ***each of them in two laboratories. Test chemicals backed by high-quality Draize eye test data were provided by industry*** *and selected to represent a wide spectrum of chemical classes and eye irritation properties. Independent quality control of in vitro and in vivo data and biostatistical evaluation were performed during an additional BMBF-project on biostatistics. In the quality assurance step, which is an essential step in biostatistics, the number of chemicals was reduced to 143, and* ***these data were entered into an MS.EXCEL file "ATLA96-annexes.xls" to facilitate determination of in vitro/in vivo correlations.***"

In contrast to the statement in the HET-CAM BRD you will find the data obtained in the two laboratories with the HET-CAM test in the MS.EXCEL file "ATLA96-annexes.xls" and in Appendix II of the publication Spielmann et al., 1996, pg. 800-820: *"Appendix IIa Results obtained with the HET-CAM test and the physicochemcial properties of the test chemicals for laboratory I" (pg. 800-810)* " and "*Appendix IIb: Results obtained with the HET-CAM test and the physicochemcial properties of the test chemicals for laboratory I" (pg. 811-819)"*. **For your information I have enclosed the MS.EXCEL file "ATLA96-annexes.xls"**.

Moreover, in contrast to the statement in the HET-CAM BRD you will find the data

obtained in vivo in the Draize eye test in vivo in the MS.EXCEL file "ATLA96-annexes.xls" and in Appendix IV of the publication Spielmann et al., 1996, pg. 834-847. In particular, you will find in Appendix IV detailed information for each chemical on the conjunctiva (erythema and chemosis), on the iris and on the cornea for time points from 1hour up to 72 hrs. There are, of course, no Draize eye test data for the existing chemicals in these lists, since they were tested in the “interlaboratory assessment stage” and the Draize eye test classification data were taken from the files of the BGA (Spielmann et al.,1993; see #3). Moreover, the Draize eye test data are given as the means of the 3 rabbits rather than as individual data for each rabbit, since we found this information sufficient for our classification purposes.

Recommendation: The MS.EXCEL file "ATLA96-annexes.xls" should be added to the official list of references provided to the reviewers by NICETAM and it should be evaluated in the HET-CAM BRD.

5. **Individual Draize eye test data for each rabbit.**

   In order to facilitate the evaluation of the HET-CAM data we are providing you with an additional MS.EXCEL file entitled "GermanHetCamStudy.zip", in which you will find the individual data for each rabbit for the chemicals that are also given in Appendix IV of our publication (Spielmann et al., 1996; see above #4). In this data file the Draize eye test data are recorded for up to 21 days.

   Recommendation: The MS.EXCEL file *"GermanHetCamStudy.zip* " should be added to the official list of references provided to the reviewers by NICETAM and it should be evaluated in the HET-CAM BRD.

6. **Endpoints recorded in the HET-CAM test.**

   In the extensive publication of the German HET-CAM validation study (Spielmann et al, 1996) we have reported **that nine endpoints were determined in the HET-CAM test and used in discriminant analysis to identify the most predictive endpoints in the HET-CAM test to identify severely eye irritating properties of test chemicals**. **The 9 endpoints are given on pg. 764 in section 2.2.2.1** *“Endpoints (HET-CAM test and 3T3 NRU cytotoxicity test) used in the discriminant analysis.”* The endpoints that were recorded during the validation study are given in the MS-EXCEL file and in Appendix VII of

our publication (pg. 853-858). These endpoints are given as means of the values determined in two laboratories (see above #5) and they were used in the development of a prediction model to identify severely eye irritating chemicals.
Recommendation: NICETAM should evaluate the nine missing endpoints of the HET.-CAM and include it in the HET-CAM BRD.

7. **Development of a prediction model to identify severely eye irritating chemicals using the HET-CAM endpoint mtc100 “mean detection time for appearance of coagulation when using a 100% solution”**
   The biostatistical data are given in our publication Spielmann et al. 1996 in sections 2.2.3.3.4, 2.2.3.3.5 and 2.2.3.3.6 on pg. 774-778). The data analysis described in this section of the publication and Figures 10,11 and 12 clearly indicate that the endpoint mtc100 (defined on pg. 764 as “mean detection time for appearance of coagulation when using a 100% solution”) provides a very simple means to identify severely eye irritating chemicals, since all chemicals characterized by a mtc100 of <100 seconds are severely irritating.
   The rate of false positives results obtained when applying this prediction model of the HET-CAM test with the whole set of 200 test chemicals was 0 ! To act even more on the safe side and as a general rule we propose to use a mtc100 of <1min (or 60 seconds) to classify severely eye irritating chemicals in the HET-CAM test.
   Conclusion & recommendation: The data analysis of our study proves that no further testing in vitro or in vivo is required, if an mct100 of <1min is determined in the HET-CAM test. NICETAM should evaluate the prediction model based on the endpoint mtc100 and include it in the HET-CAM BRD, since this will allow to considerably reduce testing severely eye irritating materials in the Draize rabbit eye test.

8. **Testing of chemicals insoluble in water, solvents and insoluble materials:** In the “database development “stage insoluble and soluble materials were tested successfully. The details on physicochemcial properties and solubility are given for each chemical in the MS-EXCEL file and also in Appendix IIa and IIb of our publication (Spielmann et al. 1996, pg. 800-820). In addition, the solvent used is indicated and for solid materials even the exposure time (1min or 5 min).

Conclusion + recommendation: In the HET-CAM BRD this important information is ignored. It should be evaluated by NICETAM and be included it in the HET-CAM BRD.

9. **Publications missing in the literature provided with the BRDs**

9.1 "IRAG Working group 2 CAM-based assays" by Spielmann et al., 1997, Food and Chemical Toxicology 35, 39-66.

In 1993 the US Interagency Regulatory Alternatives Group (IRAG) held a workshop on “Eye irritation testing; practical applications of non-whole animal alternatives”. For several in vitro alternatives, which are currently evaluated by the ICCVAM expert panel review, extensive analysis of the in vivo/in vitro correlations have been assessed. I wonder why the NICEATM expert group did not provide the expert reviewers panel with these documents but only mentioned them in the list of references. The one to which I have contributed may be helpful for the experts working on the HET-CEM BRD. Moreover, this activity was sponsored by several of the Federal US agencies, which stakeholders of ICCVAM today.

Recommendation: The publication should be added to the official list of references provided to the reviewers by NICETAM and it should be evaluated in the HET-CAM BRD.

9.2 Journal Officiel de la Republique Francaise dated 29 decembre 1996, pg. 19137-19138 (Official Journal of the French Republic December 29, 1996, pg. 19137-19138) "Arrete du 29 novembre 1996 relatif aux methodes officielles d'analyse necessaires aux contoles des produit cosmetiques"

In this document of the "Federal Register" of the French Republic a new Annex IV to the French cosmetics directive has been published, in which the "hens egg chorion-allantoic membrane test" is accepted as an official test guideline for the safety testing of cosmetics for regulatory purposes. Thus, the HET-CAM test is officially accepted for regulatory testing in one of the EU and OECD member states.

This important piece of information is given in the HET-CAM BRD, although I have provided NICETAM with a copy of the document, as you can see from the attached copy of my letter to NICEATM dated July 9, 2004 (copy attached as PDF file entitled "HSp BRD letter 09-07-2004.pdf"). For your information I am attaching the MS.WORD file entitled "French_Guidline_eye_irritation.pdf", which contains a copy of the 2 pages from the Official Journal of the French republic and a cover letter drafted by the French association of the perfume industry dated 15.01.97.

Recommendation: The publication should be added to the official list of references provided to the reviewers by NICETAM and it should be evaluated in the HET-CAM BRD.

Means of toxicological endpoints obtained in the HET-CAM assay and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100
Group I									
37	292.6	125.1	210.6	165.5	49.8	124.2	n.d.	5.29	12.38
39	249.2	64.6	171.2	208.7	46.1	180.1	n.d.	8.52	9.84
54	301.0	301.0	216.4	n.d.	n.d.	n.d.	46.4	1.97	n.d.
56	301.0	187.7	301.0	301.0	92.0	301.0	100.0	1.89	3.48
57	301.0	46.0	301.0	200.3	32.5	104.1	10.0	4.25	12.09
58	301.0	144.8	300.8	200.7	28.6	100.2	17.1	2.61	12.24
65	301.0	216.7	301.0	301.0	103.1	301.0	86.2	1.41	3.30
66	301.0	141.7	224.0	215.5	54.9	183.7	40.0	4.45	9.40
69	301.0	301.0	301.0	301.0	53.1	178.5	15.5	0.00	6.99
70	301.0	198.3	301.0	301.0	160.9	301.0	31.6	1.71	2.33
72	301.0	280.4	301.0	301.0	157.3	148.4	86.2	0.34	5.96
75	301.0	71.3	301.0	238.0	26.3	188.9	8.8	3.83	9.08
82	301.0	301.0	301.0	n.d.	n.d.	n.d.	100.0	0.00	n.d.
85	253.7	52.4	268.4	30.0	12.1	160.7	4.0	6.32	16.22
86	193.2	119.6	180.5	156.8	38.3	122.2	10.9	9.07	12.88
89	293.8	54.6	116.8	84.6	13.0	38.1	5.0	8.62	17.43
90	276.3	58.4	195.0	256.8	121.6	175.1	5.9	7.26	7.25
91	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	30.0	n.d.	n.d.
93	244.8	29.5	88.3	97.0	18.7	195.3	2.0	11.18	13.29
95	301.0	167.9	301.0	217.4	65.3	220.7	5.8	2.22	8.31
96	169.5	119.3	266.8	301.0	82.2	210.0	0.1	7.77	5.77
98	165.4	134.9	142.5	301.0	301.0	301.0	n.d.	10.54	0.00
100	207.1	187.4	218.2	186.6	61.1	90.9	15.9	6.64	12.33
101	301.0	37.2	161.7	191.1	40.7	57.0	12.6	7.65	13.33
102	301.0	55.7	301.0	n.d.	n.d.	n.d.	5.0	4.09	n.d.
103	275.5	49.4	215.3	152.2	27.1	142.6	3.3	6.96	12.73
104	203.4	59.0	199.2	174.8	43.3	187.1	4.2	9.34	10.74
105	282.5	25.8	99.7	38.4	8.3	27.9	3.1	9.84	19.13
106	301.0	24.4	159.0	85.7	18.3	49.3	5.0	7.92	17.05
110	220.0	26.3	198.8	299.3	93.7	155.2	0.9	9.39	6.91
111	293.0	53.3	227.6	301.0	61.6	251.1	3.3	6.08	5.16
113	215.4	212.3	301.0	301.0	227.6	301.0	7.4	4.05	1.22
115	301.0	87.5	301.0	301.0	164.3	248.4	12.2	3.56	3.50
118	301.0	301.0	301.0	301.0	301.0	301.0	100.0	0.00	0.00
119	113.3	148.1	195.6	246.7	194.3	286.0	1.4	10.64	3.76
120	301.0	90.2	301.0	188.7	44.4	199.2	7.6	3.51	10.02
121	301.0	279.3	301.0	301.0	238.3	172.3	83.3	0.36	4.05
122	67.0	24.2	29.2	266.3	34.4	174.3	0.3	17.98	8.44
126	301.0	127.3	222.7	56.8	7.5	165.1	10.0	4.72	15.39
128	301.0	55.2	190.7	6.7	11.6	62.6	4.3	6.67	19.22
131	301.0	111.8	301.0	108.3	31.2	198.1	24.5	3.15	12.68
133	301.0	39.6	96.9	177.7	22.2	72.4	5.0	9.12	13.68
136	301.0	269.7	301.0	166.1	52.8	219.4	100.0	0.52	10.09
138	301.0	220.2	261.1	301.0	301.0	301.0	n.d.	2.28	0.00
139	301.0	190.7	301.0	62.8	14.1	37.0	15.9	1.84	18.09
141	301.0	232.8	301.0	18.6	19.2	19.4	13.1	1.14	19.74

Means of toxicological endpoints obtained in the HET-CAM assay
and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100
142	301.0	176.2	301.0	301.0	120.4	216.0	40.0	2.08	4.99
146	269.0	44.4	301.0	242.3	104.8	254.9	3.5	5.24	6.11
149	220.3	24.8	72.5	233.6	39.8	170.3	1.0	12.354	9.426
150	301.0	75.8	301.0	301.0	195.5	262.1	3.9	3.753	2.666
152	301.0	301.0	301.0	301.0	89.2	148.1	44.7	0.000	7.098

Group I

153	301.0	167.0	223.4	109.8	31.6	174.8	10.0	4.044	13.169
156	264.9	101.1	254.7	146.3	48.1	229.9	2.8	5.494	10.515
160	301.0	42.3	301.0	301.0	173.8	125.3	100.0	4.311	6.218
162	301.0	172.0	175.3	190.8	20.9	162.8	14.1	5.082	11.197
164	301.0	179.6	301.0	301.0	207.7	301.0	n.d.	2.024	1.556
166	152.3	46.4	127.5	102.6	33.9	125.6	2.0	12.753	14.497
170	301.0	301.0	301.0	301.0	301.0	301.0	n.d.	0.000	0.000
171	66.3	231.7	180.9	301.0	237.0	301.0	n.d.	10.998	1.067
173	301.0	172.8	230.0	76.4	26.2	207.3	10.0	3.793	13.506
174	301.0	61.5	301.0	287.5	165.0	301.0	1.0	3.992	2.672
175	301.0	179.3	301.0	152.8	31.9	94.6	20.0	2.028	13.746
176	301.0	195.1	301.0	301.0	101.3	182.3	100.0	1.765	6.097
177	301.0	301.0	301.0	301.0	290.7	301.0	n.d.	0.000	0.172
178	82.8	25.0	207.5	47.0	10.9	45.6	3.5	13.329	18.414
179	301.0	31.5	121.9	202.7	28.3	61.8	29.0	8.672	13.078
180	230.9	54.4	80.8	63.2	18.0	42.1	6.1	11.351	17.893
183	289.9	266.5	122.4	258.3	221.7	152.3	50.2	5.074	6.074
184	110.6	73.4	163.1	130.4	59.7	124.2	3.3	12.724	13.264
185	301.0	124.9	301.0	301.0	44.3	212.6	40.0	2.935	6.341
186	301.0	205.7	301.0	269.3	177.8	281.0	38.7	1.589	3.469
192	301.0	89.2	180.9	301.0	91.6	205.7	100.0	6.332	5.715
194	301.0	39.3	301.0	301.0	292.8	301.0	100.0	4.361	0.136
196	301.0	98.8	301.0	301.0	69.4	301.0	100.0	3.369	3.860
198	301.0	301.0	301.0	301.0	239.7	301.0	100.0	0.000	1.022
202	301.0	171.2	301.0	224.1	192.3	154.5	34.2	2.164	7.537
203	301.0	301.0	301.0	301.0	301.0	301.0	100.0	0.000	0.000
205	301.0	301.0	301.0	301.0	207.7	258.8	100.0	0.000	2.539
206	301.0	172.5	301.0	301.0	113.9	301.0	100.0	2.142	3.118
207	301.0	261.8	292.9	301.0	138.8	221.5	100.0	0.843	4.558
209	301.0	301.0	301.0	301.0	301.0	301.0	100.0	0.000	0.000
211	301.0	173.3	301.0	288.8	63.1	301.0	73.3	2.129	4.330
213	301.0	301.0	301.0	301.0	203.7	301.0	100.0	0.000	1.622
214	250.6	86.2	201.9	39.8	11.1	110.1	5.0	7.405	17.124

Group II

36	128.0	70.6	155.0	n.d.	n.d.	n.d.	n.d.	12.439	n.d.
83	182.8	16.4	50.1	57.0	11.8	30.5	0.5	14.143	18.453
88	141.3	17.0	55.2	48.4	10.8	43.1	0.5	15.259	18.433
108	183.1	30.7	73.5	33.8	9.0	26.3	1.6	13.351	19.295
116	301.0	38.3	301.0	69.5	6.8	54.1	5.0	4.378	17.608
127	240.3	176.3	301.0	286.5	194.8	301.0	n.d.	3.900	2.204
137	259.0	69.8	301.0	286.3	64.7	178.3	0.9	5.113	7.240

Means of toxicological endpoints obtained in the HET-CAM assay and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100
143	125.9	29.9	138.4	197.1	56.4	174.9	1.7	13.564	10.137
163	301.0	36.7	301.0	301.0	301.0	301.0	3.5	4.406	0.000
165	301.0	173.9	301.0	301.0	301.0	301.0	50.4	2.118	0.000
187	301.0	149.1	141.8	301.0	217.5	191.0	32.6	6.246	3.958

Group III

38	116.5	25.1	126.1	100.1	16.7	85.3	n.d.	14.215	15.797
84	29.8	7.3	157.8	14.5	4.7	154.2	0.2	16.372	16.960
94	238.8	15.2	75.1	230.2	14.1	78.7	0.2	11.900	12.092
99	301.0	39.3	301.0	301.0	50.8	301.0	89.4	4.361	4.171
123	283.1	39.5	76.1	98.8	25.3	110.7	1.8	10.144	15.101

Group III

140	92.8	29.1	55.7	137.5	100.1	196.9	5.0	16.504	10.682
145	119.7	47.4	43.0	29.2	7.6	16.3	0.7	15.687	19.689
188	212.9	24.1	37.6	93.9	14.2	22.1	0.4	13.402	17.502
191	195.3	9.2	63.2	182.2	10.1	45.1	0.5	13.583	14.385
195	301.0	52.9	191.2	126.5	20.8	167.6	2.9	6.698	13.018
197	301.0	46.4	76.5	101.4	29.0	39.2	1.7	9.481	16.630
201	301.0	291.4	301.0	281.7	37.2	301.0	31.6	0.160	4.977
204	300.3	35.8	252.3	50.9	13.5	120.6	7.2	5.581	16.504
208	301.0	229.3	301.0	113.7	66.9	143.2	14.1	1.194	13.202

Group IV

33	204.0	50.1	119.6	169.1	26.6	80.1	n.d.	11.325	13.684
53	301.0	54.2	178.8	5.5	19.8	114.9	9.1	6.966	17.893
73	75.4	15.4	32.1	31.1	11.6	17.7	0.4	17.803	19.532
76	91.9	16.7	48.7	31.3	10.3	29.1	0.7	16.899	19.282
87	18.1	8.4	11.7	195.0	85.0	146.2	0.6	20.114	10.393
107	301.0	117.4	301.0	106.8	24.8	219.9	10.0	3.060	12.322
117	80.1	16.3	174.8	38.3	3.9	36.3	2.9	14.318	19.009
124	198.1	167.0	104.8	219.7	301.0	178.5	1.3	9.900	5.298
125	67.0	19.1	60.6	40.3	22.3	77.5	0.9	17.328	17.683
132	104.7	11.4	161.8	23.9	4.7	155.5	1.8	13.964	16.646
134	301.0	136.9	230.7	32.3	18.7	38.2	8.7	4.375	18.898
144	103.8	30.2	190.6	69.8	37.9	206.6	0.8	13.008	13.525
148	29.3	28.7	193.0	58.3	44.6	237.1	2.5	15.211	13.048
155	72.0	24.7	33.5	18.9	6.7	24.8	2.2	17.717	19.812
158	301.0	263.5	265.3	301.0	301.0	301.0	100.0	1.457	0.000
159	102.0	24.0	283.8	25.3	6.1	51.0	2.5	10.989	19.019
161	181.7	33.1	165.8	69.7	13.5	116.2	10.4	11.201	16.044
168	178.0	95.2	284.8	301.0	151.5	297.8	10.0	7.498	2.566
169	217.7	174.5	283.0	194.2	170.2	255.4	2.5	5.029	6.446
172	301.0	171.0	301.0	301.0	110.2	262.2	1.0	2.167	4.086
182	208.6	121.6	256.7	80.8	13.7	150.7	1.0	6.796	14.902
193	84.1	27.8	180.3	15.7	13.6	164.9	3.0	13.878	16.526
199	54.9	19.8	33.0	54.9	23.7	140.5	1.8	18.324	15.752
215	301.0	70.4	153.9	203.1	41.0	137.3	5.9	7.275	11.092

Group V

Means of toxicological endpoints obtained in the HET-CAM assay
and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100
79	83.2	18.5	50.5	301.0	48.8	279.0	0.1	17.088	4.716
92	301.0	30.0	301.0	44.4	11.9	183.3	3.3	4.517	15.263
109	34.7	42.6	163.5	191.6	240.4	203.7	0.1	15.505	6.562
129	27.2	11.0	46.2	16.9	9.2	27.4	0.4	18.994	19.770
130	31.7	5.8	14.7	72.8	23.1	48.1	0.2	19.681	17.378
135	60.8	30.9	41.7	42.4	29.9	26.8	0.3	17.759	18.675
151	92.7	143.5	169.4	90.4	216.7	110.8	1.7	11.943	12.161
154	41.9	29.4	137.1	143.9	179.3	273.5	0.8	16.124	7.382
157	107.8	31.1	60.7	33.4	6.7	20.1	3.9	15.904	19.488
167	44.8	182.2	163.7	40.0	169.0	153.3	2.5	12.873	13.476

Means of toxicological endpoints obtained in the HET-CAM assay and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100	lg
Group I										
37	292.6	125.1	210.6	165.5	49.8	124.2	n.d.	5.29	12.38	(
39	249.2	64.6	171.2	208.7	46.1	180.1	n.d.	8.52	9.84	(
54	301.0	301.0	216.4	n.d.	n.d.	n.d.	46.4	1.97	n.d.	(
56	301.0	187.7	301.0	301.0	92.0	301.0	100.0	1.89	3.48	(
57	301.0	46.0	301.0	200.3	32.5	104.1	10.0	4.25	12.09	-1
58	301.0	144.8	300.8	200.7	28.6	100.2	17.1	2.61	12.24	-(
65	301.0	216.7	301.0	301.0	103.1	301.0	86.2	1.41	3.30	-(
66	301.0	141.7	224.0	215.5	54.9	183.7	40.0	4.45	9.40	(
69	301.0	301.0	301.0	301.0	53.1	178.5	15.5	0.00	6.99	-1
70	301.0	198.3	301.0	301.0	160.9	301.0	31.6	1.71	2.33	2
72	301.0	280.4	301.0	301.0	157.3	148.4	86.2	0.34	5.96	(
75	301.0	71.3	301.0	238.0	26.3	188.9	8.8	3.83	9.08	
82	301.0	301.0	301.0	n.d.	n.d.	n.d.	100.0	0.00	n.d.	
85	253.7	52.4	268.4	30.0	12.1	160.7	4.0	6.32	16.22	1
86	193.2	119.6	180.5	156.8	38.3	122.2	10.9	9.07	12.88	-(
89	293.8	54.6	116.8	84.6	13.0	38.1	5.0	8.62	17.43	(
90	276.3	58.4	195.0	256.8	121.6	175.1	5.9	7.26	7.25	-(
91	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	30.0	n.d.	n.d.	-(
93	244.8	29.5	88.3	97.0	18.7	195.3	2.0	11.18	13.29	(
95	301.0	167.9	301.0	217.4	65.3	220.7	5.8	2.22	8.31	-1
96	169.5	119.3	266.8	301.0	82.2	210.0	0.1	7.77	5.77	-(
98	165.4	134.9	142.5	301.0	301.0	301.0	n.d.	10.54	0.00	(
100	207.1	187.4	218.2	186.6	61.1	90.9	15.9	6.64	12.33	(
101	301.0	37.2	161.7	191.1	40.7	57.0	12.6	7.65	13.33	(
102	301.0	55.7	301.0	n.d.	n.d.	n.d.	5.0	4.09	n.d.	-(
103	275.5	49.4	215.3	152.2	27.1	142.6	3.3	6.96	12.73	(
104	203.4	59.0	199.2	174.8	43.3	187.1	4.2	9.34	10.74	-(
105	282.5	25.8	99.7	38.4	8.3	27.9	3.1	9.84	19.13	(
106	301.0	24.4	159.0	85.7	18.3	49.3	5.0	7.92	17.05	1
110	220.0	26.3	198.8	299.3	93.7	155.2	0.9	9.39	6.91	(
111	293.0	53.3	227.6	301.0	61.6	251.1	3.3	6.08	5.16	(
113	215.4	212.3	301.0	301.0	227.6	301.0	7.4	4.05	1.22	1
115	301.0	87.5	301.0	301.0	164.3	248.4	12.2	3.56	3.50	(
118	301.0	301.0	301.0	301.0	301.0	301.0	100.0	0.00	0.00	-(
119	113.3	148.1	195.6	246.7	194.3	286.0	1.4	10.64	3.76	(
120	301.0	90.2	301.0	188.7	44.4	199.2	7.6	3.51	10.02	-(
121	301.0	279.3	301.0	301.0	238.3	172.3	83.3	0.36	4.05	-1
122	67.0	24.2	29.2	266.3	34.4	174.3	0.3	17.98	8.44	-(
126	301.0	127.3	222.7	56.8	7.5	165.1	10.0	4.72	15.39	1
128	301.0	55.2	190.7	6.7	11.6	62.6	4.3	6.67	19.22	(
131	301.0	111.8	301.0	108.3	31.2	198.1	24.5	3.15	12.68	-(
133	301.0	39.6	96.9	177.7	22.2	72.4	5.0	9.12	13.68	(
136	301.0	269.7	301.0	166.1	52.8	219.4	100.0	0.52	10.09	-2
138	301.0	220.2	261.1	301.0	301.0	301.0	n.d.	2.28	0.00	(
139	301.0	190.7	301.0	62.8	14.1	37.0	15.9	1.84	18.09	(
141	301.0	232.8	301.0	18.6	19.2	19.4	13.1	1.14	19.74	(

Means of toxicological endpoints obtained in the HET-CAM assay
and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100	lg
142	301.0	176.2	301.0	301.0	120.4	216.0	40.0	2.08	4.99	-0.791
146	269.0	44.4	301.0	242.3	104.8	254.9	3.5	5.24	6.11	-0.243
149	220.3	24.8	72.5	233.6	39.8	170.3	1.0	12.354	9.426	-0.729
150	301.0	75.8	301.0	301.0	195.5	262.1	3.9	3.753	2.666	1.643
152	301.0	301.0	301.0	301.0	89.2	148.1	44.7	0.000	7.098	-0.653
Group I										
153	301.0	167.0	223.4	109.8	31.6	174.8	10.0	4.044	13.169	-1.120
156	264.9	101.1	254.7	146.3	48.1	229.9	2.8	5.494	10.515	-0.289
160	301.0	42.3	301.0	301.0	173.8	125.3	100.0	4.311	6.218	0.324
162	301.0	172.0	175.3	190.8	20.9	162.8	14.1	5.082	11.197	-0.082
164	301.0	179.6	301.0	301.0	207.7	301.0	n.d.	2.024	1.556	n.
166	152.3	46.4	127.5	102.6	33.9	125.6	2.0	12.753	14.497	0.164
170	301.0	301.0	301.0	301.0	301.0	301.0	n.d.	0.000	0.000	0.767
171	66.3	231.7	180.9	301.0	237.0	301.0	n.d.	10.998	1.067	-0.441
173	301.0	172.8	230.0	76.4	26.2	207.3	10.0	3.793	13.506	-0.659
174	301.0	61.5	301.0	287.5	165.0	301.0	1.0	3.992	2.672	0.060
175	301.0	179.3	301.0	152.8	31.9	94.6	20.0	2.028	13.746	1.325
176	301.0	195.1	301.0	301.0	101.3	182.3	100.0	1.765	6.097	n.
177	301.0	301.0	301.0	301.0	290.7	301.0	n.d.	0.000	0.172	0.081
178	82.8	25.0	207.5	47.0	10.9	45.6	3.5	13.329	18.414	0.216
179	301.0	31.5	121.9	202.7	28.3	61.8	29.0	8.672	13.078	n.
180	230.9	54.4	80.8	63.2	18.0	42.1	6.1	11.351	17.893	1.297
183	289.9	266.5	122.4	258.3	221.7	152.3	50.2	5.074	6.074	1.477
184	110.6	73.4	163.1	130.4	59.7	124.2	3.3	12.724	13.264	-0.094
185	301.0	124.9	301.0	301.0	44.3	212.6	40.0	2.935	6.341	-0.797
186	301.0	205.7	301.0	269.3	177.8	281.0	38.7	1.589	3.469	0.242
192	301.0	89.2	180.9	301.0	91.6	205.7	100.0	6.332	5.715	-1.227
194	301.0	39.3	301.0	301.0	292.8	301.0	100.0	4.361	0.136	n.
196	301.0	98.8	301.0	301.0	69.4	301.0	100.0	3.369	3.860	n.
198	301.0	301.0	301.0	301.0	239.7	301.0	100.0	0.000	1.022	n.
202	301.0	171.2	301.0	224.1	192.3	154.5	34.2	2.164	7.537	0.515
203	301.0	301.0	301.0	301.0	301.0	301.0	100.0	0.000	0.000	n.
205	301.0	301.0	301.0	301.0	207.7	258.8	100.0	0.000	2.539	n.
206	301.0	172.5	301.0	301.0	113.9	301.0	100.0	2.142	3.118	n.
207	301.0	261.8	292.9	301.0	138.8	221.5	100.0	0.843	4.558	-0.558
209	301.0	301.0	301.0	301.0	301.0	301.0	100.0	0.000	0.000	0.394
211	301.0	173.3	301.0	288.8	63.1	301.0	73.3	2.129	4.330	n.
213	301.0	301.0	301.0	301.0	203.7	301.0	100.0	0.000	1.622	-0.136
214	250.6	86.2	201.9	39.8	11.1	110.1	5.0	7.405	17.124	0.532
Group II										
36	128.0	70.6	155.0	n.d.	n.d.	n.d.	n.d.	12.439	n.d.	0.049
83	182.8	16.4	50.1	57.0	11.8	30.5	0.5	14.143	18.453	-0.686
88	141.3	17.0	55.2	48.4	10.8	43.1	0.5	15.259	18.433	-0.576
108	183.1	30.7	73.5	33.8	9.0	26.3	1.6	13.351	19.295	0.795
116	301.0	38.3	301.0	69.5	6.8	54.1	5.0	4.378	17.608	0.978
127	240.3	176.3	301.0	286.5	194.8	301.0	n.d.	3.900	2.204	-1.156
137	259.0	69.8	301.0	286.3	64.7	178.3	0.9	5.113	7.240	-0.748

Means of toxicological endpoints obtained in the HET-CAM assay and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100	lg
143	125.9	29.9	138.4	197.1	56.4	174.9	1.7	13.564	10.137	-0.219
163	301.0	36.7	301.0	301.0	301.0	301.0	3.5	4.406	0.000	-0.847
165	301.0	173.9	301.0	301.0	301.0	301.0	50.4	2.118	0.000	-0.934
187	301.0	149.1	141.8	301.0	217.5	191.0	32.6	6.246	3.958	-0.632
Group III										
38	116.5	25.1	126.1	100.1	16.7	85.3	n.d.	14.215	15.797	-1.096
84	29.8	7.3	157.8	14.5	4.7	154.2	0.2	16.372	16.960	-0.826
94	238.8	15.2	75.1	230.2	14.1	78.7	0.2	11.900	12.092	-1.213
99	301.0	39.3	301.0	301.0	50.8	301.0	89.4	4.361	4.171	-1.811
123	283.1	39.5	76.1	98.8	25.3	110.7	1.8	10.144	15.101	-2.023
Group III										
140	92.8	29.1	55.7	137.5	100.1	196.9	5.0	16.504	10.682	1.192
145	119.7	47.4	43.0	29.2	7.6	16.3	0.7	15.687	19.689	0.216
188	212.9	24.1	37.6	93.9	14.2	22.1	0.4	13.402	17.502	-0.649
191	195.3	9.2	63.2	182.2	10.1	45.1	0.5	13.583	14.385	-0.381
195	301.0	52.9	191.2	126.5	20.8	167.6	2.9	6.698	13.018	0.810
197	301.0	46.4	76.5	101.4	29.0	39.2	1.7	9.481	16.630	-0.704
201	301.0	291.4	301.0	281.7	37.2	301.0	31.6	0.160	4.977	-0.324
204	300.3	35.8	252.3	50.9	13.5	120.6	7.2	5.581	16.504	-0.852
208	301.0	229.3	301.0	113.7	66.9	143.2	14.1	1.194	13.202	-1.179
Group IV										
33	204.0	50.1	119.6	169.1	26.6	80.1	n.d.	11.325	13.684	-1.522
53	301.0	54.2	178.8	5.5	19.8	114.9	9.1	6.966	17.893	-0.174
73	75.4	15.4	32.1	31.1	11.6	17.7	0.4	17.803	19.532	-0.637
76	91.9	16.7	48.7	31.3	10.3	29.1	0.7	16.899	19.282	-0.775
87	18.1	8.4	11.7	195.0	85.0	146.2	0.6	20.114	10.393	-1.211
107	301.0	117.4	301.0	106.8	24.8	219.9	10.0	3.060	12.322	-0.552
117	80.1	16.3	174.8	38.3	3.9	36.3	2.9	14.318	19.009	0.287
124	198.1	167.0	104.8	219.7	301.0	178.5	1.3	9.900	5.298	0.761
125	67.0	19.1	60.6	40.3	22.3	77.5	0.9	17.328	17.683	-0.578
132	104.7	11.4	161.8	23.9	4.7	155.5	1.8	13.964	16.646	0.542
134	301.0	136.9	230.7	32.3	18.7	38.2	8.7	4.375	18.898	0.148
144	103.8	30.2	190.6	69.8	37.9	206.6	0.8	13.008	13.525	0.476
148	29.3	28.7	193.0	58.3	44.6	237.1	2.5	15.211	13.048	-0.195
155	72.0	24.7	33.5	18.9	6.7	24.8	2.2	17.717	19.812	0.449
158	301.0	263.5	265.3	301.0	301.0	301.0	100.0	1.457	0.000	-2.127
159	102.0	24.0	283.8	25.3	6.1	51.0	2.5	10.989	19.019	-0.235
161	181.7	33.1	165.8	69.7	13.5	116.2	10.4	11.201	16.044	-1.226
168	178.0	95.2	284.8	301.0	151.5	297.8	10.0	7.498	2.566	-2.087
169	217.7	174.5	283.0	194.2	170.2	255.4	2.5	5.029	6.446	0.637
172	301.0	171.0	301.0	301.0	110.2	262.2	1.0	2.167	4.086	-1.607
182	208.6	121.6	256.7	80.8	13.7	150.7	1.0	6.796	14.902	0.139
193	84.1	27.8	180.3	15.7	13.6	164.9	3.0	13.878	16.526	0.494
199	54.9	19.8	33.0	54.9	23.7	140.5	1.8	18.324	15.752	-0.394
215	301.0	70.4	153.9	203.1	41.0	137.3	5.9	7.275	11.092	0.405
Group V										

Means of toxicological endpoints obtained in the HET-CAM assay
and NRU assay with 143 new chemicals of Phase II

Code	mtc10	mth10	mtl10	mtc100	mth100	mtl100	geom	mbgas10	mbgas100	lg
79	83.2	18.5	50.5	301.0	48.8	279.0	0.1	17.088	4.716	-0.242
92	301.0	30.0	301.0	44.4	11.9	183.3	3.3	4.517	15.263	-2.267
109	34.7	42.6	163.5	191.6	240.4	203.7	0.1	15.505	6.562	0.280
129	27.2	11.0	46.2	16.9	9.2	27.4	0.4	18.994	19.770	0.365
130	31.7	5.8	14.7	72.8	23.1	48.1	0.2	19.681	17.378	1.635
135	60.8	30.9	41.7	42.4	29.9	26.8	0.3	17.759	18.675	0.600
151	92.7	143.5	169.4	90.4	216.7	110.8	1.7	11.943	12.161	n.
154	41.9	29.4	137.1	143.9	179.3	273.5	0.8	16.124	7.382	0.597
157	107.8	31.1	60.7	33.4	6.7	20.1	3.9	15.904	19.488	0.870
167	44.8	182.2	163.7	40.0	169.0	153.3	2.5	12.873	13.476	0.516

Draize - Urliste			**CONJUNKTIVA**								
Conjunkti	R1-72	Rötung Tier 1 - 72 Stunden									
	S1-72	Schwellung Tier 1 - 72 Stunden									
	S1-7d	Schwellung nach 7 Tagen									
	Skr1-72	Sekretion Tier 1 - 72 Stunden									
Code	R1-1	R1-24	R1-48	R1-72	R1-96	R1-7d	R1-14d	R1-21d	R2-1	R2-24	R2-48
100	0	0	0	0					1	0	0
120	2	2	1	0		0			2	3	2
186	3	3	3	2		0			2	3	3
124	1	2	2	1					1	1	1
208	2	3	3	3		1	0	0	2	2	2
179		0	0	0						0	0
58	1	2	1	1		0			1	2	2
166	1	1	1	0					1	1	0
170	0	1	0	0					1	0	0
153	2	2	1	0					2	2	1
137	3	3	3	2		1			3	3	3
134	3	3	3	3		2					
138	1	3	0	0					1	3	1
203		0	0	0		0				0	0
87	3	3	3	2					3	3	3
108	3	3	3	3		1			2	3	2
182	2	3	2	3		2			2	3	3
128	2	3	2	2		0			2	3	2
132	2	3	3	3		3			2	3	3
187	3	3	2	2		0			3	3	3
197	2	2	2	2		2	1	2	1	2	2
214	2	2	1	0		0			2	2	1
168	1	1	1	1					1	1	1
171	0	3	3	2					1	2	1
154	2	3	3	3		3					
150	2	2	2	0					3	2	0
204	2	2	2	2		0	0	0	2	2	2
103	0	0	0	0					0	0	0
89	0	0	0	0					0	0	0
165	3	3	3	0					2	3	3
195	2	3	3	3		2	2	2	2	2	2
102	1	0	0	0					1	0	0
156	0	0	0	0					1	1	0
201	2	2	2	1		0	0	0	2	2	2
86	1	0	0	0					1	0	0
127	3	3	1	1		0			3	3	2

199	2	3	3	3		3	3				
172	2	2	1	1					2	2	1
70	0	0	0	0					0	0	0
115	2	2	2	1		0			1	2	1
142	2	1	1	0					2	1	1
92	0	1	2	2							
139	2	3	3	3		1			3	2	1
209	2	1	0	0					2	1	1
104	2	0	0	0					2	0	0
144	0	0	0	0					1	2	3
129	0	3	3	3					0	3	3
56	1	0	0	0					0	0	0
158	3	3	3	3					3	3	3
176	2	1	0	0					2	1	1
162	0	0	0	0					0	0	0
106	0	1	0	0					1	0	0
157	2	2	2	2					2	3	3
167	2	3	3	3					3	2	2
93	0	0	0	0					1	0	0
69	1	0	0	0					1	1	1
57	1	1	1	0					1	1	1
177	1	1	0	0					1	0	0
94	1	2	2	1				0	0	2	2
95	0	0	0	0					0	0	0
99	1	3	3	3					0	1	0
88	1	2	3	3					2	3	3
169	1	3	3	3					1	3	3
185	2	1	1	0					2	0	0
141	2	3	2	2		0			2	2	3
155	2	3	3	3			1		1	3	2
191	2	2	2	2		1	0		2	2	3
152	2	1	0	0					2	2	0
213	2	1	0	0					3	0	0
125	2	3	3	3					2	3	3
140	0	1	1	1					0	1	2
146	1	1	1	1					2	2	2
113	1	1	0	0					1	1	0
151	1	2	2	3							
119	1	1	1	1	1				1	1	1
188	2	2	2	2		2	2		2	2	2
133	0	0	0	0					2	2	1
91	1	0	0	0					1	0	0
163	1	2	3	2					1	2	3
161	2	2	3	3		0	0		2	2	2
131	3	0	0	0					2	0	0
116	2	3	3	2		0			2	3	2

193	2	2	2	2		2	2					
126	1	2	0	0						1	0	0
85	1	1	0	0						2	1	0
202	2	0	0							2	0	0
178	3	3	1	1		0				3	3	1
149	2	2	1	1						2	2	1
130	3	3								3	3	
145	2	3	3	3						1	2	3
135	3	x	x									
83	1	2	2	2		1				2	2	2
173	3	3	3	2		0				3	3	2
148	2	3	3	3		2				3	3	2
184	1	2	2	0						1	1	1
98	2	3	3	2		0				2	3	3
207	2	2	1	0						2	2	1
76	2	3	3	3					0	1	2	3
73	1	2	2	3					0			
211	2	2	2	2						1	0	0
122	2	2	1	1	0					1	2	0
96	1	1	1	1	1	0				1	1	1
105	1	0	0	0						1	0	0
90	1	1	1	1		0				1	2	1
160	2	0	0	0						2	0	0
123	1	1	1	1	1	1	0	0		1	1	3
194	1	0	0	0						1	0	0
143	3	3	3	3		2				3	3	3
175	2	1	0	0						1	0	0
117	1	2	3	1		0				2	3	3
79	3									3		
192	2	2	2	2		0				2	2	1
109	2	3	3	3								
54	1	0	0	0		0				1	0	0
196	1	1	0	0						1	0	0
53	1	2	3	3		2	3	1		1	3	3
75	2	1	0	0						3	3	3
66	1	1	0	0						2	1	0
72	2	0	0	0						1	0	0
65	1	1	0	0						3	2	1
107	1	3	3	2	2	2				2	3	3
198	1	0	0	0						2	1	0
159	3	3	3	3						3	3	3
118	1	0	0	0						1	0	0
110	1	0	0	0						1	0	0
111	0	0	0	0						1	0	0
84	1	2	1	2					1	1	2	2
136	2	0	0	0						2	1	0

180	2	3	2	0					3	3	2
206		0	0	0						0	0
215	2	2	2	1	1	0	0	0	1	1	3
101	1	0	0	0					1	0	0
26	1	2	2	2					1	2	2
33	2	3	3	3		2			2	3	3
37	2	0	0	0					2	1	0
38	2	2	2	2		1					
121	1	0	0	0					1	1	0
164	1	1	0	0					1	1	0
174	1	1	1	1					1	1	0
205	1	1	0	0					1	0	0
36	3	3	3	3		3	2	0	3	3	3
39	2	0	0	0					2	1	1
82	2	2	2	1					2	2	2

R2-72	R2-96	R2-7d	R2-14d	R2-21d	R3-1	R3-24	R3-48	R3-72	R3-96	R3-7d	R3-14d
0					0	0	0	0			
1		0			2	3	2	1		0	
1		0			3	2	1	0		0	
1					1	1	1	1			
2		0	0	0	2	2	2	2		2	2
0						0	0	0			
1		1			1	2	2	2		1	
0					1	1	0	0			
0					1	1	0	0			
0					2	2	1	0			
2		1			3	3	2	2		1	
1					1	3	1	1			
0		0				0	0	0		0	
3					3	3	3	3			
2		2			3	3	2	2		0	
3		1			2	3	3	3		3	
2		0			2	2	2	1		0	
3		3			1	2	3	3		2	
3		0			3	3	2	2		0	
2		1	1	2	2	2	2	2		2	2
1		0			2	2	1	0		0	
1					1	1	1	1			
0					1	3	2	1			
0					2	3	2	0			
2		1	1	0	2	2	2	2		1	0
0					1	0	0	0			
0					0	0	0	0			
1		0			2	3	3	2		0	
2		1	0	0	2	2	2	2		1	0
0					1	0	0	0			
0					1	0	0	0			
2		1	1	1	2	1	1	1		0	0
0					1	0	0	0			
2		0			3	2	1	1		0	

1					2	2	1	1			
0					1	1	0	0			
1		0			1	2	1	1		0	
1					2	1	1	0			
1		0			2	2	2	1		0	
0					2	1	1	0			
0					2	0	0	0			
3					1	1	2	2			
3					0	2	2	2			
0					0	0	0	0			
3					3	3	3	3			
0					2	2	1	0			
0					0	0	0	0			
0					0	0	0	0			
3					2	2	2	2			
2					2	2	2	2			
0					0	0	0	0			
0					1	1	1	0			
0					1	1	0	0			
0					1	0	0	0			
2				0	0	2	2	2			
0					1	0	0	0			
0					0	1	1	0			
3					2	3	3	3			
3					1	3	3	3			
0					3	0	0	0			
2		0			2	2	1	1		0	
2			0		1	3	2	2			0
3		2	2		2	2	2	2		2	2
0					2	2	0	0			
0					3	1	0	0			
3					3	3	3	3			
1					1	1	1	0			
2					1	2	1	1			
0					0	0	0	0			
1	1				1	1	1	1	1		
3		2	2		2	2	2	2		2	2
1					1	1	0	0			
0					1	0	0	0			
3					1	3	3	3			
1		0	0		2	3	3	3		3	0
0					2	1	0	0			
2		0			1	3	3	3		0	

0					1	1	0	0			
0					1	2	1	0			
					1	0	0				
1		0			2	3	3	3		0	
1					2	2	0	0			
					3	3					
3					1	1	1	2			
2		1			2	2	2	2		2	
2		0			3	3	2	2		0	
3		3			3	3	3	3		3	
0					2	1	1	0			
1		0			2	2	3	2		0	
0					2	2	1	0			
3				0	1	2	3	3			
0					2	0	0	0			
0	0				1	2	1	1	0		
1	0	0			1	1	1	1	1	0	
0					1	0	0	0			
1		0			1	1	1	1		0	
0					2	1	0	0			
3	3	3	0	0	0	2	3	3	3	3	2
0					1	0	0	0			
3		2			3	3	3	3		3	
0					1	0	0	0			
3		2			2	3	2	3		0	
					3						
0		0			2	2	2	2		0	
0		0			1	0	0	0		0	
0					1	0	0	0			
3		1	0	0	1	3	3	3		2	3
2					3	2	2	1			
0					3	2	2	0			
0					1	0	0	0			
1					2	2	0	0			
2	2	*			1	2	3	2	2	2	
0					2	1	0	0			
3					3	3	2	2			
0					1	0	0	0			
0					1	0	0	0			
0					1	0	0	0			
2				0	1	2	2	2			
0					2	0	0	0			

0					2	3	2	0				
0						0	0	0				
3	3	3	0	0	2	3	3	3	3	3	0	
0					1	0	0	0				
2					1	2	2	2				
3		2			2	3	3	3				
0					2	0	0	0				
0					1	0	0	0				
0					1	0	0	0				
0					1	0	0	0				
0					1	0	0	0				
3		3	1	0	3	3	3	2		2	2	
0					2	0	0	0				
1					2	2	2	1				

R3-21d	R4-1	R4-24	R4-48	R4-72	R4-96	R4-7d	R4-14d	R4-21d	R5-1	R5-24
	0	0	0	0						
2										
	0	0	0	0						
		0	0	0		0				0
2										
0										
	1	0	0	0						
	0	0	0	0						
0										
	1	0	0	0						
0										
	1	0	0	0						

1	0	2	3	3				1		
	1	0	0	0						
	2	1	1	1	1					

	1	0	0							
	1	2	2	2		1			1	3
0										
	1	1	1	1	0					
	2	2	1	1	1	0				
	1	0	0	0						
2										
	1	0	0	0						
	1	0	0	0		0			1	0
	1	1	0	0					1	0
1	1	3	3	3		2	3	1		
	1	0	0	0						
	1	0	0	0						
	0	0	0	0						
1	1	1	2	2				1		

		0	0	0						0
0										
	1	0	0	0						
0										
	2	2	1	1					2	2

R5-48	R5-72	R5-7d	R6-1	R6-24	R6-48	R6-72	R6-7d	S1-1	S1-24	S1-48
								0	0	0
								2	1	0
								2	2	2
								0	1	1
								2	2	2
									0	0
								2	1	0
								1	1	1
								0	0	0
								2	1	0
								3	2	3
								2	2	1
								1	1	0
0	0	0		0	0	0	0		0	0
								2	2	2
								3	2	2
								3	2	1
								3	2	1
								3	3	4
								3	3	2
								2	2	2
								2	2	1
								3	4	3
								0	1	0
								3	3	3
								3	1	0
								1	1	0
								0	0	0
								0	0	0
								3	2	1
								2	3	2
								0	0	0
								0	0	0
								3	1	0
								0	0	0
								3	2	1

								1	1	1
								0	1	0
								0	0	0
								1	1	1
								1	0	0
								4	4	3
								3	2	2
								1	0	0
								1	0	0
								0	0	0
								2	3	4
								0	0	0
								3	4	4
								1	0	0
								0	0	0
								0	0	0
								2	3	3
								3	4	4
								1	0	0
								0	0	0
								0	0	0
								1	1	0
								1	1	0
								0	0	0
								1	1	1
								2	2	1
								2	2	2
								1	0	0
								3	2	2
								3	3	2
								2	2	1
								2	0	0
								1	0	0
								1	3	3
								1	2	1
								0	2	1
								1	1	0
								2	4	4
								2	1	1
								2	2	1
								0	0	0
								0	0	0
								1	2	2
								2	3	2
								1	0	0
								4	2	2

								2	2	2
								1	0	0
								1	0	0
								1	0	0
								2	1	1
								1	0	0
								3	4	
								2	1	1
								3	4	4
2	2	1	2	2	2	1	0	2	3	2
								3	3	2
								3	2	1
								3	1	1
								2	3	1
								0	0	0
								1	1	1
								1	2	1
								0	0	0
								1	1	0
								0	1	1
								0	0	0
								1	1	0
								2	0	0
								1	1	1
								1	0	0
								2	4	3
								1	0	0
								4	3	1
								3		
								0	1	1
								3	3	2
0	0	0	1	0	0	0	0	0	0	0
0	0		1	1	0	0		1	1	0
								1	3	2
								0	0	0
								1	0	0
								0	0	0
								0	1	0
								1	3	3
								0	0	0
								0	3	2
								0	0	0
								0	0	0
								0	0	0
								1	1	1
								1	0	0

								3	1	1
0	0			0	0	0			0	0
								0	1	1
								0	0	0
								2	2	1
								1	2	3
								2	0	0
								2	2	2
								0	0	0
								0	0	0
								2	1	0
								0	0	0
								4	4	4
								1	0	0
1	1		2	2	1	1		1	1	1

S1-72	S1-96	S1-7d	S1-14d	S1-21d	S2-1	S2-24	S2-48	S2-72	S2-96	S2-7d	S2-14d
0					0	0	0	0			
0		0			3	2	0	0		0	
1		0			1	3	3	1		0	
0					1	1	1	1			
2		0	0	0	3	2	2	2		0	0
0						0	0	0			
0		0			2	2	1	0		0	
0					0	0	0	0			
0					0	0	0	0			
0					2	1	0	0			
2		0			3	3	2	1		0	
2		2									
0					1	1	0	0			
0		0				0	0	0		0	
1					3	3	3	3			
3		1			3	3	2	2		1	
2		1			4	2	2	2		1	
1		0			3	3	2	0		0	
3		3			3	3	3	3		3	
1		0			3	2	2	1		0	
2		1	1	2	1	1	1	1		0	0
0		0			2	2	1	1		0	
3					4	4	4	4			
0					1	0	0	0			
3		3									
0					2	1	0	0			
0		0	0	0	2	1	0	0		0	0
0					0	0	0	0			
0					0	0	0	0			
0					3	3	3	1		0	
2		1	1	1	2	2	2	1		0	0
0					0	0	0	0			
0					1	0	0	0			
0		0	0	0	2	2	1	0		0	0
0					0	0	0	0			
1		0			3	3	3	2		0	

1		1	1								
2					2	2	2	2			
0					0	0	0	0			
0		0			2	1	1	1		0	
0					1	0	0	0			
3											
2		0			2	1	0	0		0	
0					0	0	0	0			
0					0	0	0	0			
0					0	4	4	4			
4					2	3	4	4			
0					0	0	0	0			
4					3	3	3	3			
0					0	0	0	0			
0					0	0	0	0			
0					0	0	0	0			
3					2	4	4	4			
4					4	4	4	4			
0					0	0	0	0			
0					0	1	0	0			
0					1	0	0	0			
0					0	0	0	0			
0				0	1	1	1	1			
0					1	0	0	0			
1					0	0	0	0			
1					1	1	1	1			
2					2	3	2	2			
0					2	1	0	0			
1		0			2	2	2	2		0	
2			0		3	1	1	1			0
1		0	0		2	2	2	2		0	1
0					4	1	0	0			
0					1	0	0	0			
2					1	2	1	0			
0					0	0	1	0			
1					1	3	2	2			
0					1	1	0	0			
3											
1	1				2	1	1	1	1		
2		1	1		2	2	1	2		1	1
0					1	0	0	0			
0					0	0	0	0			
0					1	3	2	2			
2		0	0		2	2	1	0		0	0
0					1	0	0	0			
1		0			4	3	1	1		0	

2		2	2								
0					1	0	0	0			
0					1	0	0	0			
					1	0	0				
1		0			2	2	1	1		0	
0					1	0	0	0			
					3	3					
1					2	1	1	1			
2		1			2	3	2	2		0	
1		0			3	2	2	1		0	
1		1			3	2	1	2		1	
1					2	0	0	0			
1		0			1	2	1	0		0	
0					0	0	0	0			
1				0	1	1	1	1			
1				0							
0					0	0	0	0			
0	0				0	1	0	0	0		
0	0	0			0	1	1	0	0	0	
0					0	0	0	0			
0		0			1	1	1	0		0	
0					2	0	0	0			
1	1	1	0	0	3	1	2	1	2	2	0
0					1	0	0	0			
3		1			3	3	2	2		1	
0					1	0	0	0			
1		0			3	2	2	2		1	
					3						
0		0			1	1	0	0		0	
3											
0		0			0	0	0	0		0	
0					0	1	0	0			
2		1	1	0	1	2	1	1		0	0
0					2	2	1	0			
0					2	0	0	0			
0					0	0	0	0			
0					0	0	0	0			
3	3	4			0	3	3	3	4	*	
0					0	0	0	0			
2					3	2	3	3			
0					0	0	0	0			
0					0	0	0	0			
0					0	0	0	0			
1				0	1	1	1	1			
0					0	0	0	0			

0					3	1	1	0			
0						0	0	0			
1	1	0	0	0	2	2	1	1	1	1	0
0					0	0	0	0			
1					2	3	2	2			
3		2			1	3	2	2		2	
0					2	1	0	0			
1		0									
0					0	0	0	0			
0					0	0	0	0			
0					1	0	0	0			
0					0	0	0	0			
3		2	1	0	3	3	3	3		3	0
0					1	0	0	0			
0					2	2	2	1			

S2-21d	S3-1	S3-24	S3-48	S3-72	S3-96	S3-7d	S3-14d	S3-21d	S4-1	S4-24	S4-48
	0	0	0	0					0	0	0
	3	2	1	0		0					
	1	0	0	0		0					
	1	1	1	1							
0	2	2	1	2		1	2	1			
		0	0	0							
	2	2	1	0		0					
	0	0	0	0					0	0	0
	0	0	0	0							
	2	1	0	0							
	3	3	2	1		0					
	1	1	0	0							
		0	0	0		0				0	0
	2	4	3	3							
	3	2	1	1		0					
	4	3	2	2		1					
	2	1	0	0		0					
	3	3	3	2		1					
	2	1	1	0		0					
0	2	2	2	2		2	2	1			
	2	1	0	0		0					
	3	4	3	3							
	0	2	0	0							
	2	2	0	0							
0	2	1	0	2		0	0	0			
	0	0	0	0					0	0	0
	0	0	0	0					0	0	0
	4	4	3	1		0					
0	2	2	1	1		0	0	0			
	0	0	0	0					1	0	0
	0	0	0	0							
0	2	1	0	0		0	0	0			
	0	0	0	0					0	0	0
	3	3	2	1		0					

	0	2	1	1							
	0	0	0	0							
	1	2	1	1		0					
	1	0	0	0							
	2	1	1	0		0					
	0	0	0	0							
	1	0	0	0							
	1	2	2	2							
	2	3	3	3							
	0	0	0	0							
	3	4	4	3							
	1	0	0	0							
	0	0	0	0							
	0	0	0	0							
	2	3	3	3							
	3	4	4	4							
	1	0	0	0							
	0	0	0	0							
	0	0	0	0							
	1	0	0	0							
0	1	1	1	1				0	1	1	1
	0	1	0	0					0	1	0
	0	0	0	0							
	1	2	1	1							
	2	3	3	2							
	2	1	0	0							
	2	1	0	0		0					
	3	2	1	1			0				
	2	2	1	1		2	2				
	3	2	0	0							
	2	0	0	0							
	1	2	2	2							
	0	0	0	0							
	1	1	1	1							
	2	1	0	0							
	1	1	1	1	1				3	2	2
	2	2	2	2		1	1				
	1	0	0	0							
	0	0	0	0							
	1	3	2	2							
	2	3	3	3		1	0				
	2	0	0	0							
	3	3	2	1		0					

	0	0	0	0							
	1	0	0	0							
	1	0	0						0	0	0
	3	3	3	3		0					
	1	0	0	0							
	3	3									
	1	1	1	1							
	2	3	2	2		2			2	3	2
	3	2	2	0		0					
	3	3	2	2		3					
	3	1	0	0							
	2	2	2	1		0					
	0	0	0	0							
0	2	2	1	1				0			
	0	0	0	0							
	0	2	1	1	0				1	1	1
	0	0	1	0	0	0			0	1	1
	0	0	0	0					0	0	0
	1	1	0	0		0					
	2	1	0	0							
0	3	2	2	2	2	2	2	1			
	1	0	0	0					1	0	0
	3	4	3	2		1					
	1	0	0	0							
	4	1	1	1		0					
	3										
	1	1	0	0		0					
	0	0	0	0		0			0	0	0
	0	0	0	0					1	1	0
0	2	2	2	2		1	1	0	2	2	2
	0	0	0	0							
	2	0	0	0							
	0	0	0	0							
	0	0	0	0							
	1	3	3	4	4	4					
	0	0	0	0							
	3	1	1	1							
	0	0	0	0					0	0	0
	0	0	0	0					0	0	0
	0		0	0					0	0	0
0	1	1	1	1				0	1	1	1
	1	0	0	0							

	2	1	1	0							
		0	0	0						0	0
0	2	2	2	2	2	2	0	0			
	0	0	0	0							
	2	2	2	2							
	1	2	3	3		3					
	2	0	0	0							
	0	0	0	0							
	0	0	0	0							
	0	0	0	0							
	0	0	0	0					0	0	0
0	3	3	2	2		2	0	0			
	0	0	0	0							
	2	2	1	0					1	2	1

S4-72	S4-96	S4-7d	S4-14d	S4-21d	S5-1	S5-24	S5-48	S5-72	S5-7d	S6-1	S6-24
0											
0											
0		0				0	0	0	0		0
0											
0											
0											
0											

1				0							
0											
1	1										

2		0			2	3	2	2	0	2	3
1	0										
0	0	0									
0											
0											
0		0			0	0	0	0	0	0	0
0					1	1	0	0		0	1
2		1	1	0							
0											
0											
0											
1				0							

0						0	0	0			0
0											
0					1	1	1	1		1	1

S6-48	S6-72	S6-7d	Skr1-1	Skr1-24	Skr1-48	Skr1-72	Skr1-96	Skr1-7d
			x					
			2	3	1	0		
			3	2	2	1		0
			3	0	0	0	0	
			1	0	0	0		
			2	1	0	0		
			3	1	0	2		1
			2	1	0	0		
0	0	0		0	0	0		0
			2	2	2	2		1
			2	2	2	3		
			1	2	2	1		
			3	1	1	1		0
			2	2	3	2		2
			0	0	0	0		
			3	1	0	0		0

			1	3	3	3		3
			2	1	1	2		
			2	1	0	0		
			3	1	1	0		0
			2	0	0	0		
			3	3	3	2		
			2	0	0	0		
			1	0	0	0		
			0	0	0	0		
			3	2	2	3		
			3	0	0	0		
			1	3	3	3		
			1	0	0	0		
			1	0	0	0		
			3	0	0	0		
			2	2	2	2		
			2	3	3	3		
			0	0	0	0		
			2	0	0	0		
			0	0	0	0		
			3	0	0	0		
			2	0	1	1		
			1	0	0	0		
			2	3	1	1		
			3	3	2	1		
			1	2	2	1		
			2	2	2	1		1
			1	3	3	3		
			2	2	2	0		
			1	2	2	2		
			2	2	0	0		
			1	3	2	2		
			2	2	1	2		2
			1	0	0	0		
			1	0	0	0		
			1	2	1	0		
			3	3	2	2		0
			1	0	0	0		

			2	2	2	3		3
			1	0	0			
			0	1	0	0		
			2	2	2	2		
2	2	0						
			2	1	0	0		0
			2	0	0	0		
			3	2	2	2		
			3	3	3	1		
			0	1	1	1		0
			2	0	0	0		
			3	3	3	2	2	1
			1	0	0	0		
			2					
			1	1	0	0		0
			1	3	2	2		
0	0	0	0	0	0	0		0
0	0							
			0	3	3	3		2
			0	0	0	0		
			0	0	0	0		
			2	0	0	0		
			3	1	0	0		
			3	1	2	2	2	2
			1	0	0	0		
			3	2	2	0		
			3	2	1	1		

			3	0	0	0		
0	0			0	0	0		
			2	2	2	0	0	0
			2	2	2	1		
			1	0	0	0		
			1	0	0	0		
			2	2	1	0		0
			1	0	0	0		
1	0							

Skr1-14d	Skr1-21d	Skr2-1	Skr2-24	Skr2-48	Skr2-72	Skr2-96	Skr2-7d	Skr2-14d
		x						
		2	3	3	3			
0	0	3	2	2	2		0	0
		3	2	0	0		0	
		1	1	0	0			
		2	1	0	0			
		2	2	1	1			
			0	0	0		0	
1	2	2	2	2	2		0	0
		2	3	3	2			
		1	0	0	0			
0	0	3	1	1	1		0	0
2	1	3	2	1	0		0	0
		2	0	0	0			
0	0	3	1	1	1		0	0

3								
		2	2	3	3			
		1	0	0	0			
		3	0	0	0		0	
		2	0	0	0			
		2	0	0	0			
		1	0	0	0			
		2	3	3	3			
		3	2	3	3			
		2	0	0	0			
		1	3	2	3			
		1	0	0	0			
		1	0	0	0			
		3	0	0	0			
		2	3	3	3			
		3	3	3	3			
		2	0	0	0			
		1	1	0	0			
		2	0	0	0			
		3	0	0	0			
	0	3	3	2	1			
		2	0	0	0			
		1	0	0	0			
		3	3	2	0			
		1	2	2	2			
0		2	2	2	2		0	1
		1	1	1	0			
		0	0	1	0			
		1	2	2	1			
		2	1	0	0			
1		2	2	2	2		1	2
		2	2	0	0			
		1	0	0	0			
		2	3	2	1			
0		2	2	1	0		0	0
		2	1	0	0			

2								
		2	0	0				
		1	0	0	0			
		3	2	2	1			
		2	1	0	0		0	
		2	0	0	0			
	1	3	2	2	2			
		1	2	1	1		0	
		2	0	0	0			
0	0	3	3	2	2	2	3	1
		1	0	0	0			
		2						
		2	1	0	0		0	
		0	0	0	0		0	
1	1	0	3	2	1		0	0
		1	1	0	0			
		3	0	0	0			
		1	0	0	0			
		3	0	0	0			
		3	3	2	2	2	*	
		2	0	0	0			
		3	1	3	2			
	0	3	3	2	1			

		3	1	0	0			
			0	0	0			
0	0	3	3	2	0	0	2	0
		2	2	2	1			
		1	0	0	0			
		0	0	0	0			
0	0	2	2	2	1		0	0
		1	0	0	0			

Skr2-21d	Skr3-1	Skr3-24	Skr3-48	Skr3-72	Skr3-96	Skr3-7d	Skr3-14d	Skr3-21d
	x		x					
	2	3	3	2				
0	2	1	1	2		1	2	2
	3	2	1	0		0		
	1	0	0	0				
	2	1	0	0				
	1	1	1	1				
		0	0	0		0		
0	2	2	3	2		3	3	2
	3	2	2	3				
	1	2	0	0				
0	2	1	1	2		0	0	1
0	2	2	1	1		0	0	0
	2	0	0	0				
0	3	1	0	0		0	0	0

	2	1	1	1				
	2	0	0	0				
	3	0	0	0		0		
	2	0	0	0				
	1	0	0	0				
	1	0	0	0				
	2	3	2	3				
	3	3	2	2				
	2	0	0	0				
	2	3	3	3				
	1	0	0	0				
	1	0	0	0				
	3	0	0	0				
	2	2	2	2				
	2	3	3	3				
	0	0	0	0				
	0	0	0	0				
	0	0	0	0				
	3	0	0	0				
0	3	1	1	1				0
	2	0	0	0				
	0	0	0	0				
	3	3	2	2				
	1	3	2	2				
	2	2	1	2		2	3	
	1	2	1	1				
	1	1	1	0				
	1	1	1	0				
	2	1	0	0				
	2	2	2	1		0	1	
	3	1	0	0				
	1	0	0	0				
	1	3	2	1				
	3	3	3	2		2	0	
	2	0	0	0				

	1	0	0					
	1	0	0	0				
	1	2	3	2				
	2	2	1	0		0		
	2	0	0	0				
0	3	2	2	2				0
	1	0	1	0		0		
	2	1	0	0				
0	3	3	3	3	3	3	3	3
	1	0	0	0				
	2							
	2	0	0	0		0		
	0	0	0	0		0		
0	0	3	3	3		2	1	1
	1	0	0	0				
	3	0	0	0				
	1	0	0	0				
	2	0	0	0				
	3	3	2	2	1	1		
	1	0	0	0				
	3	1	1	0				
0	3	2	2	1				1

	2	0	0	0				
		0	0	0				
0	3	3	3	3	2	0	0	0
	2	3	2	1				
	1	0	0	0				
	1	0	0	0				
0	2	2	2	0		0	0	0
	3	0	0	0				

Skr4-1	Skr4-24	Skr4-48	Skr4-72	Skr4-7d	Skr4-14d	Skr4-21d	Skr5-1	Skr5-24
	0	0	0	0				0

1	1	1	2			0		
2	0	0	0					

2	0	0						
1	0	0	0					
0	0	0	0	0			0	0
0	3	3	3	3	1	0		
3	3	3	2			1		

	0	0	0					0

Skr5-48	Skr5-72	Skr5-7d	Skr6-1	Skr6-24	Skr6-48	Skr6-72	Skr6-7d
0	0	0		0	0	0	0

0	0	0	0	0	0	0	0

0	0			0	0	0	

Draize - Urliste			**CORNEA**						
Trübung				Tr6-48					
Größe der Trübungszone				G1-48					
Code	Tr1-1	Tr1-24	Tr1-48	Tr1-72	Tr1-96	Tr1-7d	Tr1-14d	Tr1-21d	Tr2-1
100	0	0	0	0					0
120	0	0	0	0		0			0
124	1	2	2	1					1
186	1	1	1	1		0			1
208	0	1	1	1		0	0	0	0
179		0	0	0					
58	0	1	1	0	0				0
166	0	0	0	0					0
170	1	0	0	0					1
153	0	0	0	0					2
137	3	1	2	2		1			2
134	0	1	0	1		2			
138	1	1	1	0					1
87	2	2	0	0					4
203		0	0	0		0			
108	1	1	2	2		0			1
182	1	1	1	2		2			1
128	0	1	2	2		0			0
132	1	2	4	4		4			1
187	1	2	1	1		0			1
197	0	1	1	2		1	1	2	0
214	0	0	0	0		0			0
168	4	4	4	4					2
171	1	1	1	0					1
154	1	3	3	3		4			
150	0	0	0	0					0
204	0	1	1	1		1	1	1	0
103	0	0	0	0					0
89	0	0	0	0					0
165	0	1	1	0					0
195	0	1	1	1		1	0	0	0
102	0	0	0	0					0
156	0	0	0	0					0
201	0	1	1	1		0	0	0	0
86	0	0	0	0					0
127	0	0	0	0		0			0

199	1	2	3	3		3	4		
172	2	2	2	2					2
70	0	0	0	0					0
115	0	1	0	0		0			0
142	0	0	0	0					0
92	x	x	3	3					
139	0	0	0	0		0			0
209	0	0	0	0					0
104	0	0	0	0					0
144	1	0	0	0					3
129	4	3	4	4					3
56	0	0	0	0					0
158	1	1	2	4					1
176	0	0	0	0					0
162	0	0	0	0					0
106	0	0	0	0					0
157	3	3	3	3					3
167	4	4	4	4					3
93	0	0	0	0					0
69	0	0	0	0					0
57	0	0	0	0					0
177	0	0	0	0					0
94	1	1	1	1				0	1
95	0	0	0	0					0
99	0	1	1	1					0
88	1	1	1	1					1
169	0	1	1	1					3
185	0	0	0	0					0
141	1	1	2	2		0			0
155	1	1	2	2			3		2
191	1	1	1	1		1	0		1
152	0	0	0	0					0
213	0	0	0	0					0
125	0	0	0	0					1
140	2	1	1	1					1
146	1	2	1	1					2
113	0	0	0	0					0
151	2	4	4	4					
119	0	0	0	0	0				0
188	0	1	1	1		2	2		0
133	1	0	0	0					1
91	0	0	0	0					0
163	1	1	2	1					2
161	0	1	1	1		0	0		0
131	0	0	0	0					0
116	1	1	1	1		0			1

193	1	1	1	1		2	4		
126	0	0	0	0					0
85	0	0	0	0					0
202	0	0	0						0
178	0	0	0	0		0			0
149	1	1	0	0					1
130	0	4							0
145	0	0	1	1					1
135	3	4	4						
83	0	0	0	0		0			0
173	0	2	2	1		0			0
148	1	2	2	1		2			1
184	0	0	0	0					0
98	0	0	0	0		0			0
207	0	0	0	0					0
76	1	1	1	1				1	1
73	1	2	2	2				1	
211	0	0	0	0					0
122	2	1	0	0	0				1
96	0	0	0	0	0	0			0
105	0	0	0	0					0
90	0	0	0	0		0			0
160	0	0	0	0					0
123	0	0	1	2	2	1	0	0	0
194	0	0	0	0					0
143	1	2	3	2		1			1
175	0	0	0	0					0
117	1	2	2	1		0			2
79	4								4
192	0	1	0	0		0			0
109	2	4	4	4					
54	0	0	0	0		0			0
196	0	0	0	0					0
53	0	1	1	2		2	2	3	0
75	0	0	0	0					0
66	0	0	0	0					0
72	0	0	0	0					0
65	0	0	0	0					0
107	0	2	2	2	2	2			0
198	0	0	0	0					0
159	2	3	3	3					2
118	0	0	0	0					0
110	0	0	0	0					0
111	0	0	0	0					0
84	1	1	1	1				3	1
136	0	0	0	0					0

180	2	0	0	0						0
206		0	0	0						
215	0	0	0	0	0	0	0	0		0
101	0	0	0	0						0
26	1	1	1	1						1
33	0	1	2	2		1				0
37	0	0	0	0						0
38	1	1	2	1		1				
121	0	0	0	0						0
164	0	0	0	0						0
174	0	0	0	0						0
205	0	0	0	0						0
36	1	2	2	2		1	0	0		1
39	0	0	0	0						0
82	0	0	0	0						0

Trübung - Tier 6 - 48 Stunden									
Größe - Tier 1 - 48 Stunden									
Tr2-24	**Tr2-48**	**Tr2-72**	**Tr2-96**	**Tr2-7d**	**Tr2-14d**	**Tr2-21d**	**Tr3-1**	**Tr3-24**	**Tr3-48**
0	0	0					0	0	0
1	0	0		0			1	1	0
2	2	2					4	4	4
2	2	1		0			0	0	0
1	1	1		1	0	0	1	1	1
0	0	0						0	0
1	1	1	1				0	1	1
0	0	0					0	0	0
0	0	0					1	0	0
2	1	1					0	0	0
3	3	1		1			1	2	1
1	1	1					2	3	2
4	4	4					4	4	4
0	0	0		0				0	0
1	1	1		1			2	2	2
2	2	2		2			1	1	1
1	1	1		0			0	0	0
1	2	2		2			1	1	1
1	1	0		0			1	1	1
1	1	1		1	1	2	0	1	1
0	0	0		0			0	0	0
2	2	3					2	2	2
0	0	0					1	0	0
0	0	0					0	0	0
1	1	1		1	1	1	0	1	1
0	0	0					0	0	0
0	0	0					0	0	0
1	1	0		0			0	1	1
1	1	1		0	0	0	0	1	1
0	0	0					0	0	0
1	1	1					1	0	0
1	1	1		1	1	2	0	1	1
0	0	0					0	0	0
2	2	2		0			0	0	0

2	2	2					2	2	2
0	0	0					0	0	0
0	0	0		0			0	1	1
1	1	1					0	0	0
0	0	0		0			0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
3	3	3					2	3	2
3	4	4					3	3	3
0	0	0					0	0	0
1	1	2					1	1	1
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
3	3	3					3	3	3
4	4	4					4	4	4
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1				2	1	1	1
0	0	0					0	0	0
0	0	0					0	0	0
1	2	2					1	1	1
3	3	3					2	3	2
0	0	0					0	0	0
1	2	2		0			0	0	0
1	2	1			0		1	0	0
1	1	1		1	2		1	1	1
0	0	0					0	0	0
0	0	0					0	0	0
1	0	0					1	1	1
1	2	1					1	1	1
2	2	1					1	2	1
0	0	0					0	0	0
0	0	0	0				1	0	0
1	1	1		1	2		1	1	1
0	0	0					1	0	0
0	0	0					0	0	0
2	2	2					0	1	1
1	0	0		0	0		0	1	1
0	0	0					0	0	0
1	2	2		0			1	1	1

0	0	0					0	0	0
0	0	0					0	0	0
0	0						0	0	0
1	0	0		0			0	1	1
1	0	0					1	0	0
4							0	4	
1	1	1					0	1	1
0	0	0		0			0	0	0
0	1	1		0			0	0	1
2	2	2		3			1	2	2
0	0	0					0	0	0
0	0	0		0			0	1	1
0	0	0					0	0	0
1	1	1				0	1	1	1
0	0	0					0	0	0
0	0	0	0				1	1	0
0	0	0	0	0			0	0	0
0	0	0					0	0	0
0	0	0		0			0	0	0
0	0	0					0	0	0
1	1	1	1	1	0	0	0	1	2
0	0	0					0	0	0
2	2	2		0			1	2	2
0	0	0					0	0	0
2	2	2		3			1	2	2
							4		
0	0	0		0			0	0	0
0	0	0		0			0	0	0
0	0	0					0	0	0
1	1	1		0	0	0	0	1	1
1	1	1					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
2	2	2	2	*			0	1	2
0	0	0					0	0	0
1	2	2					2	1	1
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1				2	1	1	1
0	0	0					0	0	0

0	0	0					0	0	0
0	0	0						0	0
1	1	1	1	1	0	0	0	1	1
0	0	0					0	0	0
2	1	1					1	2	2
2	2	2		1			0	1	1
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	2	2		2	0	0	1	1	2
0	0	0					0	0	0
0	0	0					0	0	0

Tr3-72	Tr3-96	Tr3-7d	Tr3-14d	Tr3-21d	Tr4-1	Tr4-24	Tr4-48	Tr4-72	Tr4-96
0					0	0	0	0	
0		0							
4									
0		0							
1		2	3	3					
0						0	0	0	
1	1								
0					0	0	0	0	
0									
0									
1		0							
2									
4									
0		0				0	0	0	
2		0							
2		2							
0									
2		2							
0		0							
1		2	2	2					
0		0							
3									
0									
0									
1		1	1	1					
0					0	0	0	0	
0					0	0	0	0	
1		0							
1		0	0	0					
0					0	0	0	0	
0									
1		0	0	0					
0					0	0	0	0	
0		0							

2										
0										
1		0								
0										
0		0								
0										
0										
2										
3										
0										
2										
0										
0										
0										
3										
4										
0										
0										
0										
0										
1				2	1	1	1	1		
0					0	0	0	0		
0										
2										
2										
0										
0		0								
0			0							
1		2	2							
0										
0										
0										
0										
1										
0										
0	0				0	0	0	0	0	
1		1	2							
0										
0										
1										
2		3	2							
0										
2		0								

0									
0									
					0	0	0		
1		0							
0									
1									
0		0			0	0	0	0	
1		0							
2		3							
0									
1		0							
0									
1				0					
0									
0	0				2	0	0	0	0
0	0	0			1	0	0	0	0
0					0	0	0	0	
0		0			0	0	0	0	
0									
2	2	2	3	4					
0					0	0	0	0	
2		0							
0									
1		0							
0			0						
0		0			0	0	0	0	
0					0	0	0	0	
1		1	1	1	0	1	1	2	
0									
0									
0									
0									
2	2	2							
0									
1									
0					0	0	0	0	
0					0	0	0	0	
0					0	0	0	0	
1				2	1	1	1	2	
0									

0									
0						0	0	0	
1	1	1	0	0					
0									
2									
3		3							
0									
0									
0									
0									
0					0	0	0	0	
2		2	0	0					
0									
0					0	0	0	0	

Tr4-7d	Tr4-14d	Tr4-21d	Tr5-1	Tr5-24	Tr5-48	Tr5-72	Tr5-7d	Tr6-1	Tr6-24
0				0	0	0	0		0

		1							

0			0	0	0	0	0	0	0
0									
0									
0			0	0	0	0	0	0	0
			0	0	0	0		0	0
2	2	3							
		3							

			0	0	0	0			0
			0	0	0	0		0	0

Tr6-48	Tr6-72	Tr6-7d	G1-1	G1-24	G1-48	G1-72	G1-96	G1-7d	G1-14d
			3	3	2	2			
			0	4	4	4		0	0
			0	2	1	0	0		
			1	0	0	0			
			0	0	0	0			
			0	1	0	2		1	
			2	2	1	0			
0	0	0		0	0	0		0	
			0	2	4	2		2	2
			4	4	4	4			
			4	1	1	0			
			0	2	4	4		2	1
			0	2	2	2		1	0
			0	0	0	0			
			0	2	2	1		0	0

			4	4	4	4		4	4
			4	4	4	4			
			0	2	0	0		0	
			0	0	0	0			
			x	x	4	4			
			0	0	0	0			
			2	0	0	0			
			4	4	4	4			
			4	4	4	4			
			0	0	0	0			
			0	0	0	0			
			0	0	0	0			
			4	4	4	4			
			4	4	4	4			
			0	0	0	0			
			0	0	0	0			
			0	4	4	4			
			4	4	4	4		2	0
			0	0	0	0			
			2	2	2	1			
			2	2	1	1			
			0	0	0	0			
			3	2	2	2			
			0	3	4	2		2	1
			1	0	0	0			
			4	4	4	4			
			0	1	1	1		0	0
			0	0	0	0			

			4	3	3	3		2	1
			2	2	0	0			
			0	0	2	1			
0	0	0							
			0	0	0	0		0	
			0	0	0	0			
			0	0	0	0			
			0	0	2	2	2		
			4						
			0	1	0	0		0	
			4	2	2	2			
0	0	0	0	0	0	0		0	
0	0		0	0	0	0			
			0	3	3	3		3	3
			0	0	0	0			
			0	0	0	0			
			0	0	0	0			
			0	0	0	0			
			0	4	4	4	4	4	
			0	0	0	0			
			4	4	4	4			

			4	0	0	0			
0	0			0	0	0			
			0	0	0	0	0	0	0
			4	4	4	4			
			0	0	0	0			
0	0								

G1-21d	G2-1	G2-24	G2-48	G2-72	G2-96	G2-7d	G2-14d	G2-21d	G3-1
	2	3	3	3					3
0	0	4	4	3		2	0	0	1
	0	1	1	1	1				0
	1	0	0	0					1
	3	2	1	1					0
	2	2	1	1					2
		0	0	0		0			
2	0	2	4	4		2	2	1	0
	3	3	3	3					4
	1	0	0	0					4
1	0	3	4	4		4	1	1	0
0	0	2	2	1		0	0	0	0
	0	2	2	1					1
0	0	2	2	2		2	2	2	0

	3	4	3	3					3
	0	0	0	0		0			0
	0	1	1	1					0
	0	0	0	0					0
	2	2	3	3					2
	4	4	4	4					4
	4	4	4	4					4
	0	0	0	0					0
	0	0	0	0					0
	0	0	0	0					
	4	4	4	4					4
	4	4	4	4					4
	0	0	0	0					0
	0	0	0	0					0
	4	4	4	4					4
	4	4	4	4		3	2		4
	4	4	0	0					4
	1	1	2	2					1
	2	3	2	2					2
	0	0	0	0					0
	0	2	4	4		2	1		2
	1	0	0	0					1
	4	4	4	4					0
	0	1	0	0		0	0		0
	0	0	0	0					0

	2	2	0	0					2
	3	2	2	2					0
	0	0	0	0		0			0
	0	0	0	0					0
	0	0	0	0					0
	0	2	2	2	3				0
	4								4
	0	0	0	0		0			0
	0	0	0	0		0			0
	0	0	0	0					0
3	0	2	2	1		0	0	0	0
	0	4	4	4					0
	0	0	0	0					0
	0	0	0	0					0
	0	0	0	0					0
	0	4	4	4	4	*			0
	0	0	0	0					0
	4	4	4	4					4

	0	0	0	0					0
		0	0	0					
0	0	4	4	4	3	1	0	0	0
	4	4	4	4					4
	0	0	0	0					0

G3-24	G3-48	G3-72	G3-96	G3-7d	G3-14d	G3-21d	G4-1	G4-24	G4-48
4	4	4							
4	4	4		3	2	2			
2	2	1	1						
0	0	0							
0	0	0							
3	2	2							
0	0	0		0				0	0
2	4	4		2	1	2			
4	4	4							
0	0	0							
2	4	4		2	1	1			
4	4	2		0	0	0			
0	0	0							
2	2	1		0	0	0			

4	4	3							
3	2	1		0					
0	0	0							
0	0	0							
3	3	3							
4	4	4							
4	4	4							
0	0	0							
0	0	0							
4	4	4							
4	4	4							
0	0	0							
0	0	0							
4	4	4							
4	3	4		4	3				
4	4	0							
1	1	0							
2	1	1							
0	0	0							
3	4	4		3	1				
0	0	0							
4	4	4							
3	3	2		2	2				
0	0	0							

0	0	0							
3	3	3							
1	1	1		0					
0	0	0							
0	0	0							
4	2	2	3						
0	0	0		0					
0	0	0		0			0	0	0
0	0	0					0	0	0
3	2	2		2	1	1	0	4	4
0	0	0							
0	0	0							
0	0	0							
0	0	0							
3	4	4	4	4					
0	0	0							
4	4	4							

0	0	0							
0	0	0						0	0
4	4	2	1	0	0	0			
4	4	4							
0	0	0							

G4-72	G4-7d	G4-14d	G4-21d	G5-1	G5-24	G5-48	G5-72	G5-7d	G6-1
0	0				0	0	0	0	

0	0			0	0	0	0	0	0
0				0	0	0	0		0
4	4	4	4						

0				0	0	0	0		

G6-24	G6-48	G6-72	G6-7d
0	0	0	0

0	0	0	0
0	0	0	

0	0	0	

Draize - Urliste			**IRIS**						
Iris	iris Tier 1 - 72 Stunden								
Code	i1-1	i1-24	i1-48	i1-72	i1-96	i1-7d	i1-14d	i1-21d	i2-1
100	0	0	0	0					0
120	0	0	0	0		0			1
124	0	0	0	0					0
186	1	1	1	0		0			1
208	0	0	1	1		0	0	0	0
179		0	0	0					
58	0	0	0	0	0				0
166	0	0	0	0					0
170	0	0	0	0					0
153	0	0	0	0					0
137	1	1	1	1		0			1
134	1	1	0	1		0			
138	0	1	0	0					0
87	1	1	1	1					1
203		0	0	0		0			
108	1	1	1	1		0			1
182	1	1	1	1		0			1
128	1	1	0	0		0			0
132	1	1	1	+		+			1
187	1	1	1	0		0			1
197	0	0	0	0		0	0	0	0
214	0	0	0	0		0			0
168	x	x	x	x					1
171	0	0	0	0					0
154	1	1	1	1					
150	0	0	0	0					0
204	0	0	0	0		0	0	0	0
103	0	0	0	0					0
89	0	0	0	0					0
165	1	1	1	0					1
195	0	1	1	1		1	1	1	0
102	0	0	0	0					0
156	0	0	0	0					0
201	0	0	0	0		0	0	0	0
86	0	0	0	0					0
127	0	1	1	1		0			0

199	1	1	1	1		1	2		
172	1	1	1	1					1
70	0	0	0	0					0
115	0	1	0	0		0			0
142	0	0	0	0					0
92	x	x	x	x					
139	0	1	1	1		1			0
209	0	0	0	0					0
104	0	0	0	0					0
144	0	0	0	0					0
129	1	x	x	x					1
56	0	0	0	0					0
158	0	1	1	x					0
176	0	0	0	0					0
162	0	0	0	0					0
106	0	0	0	0					0
157	1	1	1	1					1
167	x	x	x	x					x
93	0	0	0	0					0
69	0	0	0	0					0
57	0	0	0	0					0
177	0	0	0	0					0
94	0	0	0	0				0	0
95	0	0	0	0					0
99	0	1	0	0					0
88	0	1	0	0					0
169	0	1	1	0					1
185	0	0	0	0					0
141	0	1	0	0		0			1
155	0	1	1	1	0				1
191	0	0	0	0		0	0		0
152	0	0	0	0					0
213	0	0	0	0					0
125	0	1	1	1					0
140	0	0	0	0					0
146	0	0	0	0					0
113	0	0	0	0					0
151	0	1	1	1					
119	0	0	0	0	0				0
188	0	0	0	1		1	0		0
133	1	0	0	0					0
91	0	0	0	0					0
163	0	1	0	0					0
161	0	1	0	0		0	0		0
131	0	0	0	0					0
116	1	1	1	1		0			1

193	0	0	0	1		0	*		
126	0	0	0	0					0
85	0	0	0	0					0
202	0	0	0						0
178	0	0	0	0		0			1
149	1	1	0	0					1
130	1	x							1
145	0	0	0	0					0
135	1	x	x						
83	1	1	1	1		0			0
173	1	1	1	0		0			1
148	1	1	1	1		1			0
184	0	0	0	0					0
98	0	1	0	0		0			0
207	0	0	0	0					0
76	0	0	0	0				0	0
73	0	1	1	1				0	
211	0	0	0	0					0
122	0	0	0	0	0				0
96	0	0	0	0	0	0			0
105	0	0	0	0					0
90	0	0	0	0		0			0
160	0	0	0	0					0
123	0	0	0	1	1	1	0	0	0
194	0	0	0	0					0
143	1	1	1	1		0			1
175	0	0	0	0					0
117	1	1	1	0		0			1
79	x								x
192	0	0	0	0		0			0
109	1	1	1	1					
54	0	0	0	0		0			0
196	0	0	0	0					0
53	0	1	1	1		1			0
75	0	0	0	0					0
66	0	0	0	0					0
72	0	0	0	0					0
65	0	0	0	0					0
107	0	1	1	0	0	0			1
198	0	0	0	0					0
159	1	1	1	1					1
118	0	0	0	0					0
110	0	0	0	0					0
111	0	0	0	0					0
84	0	0	1	1				2	0
136	0	0	0	0					0

180	0	1	0	0					0
206		0	0	0					
215	0	1	0	0	0	0	0	0	0
101	0	0	0	0					0
26	0	1	1	1					0
33	0	1	1	1		1			1
37	0	0	0	0					1
38	1	1	1	1		0			
121	0	0	0	0					0
164	0	0	0	0					0
174	0	0	0	0					0
205	0	0	0	0					0
36	1	1	1	1		0	0	0	1
39	0	0	0	0					0
82	0	0	0	0					0

i2-24	i2-48	i2-72	i2-96	i2-7d	i2-14d	i2-21d	i3-1	i3-24	i3-48
0	0	0					0	0	0
1	0	0		0			1	1	0
0	0	0					0	0	0
2	1	0		0			0	0	0
0	0	0		0	0	0	0	0	1
0	0	0						0	0
0	0	0	0				0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1		0			1	1	1
1	1	1					1	1	1
1	1	1					1	1	1
0	0	0		0				0	0
1	0	0		0			1	1	1
1	1	1		0			1	1	1
1	0	0		0			0	0	0
1	1	1		1			1	1	1
1	1	0		0			1	1	0
0	0	0		0	0	0	0	0	0
0	0	0		0			0	0	0
1	1	1					1	1	1
0	0	0					0	0	0
0	0	0					0	1	0
1	1	1		1	0	0	0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	0	0		0			1	1	1
0	0	0		0	0	0	0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0		0	0	0	0	0	0
0	0	0					0	0	0
1	1	1		0			0	1	0

1	1	1					1	1	1
0	0	0					0	0	0
1	0	0		0			0	1	0
0	0	0					0	0	0
0	0	0		0			0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1					0	1	1
x	x	x					1	1	1
0	0	0					0	0	0
1	1	1					0	1	1
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1					1	1	1
x	x	x					x	x	x
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0				1	0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	0					1	1	1
1	1	1					1	1	1
0	0	0					0	0	0
1	1	1		0			0	0	0
0	0	0	0				0	0	0
0	0	0		0	0		0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					1	1	1
1	1	1					0	0	0
1	1	1					0	0	0
0	0	0					0	0	0
0	0	0	0				0	0	0
0	0	0		0	0		0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1					0	1	1
0	0	0		0	0		0	1	1
0	0	0					0	0	0
1	1	1		0			1	1	1

0	0	0					0	0	0
0	0	0					0	0	0
0	0						0	0	0
0	0	0		0			0	0	0
1	0	0					1	0	0
x							1	x	
1	1	0					0	1	1
1	1	1		0			0	1	1
1	0	0		0			1	1	1
1	1	1		1			1	1	1
0	0	0					0	0	0
1	0	0		0			1	1	1
0	0	0					0	0	0
0	0	0				0	0	1	1
0	0	0					0	0	0
0	0	0	0				1	0	0
0	0	0	0	0			0	0	0
0	0	0					0	0	0
0	0	0		0			0	0	0
0	0	0					0	0	0
0	1	1	1	*	0	0	0	1	1
0	0	0					0	0	0
1	1	1		0			1	1	1
0	0	0					0	0	0
1	1	1		1			1	1	1
							x		
0	0	0		0			0	0	0
0	0	0		0			0	0	0
0	0	0					0	0	0
1	1	0		0			0	1	1
1	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	0	0	0	*			0	1	0
0	0	0					0	0	0
0	1	1					1	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1				1	0	1	1
0	0	0					0	0	0

0	0	0					0	0	0
0	0	0						0	0
1	1	0	0	0	0	0	0	0	0
0	0	0					0	0	0
1	1	0					0	1	1
1	1	1		1			1	1	1
1	0	0					1	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
0	0	0					0	0	0
1	1	1		0	0	0	1	1	1
0	0	0					0	0	0
0	0	0					0	0	0

i3-72	i3-96	i3-7d	i3-14d	i3-21d	i4-1	i4-24	i4-48	i4-72	i4-96
0					0	0	0	0	
0		0							
0									
0		0							
1		1	1	0					
0									
1	1								
0					0	0	0	0	
0									
0									
1		0							
1									
1									
0		0				0	0	0	
1		0							
1		0							
0		0							
1		0							
0		0							
0		1	1	0					
0		0							
1									
0									
0									
0		0	0	0					
0					0	0	0	0	
0					0	0	0	0	
0		0							
0		0	0	0					
0					0	0	0	0	
0									
0		0	0	0					
0					0	0	0	0	
0		0							

1									
0									
0		0							
0									
0		0							
0									
0									
1									
1									
0									
1									
0									
0									
0									
1									
x									
0									
0									
0									
0									
0				1	0	0	1	2	
0					0	0	0	0	
0									
1									
1									
0									
0		0							
0	0								
0		0	0						
0									
0									
0									
0									
0									
0									
0	0				0	0	0	0	0
0		0	0						
0									
0									
0									
1		1	0						
0									
1		0							

0									
0									
					0	0	0		
1		0							
0									
0									
1		0			0	0	0	0	
1		0							
1		1							
0									
0		0							
0									
1				0					
0									
0	0				1	0	0	0	0
0	0	0			0	0	0	0	0
0					0	0	0	0	
0		0			0	0	0	0	
0									
1	1	*	0	*					
0					0	0	0	0	
1		1							
0									
1		0							
0		0							
0		0			0	0	0	0	
0					0	0	0	0	
1		0			0	1	1	1	
0									
0									
0									
0									
0	0	0							
0									
0									
0					0	0	0	0	
0					0	0	0	0	
0					0	0	0	0	
0				1	0	0	1	1	
0									

0									
0						0	0	0	
0	1	1	0	0					
0									
1									
1		1							
0									
0									
0									
0									
0					0	0	0	0	
1		0	0	0					
0									
0					0	0	0	0	

i4-7d	i4-21d	i5-1	i5-24	i5-48	i5-72	i5-7d	i6-1	i6-24	i6-48
0			0	0	0	0		0	0

	0								

0		0	0	0	0	0	0	0	0
0									
0									
0		0	0	0	0	0	0	0	0
		0	0	0	0		0	0	0
2									
	2								

			0	0	0			0	0
		0	0	0	0		0	0	0

i6-72	i6-7d
0	0

0	0
0	0
0	

0	
0	

				Phys.-chem. Eigsch.											
			Lösl	pH-We	pH-Wert							HET-CAM-Daten LABOR1:			
Codenr	**Su**	**Cas-Nr.**	**[g/l**	**origi**	**Cytl**	**Lab**	**Lab**	**Vel**	**RS[%]1**	**RI10%**	**RI100**	**Absp**	**Abspü**	**Bemerkun**	**Einstu**
3	Et	64-17-5	misc	7		RV	RV		10	5.2	17				
4	Ph	108-95-2	80	4		RV	RV		0.5	15.6	15.8				
5	Py	110-86-1	misc	8.5		RV	RV	Öl	1.25	15.6	12.7				
6	To	108-88-3	0.5	4		RV	RV	Öl	1	5.4	17.8				
7	Pr	57-55-6	misc	k.A.		RV	RV		10	7.2	16				
8	Ph	85-44-9	6.4	2.5		RV	RV		>Löslic	5.7	2.6	H2;L0,3;K2		10%:ges.	
9	Al	107-18-6	misc	k.A.		RV	RV		2	11.9	17.5				
10	DE	117-81-7	0.1	7		RV	RV	Öl	>100	1.4	2.4				
12	Te	127-18-4	0.2	k.A.		RV	RV	Öl	5	3.6	15.6				
13	Ac	67-64-1	misc	k.A.		RV	RV		10	6.2	19.1				
14	An	62-53-3	0.3	k.A.		RV	RV	Öl	5	13.2	15.3				
15	Be	65-85-0	1.5	3		RV	RV		0.34	7.9	7.7	H2;L0;K3		10%:ges.	
16	Al	21645-51	unlö	7.5		RV	RV		>Löslic	9.6	0.7	H0;L0;K1		10%:ges.	
17	Cy	108-93-0	36	k.A.		RV	RV	Öl	2.5	16.5	19.5				
18	n-	110-54-3	0	k.A.		RV	RV	Öl	>100	3.4	10.9				
19	Ni	98-95-3	2	7		RV	RV		25	3.2	13.4				
20	Na	7647-14-	358	7.5		RV	RV		5	12.4	14.7				
21	Sa	69-72-7	1.8	3.6		RV	RV		0.11	9.3	6.2	H2;L1;K3		10%:ges.	
22	Th	62-56-6	136	k.A.		RV	RV		4.5	13.3	13.1	H3;L0;K3			
23	As	50-81-7	330	2.2		RV	RV		5	10.5	10.4				
24	Ac	75-05-8	misc	k.A.		RV	RV		5	10.9	19.7				
25	Be	8001-54-	lösl	k.A.		RV	RV		0.005	19.6	17.3				
26	Ni	98-92-0	585	7		RV	RV		5	9.6	11.7				
27	Ku	7758-98-	203	3.5		RV	RV		0.5	17.2	2.7	H0;L2;K1			
28	Zi	7772-99-	k.A.	k.A.		RV	RV		0.1	14.3	7.5				
29	Ac	79-06-1	lösl	k.A.		RV	RV		5	10.4	8.1				
31	Gl	56-86-0	7.5	3.3		RV	RV		>Löslic	8.8	2.2	H1;L0;K1		10%:ges.	
32	Mi	79-33-4	misc	2		RV	RV		2.5	17.6	19.6				
33	Arcopal		lösl	7		RV	RV		1.25	11	13.4				
34	ED	13235-36	100	11		RV	RV		0.625	15	4.7				
36	Kuppler 43		lösl	7		RV	RV		5	11.5	12.6				
37	Hoe T 3761		lösl	5.5		RV	RV		>100	4.5	11.5				
38	Remolgan		misc	7		RV	RV		0.5	14.2	15.7				
39	Ge	68139-91	unlö	k.A.		RV	RV	Öl	5	8.5	9.5				
51	Po	25322-68	750	k.A	8.4	MD	WA		100	1	6.6				nicht
52	Et	141-78-6	79	k.A.	7.6	AP	MD	Öl	5	7.4	16.1				mäßig
ncyt52	Et	141-78-6	79	k.A.		BG									
53	Sept		lösl	3	8.3	BD	HK		10	4	15.9				mäßig
54	RK Blau		100	2.6	7.9	HK	MD		>löslic	4	n.m	n.m.		Farbe	nicht
55	Et	78-93-3	290	4	7.9	AP	MD		5	9.8	18.4				mäßig
56	Gl		unlö	k.A.	8.3	HO	MD	Öl	100	1.8	3.5				nicht
57	Hypo 36		misc	7	7.5	AP	WA	Öl	10	4	15.9				nicht
58	al	4501-58-	< 2,	2.3	8	AP	BG	Öl	20	2.3	14.7				nicht
59	Tr	71-55-6	1	k.A.	8.3	MD	WA	Öl	10	3.7	17.6				mäßig
60	N,	127-19-5	lösl	4.7	8.2	HK	HO		4	16.5	20				reizen
61	Gl	56-81-5	lösl	5	8.4	BG	HK		3.3	8.6	14				mäßig

62	Es	64-19-7	lösl	2.5	5.1	AP	BD		0.25	19.8	20.5				st.rei
63	An	84-65-1	unlö	k.A.	8.2	BD	WA		n.m.	0.9	0	H0;K0;L0		10%:ges.	nicht
64	St	100-42-5	0.2	k.A.	7.8	AP	WA	Öl	10	2.9	13.4				nicht
65	Si	41453-78	lösl	k.A.	7.9	HO	WA	Öl	80	0.1	2.3				nicht
66	Si	3069-40-	unlö	k.A.	8.2	BG	HO	Öl	40	2.1	10				nicht
67	Si	7761-88-	###	5.4	8	BG	HO	ad	0.1	12.1	12.4	K3	fehlt?		st.rei
68	Te	97-99-4	lösl	k.A	7.7	BD	MD		5	11.7	13.1				mäßig
69	Hypo 20		misc	6.5	8.2	BG	HO	Öl	7.5	7.2	8.9				mäßig
70	Ede 140		unlö	k.A.	8.2	BD	WA	Öl	100	3.4	4.6				nicht
71	He	77-47-4	unlö	k.A.	8.2	BD	WA	Öl	12.5	3.1	n.m.			Problem	nicht
72	Si	29055-11	unlö	k.A.	7.8	HO	WA	Öl	100	0.7	4.1				nicht
73	Olak		lösl	8.3	7.9	HK	MD		0.25	18.9	19.5				st.rei
74	Tr	102-82-9	0.6	> 7	8.7	BD	BG	Öl	7.5	5.3	8.3				mäßig
ncyt74	Tr	102-82-9	0.6	> 7		BG									
75	Si	1067-25-	schl	k.A.	7.5	AP	BD	Öl	10	3.9	13.7				mäßig
ncyt75	Si	1067-25-	schl	k.A.		BG									
76	Ölesulf		lösl	8	8.3	BD	HK		0.75	16.9	18.9				st.rei
77	Ac	50-78-2	2.5	k.A.	7.4	AP	BG		0.25	9.35	n.m.	K2			st. re
78	2,	110-13-4	lösl	k.A.	7.9	HK	HO		4	18.8	19.8				reizen
79	Pr	93-69-6	40	11.5	8.5	AP	MD		0.1	17.1	4.7	H3;K	H2;K0	10%:ges.	st.rei
80	2-	67-63-0	lösl	7	8.2	HK	HO		6	18.3	20.5				reizen
81	Ni	108-03-2	14	6	7.7	BG	HK	Öl	5	4.8	14				mäßig
82	Ethiosan		5	8.5	8.1	AP	WA		>lösli	3.8	n.m.	H1		10%:ges.	nicht
83	Na	3088-31-	lösl	8	7.9	BG	MD		0.5	10.5	17.9				st.rei
84	Tocla		40	6	8	BD	HK		0.1	12.9	13.5				st.rei
85	Me	112-35-6	misc	7	7.9	BD	HO		1.25	4.9	12.5				
86	2-	53012-41	unlö	5	8.1	HK	WA	Öl	0.3	18.9	19.3				
nhet86	2-	53012-41	unlö	5	8.1	BG		Öl	37.5	0.75	4.1				
87	p-	2494-89-	lösl	7	7.9	AP	HK		0.5	18	10.4	H2;K	H2;K2	10%:ges.	st.rei
88	Hyton		lösl	8.5	8	AP	BG		0.25	17	18.6				st.rei
89	Co	8002-85-	400	7	8	BG	WA		5	7.4	16				mäßig
90	Phosphonat		3.6	2.1	7.9	AP	BG		5	6.8	3.5	H2;K1;L1			mäßig
91	Mecre		disp	7	7.8	HK	MD		>lösli	n.m.	n.m.	H1,K1,L1		trüb.Emu	nicht
92	Et	922-63-4	15	3.6	8.2	BD	BG		1	n.m.	13.2			10%:ges.	unklar
93	2-	135-37-5	k.A.	10.6	8.7	AP	HO		1.25	13.4	15.5				reizen
94	Hydo 98		lösl	6.5	7.9	BD	MD		0.5	10.4	11.2				st.rei
95	Hypo 45		misc	7	7.9	BD	WA	Öl	0.25	11.1	4.4				nicht
nhet95	Hypo 45		misc	7		BG			30	1.9	11.9				
96	(-	59-42-7	1	9	8.5	BG	MD	Öl	0.075	11.6	5.8	H3;L1			st. re
97	ED	60-00-4	0.5	2.5	7.5	BG	WA		>lösli	0	0	H0;K0;L0		10%:ges.	nicht
98	p-	62-23-7	0.2	k.A.	5.5	HK	MD		n.m.	17.5	n.m	H1;K1;L1		10%:ges.	???
nhet98	p-	62-23-7	0.2	k.A.		BG			>Lösli	0.1	0			10%:ges.	
99	Hypo 54		lösl	6.5	8.4	BG	HO		80	4.3	4.1				nicht
100	Pi	18833-13	625	5	7.7	HK	WA		2.5	18.5	15.3				*nicht
nhet10	Pi	18833-13	625	5		BG			20	2.9	9				*nicht
101	Xa	437-74-1	250	6	7.7	HK	WA	Öl	5	11.3	17.4				mäßig
102	3-	35086-59	unlö	5.1	7.5	HO	MD	Öl	5	4	n.m.	H2;K1			mäßig
103	Co	8000-95-	500	7	8.2	BD	WA		0.55	4.6	7.4	H3;K	H3;K1;L0		*mäßig
nhet10	Co	8000-95-	500	7		BG			5	6.6	14				

104	Ge	115-96-8	5	6	8	HO	WA	Öl	5	9.2	11.6				mäßig
105	Ph	61-76-7	###	7	7.8	AP	HK		5	8.6	18.3				reizen
106	1,	106-69-4	k.A.	4.5	8.1	HK	HO		5	11.5	18.8				mäßig
107	Si	18784-74	unlö	<7	7.8	BD	MD	Öl	10	3	9.9				mäßig
108	Bu	9004-77-	###	6	7.8	AP	WA		0.75	10.9	19.3			trübe	st rei
109	be	89-86-1	8	2.9	6.6	HK	HO		0.25	18.9	12.1	L1		10%:ges.	st. re
110	Th	8002-89-	50	11	9.2	AP	HO		1.6	13.4	6.9	H3;K	H2;K0	10%:ges.	reizen
111	Th	3485-82-	60	10	9	BD	BG		3.75	4.3	4	H3;K	H2	10%:ges.	mäßig
112	1,	285-67-6	k.A.	k.A.	8.3	HK	MD		3	20	20				reizen
113	Ka	56780-58	unlö	10	8.4	BG	MD	Öl	7.5	5.4	2			10%:ges.	mäßig
114	Ni	88-74-4	schl	k.A.	7.6	BD	MD	Öl	3.75	4	3	H3;K	H3;K0	10%:ges.	reizen
115	1,	286-62-4	<2,5	4.5	7.7	AP	MD	Öl	10	3.1	7	H3;K	H3;K0;L2		mäß/re
116	Me	79-20-9	250	7	7.9	BD	HO		5	4.4	19.8				reizen
117	Po	7397-62-	80	7	7.7	AP	HO	Öl	3.75	16.5	19.4				reizen
118	Th	83-67-0	0.3	7.5	8	HO	MD		>100	0	0	H0,K0,L0		10%:ges.	nicht
119	al	4511-42-	lösl	3	6	AP	BG		0.25	13.5	4	H2,K1,L2		10%:ges.	st.rei
nhet11	al	4511-42-	lösl	3		BG			1.25	10.5	6.6	H2;K1;L0		10%:ges.	
120	Ac	542-08-5	unlö	k.A.	8	BD	WA	Öl	7.5	4.7	11.2				mäßig
121	Hnol		unlö	k.A.	8	AP	WA	Öl	60	0.8	2.1				nicht
122	(+	614-03-9	1	8.5	8.7	HK	HO		0.25	17.9	12.2			10%:ges.	st.rei
123	Polyhexamet		lösl	7.1	8	BD	BG		1.25	9.2	15.5				reizen
124	n-	1115-47-	83	2.2	4	MD	WA		0.25	13.6	n.m	H3;K	H2;K2	10%:ges.	st.rei
125	Ka	590-28-3	750	10	7.9	AP	MD		0.94	18.8	19.4				st.rei
126	Me	9004-74-	misc	7	8.3	BD	BG		10	4.1	12.6				nicht
127	m-	99-65-0	0.5	7	8.3	BD	HK		>lösli	4.2	3.5			10%:ges.	nicht
nhet12	m-	99-65-0	0.5	7		BG			>lösli	3.65	1			10%:ges.	
128	n-	123-72-8	71	<7	6.6	HK	HO	Öl	4	1.2	20.3			10%:ges.	mäßig
129	al	328-50-7	###	1.75	4.9	AP	BG		0.5	19.1	19.8				st.rei
130	Na	13870-28	3.5	11.4	9.5	BG	HK		0.375	19.7	18.2			10%:ges.	st.rei
131	m-	591-31-1	schl	k.A.	8	BD	MD	Öl	20	2.2	11.6				nicht
132	n-	71-36-3	79	7	8.2	BD	HK	Öl	1.87	9.6	13				reizen
133	L-	39665-12	###	10	9.5	BD	HO		7.5	10	10.4				mäßig
134	An	100-66-3	unlö	k.A.	7.8	AP	HK	Öl	5	7.3	19.1				mäßig
135	Na	7681-38-	###	1.1	4.2	HK	WA		1	18.8	19.2				st.rei
136	Tr	25549-16	0.5	7	7.5	BG	MD	Öl	100	0.8	14.1				nicht
137	p-	104-94-9	21	8.8	8.1	AP	BD		0.9	13.4	9.5	H3;K	H3;K1	10%:ges.	st.rei
138	As	56-84-8	4.3	3.4	5	BD	BG		>100	0.87	0			10%:ges.	nicht
139	Et	97-96-1	10	<7	6.8	HO	WA	Öl	10	3.6	17.4				mäßig
140	Ka	14459-95	250	9.5	7.6	HK	HO		5	17.8	17.2				reizen
141	Is	78-84-2	67	<7	7.1	HK	WA	Öl	15	0	20				mäßig
142	1,	2855-19-	unlö	k.A.	7.4	HO	MD	Öl	40	4.1	8.5				nicht
143	o-	95-54-5	54	7.5	8.2	AP	BG		0.75	14.8	9.25	H3;K	H3;K1	10%:ges.	st.rei
nhet14	o-	95-54-5	54	7.5		BG			1.25	15.5	10			10%:ges.	
144	L-	138-15-8	490	0.9	4.4	HO	MD		0.5	14.2	11.7				st.rei
145	Na	140-01-2	misc	11.5	8.2	BG	WA		0.75	15.7	19.4				st.rei
146	Ka	13756-66	310	8	8.1	BD	MD		5	4.2	5.7				mäßig
147	Me	112-35-6	misc	7	7.8	AP	HO		5	11	20.4				
148	Na	7681-57-	650	4.6	6.4	AP	BD		1.9	17.4	17.7				st.rei
nhet14	Na	7681-57-	650	4.6		BG			2.5	14.6	14.5				

149	Na	917-61-3	110	10.4	7.8	MD	WA		1	14.8	8.2	H3;K	H3;K0;K0		st.rei
150	4-	1836-74-	k.A.	k.A.	8	AP	HO	Öl	n.m.	4	5.3	H2;K0;L1		10%:ges.	mäßig
151	Kr	6471-78-	3	1.5	6.7	AP	WA		0.25	14.8	14.4	H2;K	H2;K1	10%:ges.	st.rei
nhet15	Kr	6471-78-	3	1.5		BG			>Lösli	7.6	8.5	K3		10%:ges.	
152	Is	35127-50	0.1	<7	8	BG	WA	Öl	>100	0	4.5				nicht
153	Am	7727-54-	560	1.5	8.1	HO	WA		10	4.4	9.6				nicht
154	Ch	98-36-2	15	3	4.3	BG	MD		1.25	16.8	10.6			10%:ges.	st.rei
155	Is	78-83-1	80	7	7.7	HK	MD	Öl	2	17.7	20.4				st.rei
156	Di	2386-87-	unlö	k.A.	7.7	AP	MD	Öl	10	6	10				nicht
nhet15	Di	2386-87-	unlö	k.A.		BG			2.5	1.9	6			ges.RS:sus	
157	2-	80-55-7	misc	k.A.	7.7	BG	HK		6.75	15.6	19.1				reizen
158	Gr	30525-89	250	4	7.6	BD	HO		>Lösli	2.9	0				nicht
159	1,	1679-51-	unlö	k.A.	7.2	BG	HO	Öl	2.5	10.1	18.9				reizen
160	Pi	59997-51	0.6	6.5	7.8	AP	WA		>lösli	4.3	6.7	H2;K0;L1		10%:ges.	nicht
161	Me	77275-34	trüb	3	7.6	HK	HO		15	18	19.7				mäßig
162	He	100-97-0	874	8.5	7.7	MD	WA		10	4.3	11.2				mäßig
163	3-	3179-31-	85	4	7.3	HK	MD		5	18.3	n.m	H3	H2		reizen
164	Ph	103-85-5	1	5.5	8	AP	BD		>Lösli	4	3.1	H1;K0;L0		10%:ges.	nicht
ncyt16	Ph	103-85-5	1	5.5		BG									
165	1,	104-36-9	0.2	7	8.3	HO	WA	Öl	80	4.2	0	H2;K0;L0			nicht
166	Am	5634-34-	600	9	8.7	BG	MD		3.3	10.7	12.8				mäßig
167	2-	594-61-6	###	1	3.9	BD	WA		2.5	10.8	11.3				reizen
168	Ch	55-56-1	0.6	k.A.	8.2	BG	WA		>lösli	7.4	2.3			10%:ges.	nicht
169	Im	142-73-4	42	2.3	3.1	AP	BD		2	15.6	12.8	H2;K2;L1		10%:ges.	reizen
nhet16	Im	142-73-4	42	2.3		BG			>Lösli	8.4	6.9	H2;K1;L1		10%:ges.	
170	2-	108-33-8	11	5.2	8.2	BD	HK		>lösli	0	0			10%:ges.	nicht
171	Ch	3697-42-	0.6	k.A.	8.2	BG	HK		>lösli	8.5	1	problem		10%:ges.	nicht
172	1,	1119-87-	unlö	k.A.	7.6	AP	BG	Öl	1	12.1	2.3	H2;K1;L1		10%:ges.	reizen
nhet17	1,	1119-87-	unlöslich			BG			>lösli	2.54				10%:ges.	
173	Na	3926-62-	440	4.5	7.9	BD	HO		20	0	10.8				nicht
174	Rubinrot Y		172		8	AP	HO		n.m	n.m	5.3	H3;K	H3;K0	Farbe	???
175	Po	24991-55	misc	7	7.8	HO	WA		20	4.1	7.6				nicht
176	He	502-69-2	schl	k.A.	7.7	BD	BG	Öl	100	1.2	4.2				nicht
ncyt17	Hexahydrofa		schl	k.A.		BG									
177	Hoe MBF		100	4.3	8.1	BD	MD		n.m	0	0	H0;K0;L0		Farbe	nicht
178	Na	7631-90-	misc	4.5	6.7	AP	MD		2.5	12.7	20				reizen
179	TA		0	k.A.	7.9	AP	HK	Öl	45	7.6	16.2				nicht
ncyt17	TA		0	k.A.		BG									
180	Tr	110-88-3	172	k.A	8	HK	WA		7.5	9.25	18				mäßig
181	Az	123-99-9	2.4	3.4	7.9	HK	WA		20	6.9	n.m	L1		ges/trüb	nicht
182	Bu	592-35-8	1	k.A.	7.9	BD	MD	Öl	10	0	11.5			ges/trüb	nicht
nhet18	Bu	592-35-8	1	k.A.		BG			>Lösli	9.5	14.9	H3;K3;L1		10%:ges.	
183	Ga	86050-77	lösl	k.A.	3	BG	WA		75	3	3.2				nicht
184	Na	7757-83-	250	10	8.3	AP	BG		1.25	13.2	16.1	H3;K	H2;K1;L1		reizen
185	Is	125-12-2	< 1	k.A.	7.9	BD	HO	Öl	40	1.7	8.1				nicht
186	Ac	5459-04-	470	k.A.	7	BG	MD		100	0.8	0.9				nicht
187	Ca	79-92-5	unlö	7	8.6	BG	HK	Öl	75	2	4	H1;K2;L1			nicht
188	Lial-111-Gl		lösl	8.5	8	BD	HK		0.5	12.9	18.9				st.rei
189	Behydima		4.2	k.A.	7.9	AP	BD		0.04	17.4	19.6			ges/trüb	st.rei

nhet18	Behydima		4.2	k.A.		BG			0.46	14.6	17.6			ges/trüb	
190	Rigly		unlö	K.A.	9.1	HK	HO	Öl	>10	1.7	n.m	H1;K0;L1			nicht
191	Isodecylglu		gut	9	8	AP	HO		0.5	17.2	18				st.rei
192	2-Pseudojor		0.1	k.A.	7.7	HK	BG	Öl	>100	8.7	7.3				nicht
193	Me	77-75-8	lösl	k.A.	7.9	AP	BD	Öl	2.5	15.4	20.1				st.rei
194	PO 2		unlö	k.A.	7.5	AP	WA		>lösli	4.3	0.3	H0;K0;L0		10%:ges.	nicht
ncyt19	PO 2		unlö	k.A.		BG									
195	2,		k.A.	k.A.	8.3	HK	HO		5	9.2	16.6				mäßig
nhet19	2,		k.A.	k.A.		BG			5						
196	Sacyclo		unlö	k.A.	7.7	HO	MD	Öl	>100	3.4	4.4				nicht
ncyt19	Sacyclo		unlö	k.A.		BG									
197	C12/C14-Glu		gut	9	7.9	BD	HK		5	8.4	16.7				mäßig
nhet19	C12/C14-Glu		gut	9	7.7	BG			0.5	10.2	16.5				
198	Te		unlö	k.A	7.8	AP	WA		>lösli	3.9	2	H1;K0;L0		10%ges.	nicht
ncyt19	Te		unlö	k.A		BG									
199	Diphocars		lösl	k.A.	7.1	HK	HO		1.875	18.3	17.9				st.rei
200	E4		440	9.2	7.9	BG	MD	Öl	2.5	16.4	17.2				st.rei
201	3,6-Dimethy		schl	7	7.9	BD	BG	Öl	40	0	4.3				nicht
202	Napt		###	k.A.	7.2	HO	WA		20	4.3	10.3				nicht
203	B 25		unlö	k.A.		BG	WA	Öl	>100	0	0				nicht
204	1-		unlö	k.A.	7.7	AP	MD	Öl	7.5	6.8	18.7				mäßig
205	DC 8		unlö	k.A.	8.3	BG	WA		>100	0	0	H0;K0;L0		10%:ges.	nicht
206	Verstärkung		unlö	k.A.	7.5	BG	HO	Öl	>100	0	1.8				nicht
ncyt20	Verstärkung		unlö	k.A.		BG									
207	Ni		unlö	k.A.	7.7	BG	HK	Öl	>100	1.7	6.5				nicht
208	7-Acetoxyhe		unlö	k.A.	7.7	MD	WA	Öl	10	3.1	4.9				mäßig
209	Gelbsäure s		0.4	3.8	7.9	BD	WA	Öl	>100	0	0			Farbe	nicht
210	P 32		0.9	k.A.	7.6	AP	MD		>lösli	5.7	2.7	H2;K0;L1		10%:ges.	mäßig
211	Oxoöl 9N		unlö	k.A.	7.7	HO	MD	Öl	20	4.2	4.7				nicht
ncyt21	Oxoöl 9N		unlö	k.A.		BG									
212	Kerobit TP		schl	k.A.	7.9	BD	MD	Öl	20	0	19				mäßig
213	Is	61497-46	< 0,	<7	8	BG	WA	Öl	>100	0	3.2				nicht
214	Ce	24593-34	k.A.	3	6.8	BG	WA	Öl	5	6.9	15.1				mäßig
215	Wessalith S		misc	11	8.2	BG	WA		7.5	3.13	4.1				mäßig
216	Pr	1333-86-	unlö	>7	8	BG	WA		>100	0	0			10%:ges.	nicht
Legend	Cytotox NR50 -							Stern * heißt % einer gesättigten Lösung							
								n.t.	nicht toxisch NR50 könnte höchstens e						
								f.l	falsch bestimmt						
				Phys.-chem. Eigsch.											
			Lösl	pH-We	pH-Wert							HET-CAM-Daten LABOR1:			
Codenr	**Su**	**Cas-Nr.**	**[g/l**	**origi**	**Cytl**	**Lab**	**Lab**	**Vehikel1**			**RS[%]**	**RI10**	**RI100**	**Abspül.5**	**Abspül**
85	Me	112-35-6	misc	7	7.9	BD	HO				1.25	4.9	12.5		
147	Me	112-35-6	misc	7	7.8	AP	HO				5	11	20.4		

85	Me	112-35-6	mischbar								3.13	8	16.5	#DIV/0!	#####

	I N - V I T R O - D A T E N:													
							HET-CAM-Daten LABOR2:						Cytotoxdaten	
Ve	**RS[%**	**RI10**	**RI100**	**Abspül.5**	**Abs**	**Beme**	**Einst**	**LM-cy**	**Folie1**	**NR50[mg**	**+-SD1**	**KB50[**	**+-SD2**	**Bem.1**
										18.01		17.4		
										0.35		0.31		
										3.71		3.71		
										1.72		1.45		
										36.27		32.4		
										2.47		2.57		
										0.05		0.04		
										n.m.		n.m.		
										1.08		1.09		
										18.41		17.4		
										1.07		1.08		
										3.09		3.01		
										n.m.		n.m.		
										1.89		3.67		
										n.m.		n.m.		
										1.39		1.61		
										7.74		8.23		
										1.63		1.6		
										6.41		6.68		
										0.49		0.51		
										13.72		14.6		
										0.007		0.01		
										5.36		5.48		
										0.1		0.09		
										1.55		n.m.		fix
										0.29		0.3		
										4.84		n.m.		fix
										4.16		3.85		
										0.03		0.03		
										0.95		0.75		
										1.12		1.82		
										3.5		3.55		
										0.08		0.06		
										1.29		1.72		
	40	0	7.7				nicht			f.b.		f.b.		
	5	7.4	17.9				mäßig			9.46		8.49		
										15.6				
	7.5	10	19.8				mäßig			0.8		0.96		fix
	5	0	n.m.	H0;K0;L0		Farb	mäßig			0.28		0.82		
	5	17	19.8				reizend			7.02		6.45		
Öl	>10(	0	0.58				nicht			9.27		12.9		
	2.5	4.2	10				mäßig	EtOH		0.014		0.02		
Öl	13	2.9	9.7				nicht	EtOH		0.1		0.09		
Öl	5	3.7	11.2				mäßig	EtOH		0.833		0.85		
.d	5	8.9	12.3				mäßig			1.81		5.5		
	9	16	18				mäßig			71.54		106		

zei	0.8	15	14	K3			st.reizend			1.63		1.61		
Öl	100	0	n.m.	L1			nicht			*27,48		*60,0		
Öl	5	8.9	19.7				mäßig	EtOH		0.17		0.18		
Öl	100	2.7	4.7				nicht			0.13		0.19		
Öl	20	7.9	8.4				nicht		3 4	1.73		1.98		
a.(	0.1	14	8.9	K3	K3		st.reizend			0.004		0.01		
	2.5	12	19.2				reizend			10.45		14.2		
	100	0	4.12				nicht		3 5	0.07		0.08		
Öl	>10(	0	0				nicht			*86,41		n.m.		
Öl	40	0	9.65				nicht			0.001		0		
Öl	80	0	7.2				nicht			0.81		n.m.		agr.
zei	0.5	16	17				st.reizend			0.19		0.18		
Öl	15	7	10.3				nicht			0.67		0.74		
										3.4				
Öl	7.5	3.7	4.5				mäßig	EtOH		n.t.		n.t.		
										3.58				
zei	0.8	17	19.6				st.reizend		1 2	0.17		0.29		
Öl	0.3	16	n.m.	H1;K2;L0			st re	EtOH		n.t.		n.t.		
d	2.5	8.5	13				mäßig			1.34		4.42		
zei	0.1	18	n.m.	K3	K3	10%:	st.reizend			0.65		0.64		
d	2.5	9.6	15.6				mäß/reiz			8.4		11.7		
	10	17	18.8				mäß/reiz			5.56		6.68		
Öl	100	0	n.m.	H1;L1		unlö	nicht			n.t.		n.t.		
zei	0.5	18	19				st. reizend		3 5	0.27		0.35		fix
zei	0.2	20	20.4				st.reizend			0.22		0.22		
	5	4.1	17							14.15		18.6		
Öl	20	2.6	12				nicht		1 2	0.83		n.m.		fix
zei	1	20	n.m.	L2		10%:	st.reizend			0.05		0.05		
zei	2.5	14	18.2				reizend			0.26		0.26		
	5	9.8	18.8				mäßig		3 4	4.82		9.22		
	5	6.6	10.1				mäßig			0.68		0.69		
	n.m.	n.m.	n.m.	H0,L0,K0		trüb	nicht		1 2 3	0.93		0.52		
	5	4.5	17.2			10%:	mäßig	EtOH	1 2	0.005		0.01		
d	5	8.9	11				mäßig	Bericht fehl		5.81		5.39		
zei	0.1	13	n.m.	H3,K2	H2;K0;L		st. reizen			0.07		0.08		
	20	2.5	8.7				nicht			0.02		0.03		
Öl	n.m.	3.9	n.m.	H3;K2	H2;K0;L		reizend		2 4	0.83		0.84		
Öl	>lös	0	0	H0;K0;L0		10%:	nicht			n.m.		n.m.		
Öl	n.m.	n.m.	n.m.	H1;K0;L0		10%:	???		1 2 3	1.42		n.m.		fix
Öl	100	4	4.2				nicht			0.043		0.06		
	30	0	14.6				nicht		1 2	5.31		4.71		
Öl	20	4	9				nicht		1 2	7.41		7.87		
Öl	n.m.	n.m	n.m	H0;K0;L0		prob	???			0.32		0.39		
	8.3	7.9	17.9				mäßig		1 2	0.92		1.28		

Öl	3.7	9.4	9.9				mäßig			0.53		0.4		
.d	1.3	11	19.9				reize	Bericht fehl		1.23		0.95		
	10	4.3	15.3				mäßig			19.87		24.6		
Öl	10	3	14.7			10%:	mäßig	EtOH	1 2 3	0.22		n.m.		fix
.zei	2.5	16	19.2				reizend			6.34		6.43		
.ize	0.1	12	n m.	K2		10%:	st. reizen		1 2	2.21		2.63		
.d	0.3	5.4	n.m.	H2;K3;L(	H2;	10%:	st. reizend			2.11		1.41		
	3.8	7.2	5.9			10%:	mäßig			0.99		1.17		
.d	2.5	18	19.4				reizend			3.67		4.35		
Öl	n.m.	2	0	H0;K0;L0		10%:	nicht		1 2 3	n.t.		n.t.		
Öl	n.m.	n.m.	n.m.	H1;K0;L0		10%:	nicht			0.23		0.25		
Öl	15	n.m	n.m	H3;K2;L(	H3;K1;L		mäß/reiz.			0.95				
Öl	5	4.3	16.1				mäßig		1 2 3	7.83		7.7		
Öl	2	12	18.6				reizend			1.45		1.74		
Öl	n.m.	0	0	H0,K0,L0		10%:	nicht	Bericht fehl		0.86		0.74		
Öl	10	1.8	1.1	H2;K2;L0		10%:	mäßig			2.85		2.91		
Öl	10	2.8	8.8				mäßig	EtOH	1 2 3	0.68		1.24		
Öl	100	0	6				nicht	EtOH		0.015		0.02		
Öl	0.1	3.7	4.6				st.reizend		1 2	1.17		1.18		
.d	2.5	11	14.6				reizend			0.003		n.m.		fix
.zei	>lös	6.1	10.6	H0;K2;L2		10%:	ges.	Bericht fehl		5.25				
.zei	1	16	15.9				st.reizend			0.32		0.54		
	10	5.3	18.1				mäßig			19.48		17.8		
Öl	>lös	n.m	n.m	H1		RS:Ö	nicht			0.05		0.04		
Öl	10	6.7	18.1				mäßig		Abdeck	0.27		0.63		
.zei	0.5	19	19.7				st.reiz			2.42		n.m.		fix
.z.	0.1	21	16.6	10%:ges.		10%:	st.reiz.		alle	n.m.		n.m.		
Öl	30	4.1	13.7				nicht	EtOH	1 2 3	0.54		0.73		
Öl	2	18	20.2				st.reiz.		1 2 3	2.96		2.38		
	2.5	8.3	16.9				mäßig			7.06		6.58		
Öl	15	0	18.5				mäßig	EtOH		0.99		1.04		
.z	0.1	17	18.1				st.reiz.			3.95		n.m.		fix
Öl	>10(	0	4				nicht	EtOH	alle	0.01		0.03		
.zei	3	5.1	3.6	Embr.tot?		10%:	mäßig??			0.1		0.08		0.06
	>10(	3.2	0			10%:	nicht			3.49		n.m.		fix
Öl	20	0	18.7				mäßig	Bericht fehl		1.37		1.06		
.d	5	15	6.3	H2;K3;L(	H2;K0;L		reizend			17.4		16.8		
Öl	10	2.1	19.4				mäßig			0.54		0.9		
Öl	>10(	0	1.4				nicht	Bericht fehl		0.2		0.2		
.ze	5	12	11.1			10%:	ges.			0.06		n.m.		
.z.	1	12	15.2				st.reizend			3.14		n.m.		fix
.z	0.1	16	19.9				st.reiz.		alle	0.98		2.44		
	2.5	6.3	6.45	H3;K3;L(	H3;K1;L		reizend			0.39		1.02		
	10	3	12.8							25.2		26.7		
.z.	3.8	13	11.6				mäßig			0.47		0.44		

z.	1	11	10.7				st.reiz			0.13		0.42		
Öl	15	3.7	n.m	H2;K0;L1		trüb	nicht			*50,08		*86		
Öl	7	7	13.6	H0;K2;L1		Ölsu	st.reiz			n.m		n.m.		
Öl	20	0	10				nicht	EtOH	alle	0.18		0.22		
	7.5	3.6	16.8				mäßig			0.048		0.05		
z.	0.5	15	4	H1;K3;L0	H0;	10%:	st.re	alle		7.42		8.86		
z.	2.5	18	19.2			trüb	st. reiz.			2.63		3.08		
Öl	1.3	8.6	15.6			trüb	reizend			0.52		0.45		
d	2.5	16	19.8				st.reiz.		alle	9.06		12.2		
	100	0	0	H1;K0;L0			nicht		1 2	0.008		0.01		
Öl	2.5	12	19				reize	EtOH	alle	1.05		1.44		
Öl	100	5.6	5.7	H1;K0;L1		Ölsu	nicht			0.27		3.56		
	5	4.3	16				mäßig			0.07		0.08		
	20	5.8	11.1				nicht			0.53		0.61		
d	2.5	4.3	n.m	H3;K3;L0	H2;	10%:	st.reizend			0.22		0.18		
	>lös	0	0	H0;K0;L0		10%:	nicht			1.11		0.83		
										*15,01		*24		
Öl	40	0	n.m	H1;K0;L1			nicht			0.02		0.04		
	1	16	16.9				reizend		alle	2.36		1.75		
d	2.5	15	15.6				reizend			3.17		3.11		
Öl	n.m	n.m	n.m.	H0;K1;L1		Ölsu	nicht(prob		alle	0.006		0.01		
d	>Lös	0.8	0.85			10%:	nicht/unklar			4.23		4.35		fix
	n.b	0	n.b.	H0;K0;L0		10%:	nicht			7.89		7.67		
	>lös	13	n.m	H2		10%:	nicht		alle	*15,87		*10,2		
d	>lös	1.8	4.1	H2;K1;L1		trüb	nicht	EtOH		0.034		0.04		
									alle					
	5	7.5	16.1				mäßig	Bericht fehl		0.13		0.14		
	1	4	n.m	problem		Farb	reizend?			0.83		0.62		
	20	0	19.8				nicht			11.82		10.3		
Öl	>100	2.3	8				nicht		alle	0.024		0.02		
										0.025		0.04		
	n.m	0	0.35	H0;K0;L0		Farb	nicht			0.83		0.58		
d	5	14	16.8				mäßig			1.24		1.15		
Öl	7.5	10	10				mäßig			0.052		0.05		
										0.09		0.1		
	5	13	17.8				mäßig			16.38		21.2		
Öl	100	6.7	5.2	H0;K0;L1		trüb	nicht			2.71		3.6		
Öl	1	11	11.6			ges/	st, reiz.			1.34		1.71		
	40	6.4	8.2				nicht		alle	29.49		n.m.		fix
d	5	11	12.3	H1;K2;L1			mäßig			0.61		0.54		
Öl	40	4.1	4.6				nicht	EtOH	1 2 3	0.13		0.15		
	15	2.3	6				nicht		alle	1.65		3.4		
Öl	15	10	n.m.	H2;K1;L2			nicht		alle	*37,26		*47,7		
z	0.3	14	16.5				st.reiz			0.22		0.27		
Öl	5	12	12.4				mäßig	EtOH		0.02		0.02		

Öl	>10(	4.1	n.m	H1;K0;L0			nicht			6.14		5.99		
z.	0.5	9.9	10.7				st.reiz			0.44		0.52		
Öl	>10(	2.8	4.1				nicht	EtOH		0.08		0.12		
Öl	3.9	12	12.9				reizend			1.72		2.32		
Öl	>10(	0	0	H1;K0;L0		10%:	nicht			*27,2		*31		
										0.01		0.01		
	1	4.1	11.1				reizend			9.05		6.6		
Öl	>10(	0	3.3				nicht		2 3 4	0.68		0.54		
										0.054		0.07		
	0.6	10	16.3				st.reiz.			0.19		0.21		
Öl	>10(	0	0	H0;K0;L0			nicht			n.m.		n.m.		
										n.m.		n.m.		
Öl	0.1	11	12.3			trüb	st.reiz			0.46		0.25		
z	1.5	n.b.	18	K3			st.reiz		alle	0.03		0.02		
Öl	25	0.3	4.3				nicht	EtOH	1 2	0.41		0.45		
	40	1.9	5.7				nicht		1 2 3	3.12		2.35		
Öl	>10(	0	0				nicht		alle	n.m.		n.m.		
Öl	5	4.3	14.3				mäßig	EtOH		0.12		0.13		
Öl	>10(	0	5				nicht		alle	n.m.		n.m.		
Öl	>10(	4.3	4.4				nicht	EtOH	alle	0.47		n.m.		fix
										n.m.		n.m.		
Öl	>10(	0	1.6				nicht		alle	n.m.		n.m.		
Öl	20	0	17				nicht	Bericht fehl		0.06		0.07		
Öl	>10(	0	0	H0;K0;L0			nicht			2.39		2.49		
Öl	n.m	n.m	n.m	H2;K0;L0		unlö	unklar			0.06		0.06		
Öl	>10(	0	4				nicht			0.23		0.18		
										0.052		0.13		
Öl	10	2.3	17.7				mäßig			0.02		0.02		
Öl	>10(	0	0				nicht	Bericht fehl		0.76		0.89		
Öl	5	7.9	19.3				mäßig	Bericht fehl		4.76		5.87		
	5	10	15.7				mäßig	Bericht fehl		2.65		3.18		
Öl	>10(	0	0				nicht			n.m.		n.m.		
xtrapoliert werden (Ursache - geringe Löslichkeit)														
	I N - V I T R O - D A T E N:													
							HET-CAM-Daten LABOR2:						Cytotoxdaten	
Be	**Eins**	**Vehikel2**			**RS [**	**RI10**	**RI100**	**RI100**	**Abspül**	**Bemerku**	**Einst**	**NR50 [**	**+-SD1**	**KB50 [**
					5	4.1	17					14.2		18.6
					10	3	12.8					25.2		26.7

					8	3.6	14.9					18.9	0	22.3

			I N - V I T R O - D A T E N:									D R A I	
n Labor1:			Cytotoxdaten Labor2:				Cytotoxdaten Zusammenge			R-Stz	Konjunktiv		
LM-cyt	**Folie2**	**NR50[**	**+-SD3**	**KB50[m**	**+-SD4**	**Bem**	**NR50[mg/ml**	**+-SD5**	**Bem.3**	**R-Stz**	**1hR**	**24h**	**48h**
							0			n			
							0			R41			
							0			R36			
							0			n			
							0			n			
							0			R41			
							0			R36			
							#VALUE!			n			
							0			n			
							0			n			
							0			R36			
							0			R41			
							#VALUE!			n			
							0			R36			
							#VALUE!			n			
							0			n			
							0			n			
							0			R41			
							0			n			
							0			n			
							0			R36			
							0			R41			
							0			R36			
							0			R36			
							0			R41			
							0			n			
							0			n			
							0			R41			
							0			R41	2.0	3.0	3.0
							0			R36			
							0			R36	3.0	3.0	3.0
							0			n	2.0	0.3	0.0
							0			R41	2.0	2.0	2.0
							0			n	2.0	0.3	0.3
		114		87.8			#VALUE!			n			
		0.12		0.14			1.0830697			n			
							0			n			
		0.49		1.5			0.626099			R41	1.0	2.7	3.0
		1.57		1.05			0.6630234			n	1.0	0.0	0.0
		8.15		8.8			7.5639276			n			
		n.m.		n.m.			#VALUE!			n	0.3	0.0	0.0
		0.02		0.021			0.0179444			n	1.0	1.0	0.7
EtOH		0.19		0.17			0.1360147			n	1.0	2.0	1.7
		3.66		3.7			1.7460756			n			
		1.52		1.32			1.6581285			n			
		47.5		104.4			58.318193			n			

		1.59		2.92			1.6098758			R41			
EtOH		n.m		n.m.			#VALUE!			n			
EtOH		0.67		0.68			0.3374907			n			
EtOH		0.05		0.07			0.0806226			n	2.0	1.7	0.3
		0.61		0.57			1.027278			n	2.0	1.3	0.7
		0		0.001			0.0028284			R41			
		12.8		12.4			11.560947			R36			
		0.02		0.01		fix	0.0374166			n	1.0	0.7	0.7
		n.m					#VALUE!			n	0.7	0.7	0.0
EtOH		0		7E-04			0.0008367			R41			
EtOH		1.75		n.m.		agr	1.1905881			n	1.3	0.0	0.0
		0.25		0.28			0.2179449			R41	1.0	2.0	2.0
		10.9		12.5			2.6974432			n			
							0			n			
EtOH	alle	0.19		0.23			#VALUE!			n	2.7	2.0	1.7
							0			n	2.7	2.0	1.7
		0.2		n.m.			0.1843909			R41	1.3	2.3	3.0
		n.t.		n.t.			#VALUE!			R41			
		1.93		2.38			1.6081667			n			
		0.14		0.39			0.3016621			R41	3.0	+	+
		5.6		6.97			6.8585713			n			
		3.84		4.94			4.6206493			n			
							#VALUE!			n	2.0	2.0	1.5
		0.2		0.22			0.232379			R36	1.5	2.2	2.0
		f.b.		0.02			#VALUE!			R41	1.0	1.7	1.7
		9.1		7.99			11.347467			n	1.3	1.3	0.3
EtOH		0.59		0.57			0.6997857			n	1.0	0.0	0.0
										n	1.0	0.0	0.0
	1 2	0.07		n.m.		fix	0.0591608			R41	3.0	3.0	3.0
	1 4	0.28		0.33			0.2698148			R36	1.7	2.7	3.0
		4.71		2.7			4.7646826			n	0.0	0.0	0.0
		0.59		0.58			0.6334035			n	1.0	1.3	1.0
Aceton		n.m.		n.m.			#VALUE!			n	1.0	0.0	0.0
		0.01		0.008			0.0054772			R41	0.0	1.0	2.0
		13.9		12.04			8.9736615			n	0.3	0.0	0.0
DMSO		0.05		0.042			0.0614817			R41	0.3	2.0	2.3
		0.02		0.012			0.02			n	0.5	0.0	0.0
										n	0.5	0.0	0.0
DMSO		0.71		0.62			0.7676588			n	1.3	1.3	1.0
		0.64		0.43			#VALUE!			R36			
DMSO		1.07		n.m.		fix	1.2326394			n	2.0	2.7	3.0
										n	2.0	2.7	3.0
		0.01		0.003			0.0196723			R41	0.3	1.7	1.3
		7.91		5.7			6.4809027			n	0.0	0.0	0.0
							0			n	0.0	0.0	0.0
		6.81		5.6			7.1036681			n	1.0	1.0	1.0
Aceton		0.37					0.344093			n	1.0	0.0	0.0
		5.36		2.15			2.2206305			n	0.5	0.0	0.0
							0			n	0.5	0.0	0.0

		1.27		0.89			0.8204267			n	2.0	0.0	0.0
	1 2	1.55		1.29			1.3807607			n	1.0	0.0	0.0
		11.4		13.48			15.043912			n	0.3	0.3	0.0
Aceton		0.14					0.1754993			R41	1.3	2.7	3.0
		5.9		5.96			6.1160445			R36	2.7	3.0	2.3
		1.25		1.77			1.662077			R41	2.0	3.0	3.0
		1.28		1.39			1.6434111			n	1.0	0.0	0.0
	1 2	6.32		5.51			2.5013596			n	0.5	0.0	0.0
		2.61					3.0949475			R34	R34		
		*41,00					#VALUE!			n	0.7	0.7	0.0
		0.27		1.09			0.2491987			n			
		0.81					0.8772115			n	1.3	2.0	1.3
		14.3		11.6			10.592634			R36	1.7	3.0	2.7
		0.89		1.84			1.1360018			R41	1.7	2.7	2.7
		*94,17		n.m.			#VALUE!			n	1.0	0.0	0.0
	2 3	4.21		n.m.			3.4638851			n	1.3	1.0	1.0
							0			n	1.3	1.0	1.0
EtOH	1 2	1.34		1.39			0.954568			n	2.0	2.0	1.7
EtOH		0.04		0.059			0.0250998			n	1.0	0.0	0.3
		0.84		0.63			0.9913627			n	1.3	1.7	0.7
		0.01		n.m.		fix	#REF!			R41	0.7	1.3	2.3
		6.71		6.75		fix	5.9352759			R41	1.0	1.3	1.3
		0.17		0.43			0.2332381			R41	2.3	2.7	3.0
	alle	54.6		70.12			32.624948			n	1.0	1.0	0.0
		0.09		0.1			0.067082			R36	3.0	2.7	1.3
							0			R36	3.0	2.7	1.3
		2.28		1.86			0.7846018			n	2.0	2.7	2.0
	alle	2.37		n.m.		fix	2.3948695			R41	0.0	2.7	2.7
		n.m.		n.m.			#VALUE!			R41	3.0	3.0	+
		0.11		0.18			0.2437212			n	1.3	0.3	0.0
		2.3		??????????			2.6092144			R41	1.7	2.7	3.0
		5.61		6.02			6.2933775			n	1.0	1.0	0.3
		1.41		2.89			1.1814821			R41	3.0	3.0	3.0
		4.13		n.m.		fix	4.0389974			R41	3.0	n.m	n.m
		0		0.015			0.0031623			n	2.0	0.3	0.0
		0.1		0.08			0.1			R36	3.0	3.0	2.7
	alle	4.2		n.m.		fix	3.8285768			n	1.0	3.0	0.7
		1.46		1.45			1.4142843			n	2.3	2.3	2.0
		15.9		12.66			16.622635			R41	0.3	1.0	1.3
		1.16		1.6			0.7914544			n	2.0	2.3	2.0
Bericht fehlt		0.04		0.04			0.0894427			n	2.0	1.0	1.0
	alle	0.81		1.67			0.2204541			R36	3.0	3.0	3.0
										R36	3.0	3.0	3.0
		1.83		n.m.		fix	2.3971233			R41	0.7	1.0	1.7
		1.39		0.57			1.1671332			R41	1.3	2.0	2.3
		0.72		2.6			0.5299057			n	1.3	1.7	1.3
		16.6		18.19			20.422047			n	1.3	1.3	0.3
		0.71		0.68			0.5776677			R41	2.7	3.0	2.7
										R41	2.7	3.0	2.7

		0.2		0.33			0.1612452			n	2.0	2.0	0.7
		*29,00		*75			#VALUE!			n	2.3	2.3	1.3
		n.m		n.m.			#VALUE!			R41	1.0	2.0	2.0
										R41	1.0	2.0	2.0
EtOH		0.25		0.22			0.212132			n	2.0	1.7	0.0
		0.06		0.055			0.0549909			n	2.0	2.0	1.0
		3.88		n.m.		fix	5.3655941			R41	2.0	3.0	3.0
		2.52		3.83			2.5744126			R41	1.3	3.0	2.3
		0.49		0.55			0.5047772			n	0.7	0.3	0.0
										n	0.7	0.3	0.0
	Verschl	5.63		6.03			7.1419745			R41	2.0	2.3	2.3
	1 2 3 4	0.01		0.007			0.0074833			R41	3.0	3.0	3.0
	1 2 3 4	0.33		0.41			0.5886425			R41	3.0	3.0	2.7
EtOH		2.42		3.33			0.8083316			n	2.0	0.3	0.0
		0.04		0.04			0.052915			R41	2.0	2.3	2.7
		1.08		1.04			0.7565712			n	0.0	0.0	0.0
		0.06		0.1			0.1148913			R36	1.0	2.3	3.0
		0.06		0.08			0.2580698			n	1.0	0.7	0.0
							#VALUE!			n	1.0	0.7	0.0
		0.08		0.08			0.04			R36	2.3	3.0	3.0
		0.54		0.43			1.1288933			n	0.7	0.7	0.2
		3.31		3.26			3.2392437			R41	2.3	2.3	2.3
		0.01		0.008			0.0073485			R41	1.0	1.0	1.0
	1 2	4.43		n.m.		fix	4.3288451			R41	1.0	3.0	3.0
										R41	1.0	3.0	3.0
		3.46		5.32			5.2248828			n	0.7	0.7	0.0
		0.34		0.31			#VALUE!			n	0.7	2.7	2.0
		0.01		n.m.		fix	0.0142829			R41	2.0	2.0	1.0
		0.28		0.16			0.1907878			n	3.0	3.0	2.3
		1.23		1.19			1.010396			n	1.0	0.7	0.3
		34.3		28.12			20.143997			n	1.3	0.3	0.0
EtOH	alle	0.37		0.62			0.0942338			n	2.0	1.3	0.7
							0			n	2.0	1.3	0.7
		0.76		1.81			0.7942292			n	1.0	0.3	0.0
		1.81		1.86			1.4981322			n	2.7	3.0	1.7
		6.75		6.85			0.5924525			n	0.0	0.0	0.0
							0			n	0.0	0.0	0.0
	3 4 5 6	19.6		19.96			17.93152			n	2.3	3.0	2.0
		1.8		1.96			2.2086195					Scherin	
		0.91		1			1.1042645			R41	2.0	3.0	2.7
										R41	2.0	3.0	2.7
		28.5		28.85			28.970423			n	0.0	0.0	0.0
		1.1		1.47			0.8191459			n	1.3	1.3	1.3
		0.18		0.18			0.1529706			n	2.3	0.3	0.3
		1.05		2			1.3162447			n	2.6	2.6	2.3
EtOH		0.22		0.25			#VALUE!			R36	3.0	3.0	2.3
		0.2		0.18			0.2097618			R41	2.0	2.0	2.0
		0.02		0.02			0.02			R34	R34	R34	R34

										R34	R34	R34	R34
							0			n		hat	Ger
	1 2 3 4	0.31		0.39			0.3693237			R41	2.0	2.0	2.3
EtOH	alle	0.04		0.04			0.0565685			n	2.0	2.0	1.7
		2.41		3.12			2.0359764			R41	2.0	2.0	2.0
		0.01		0.01			#VALUE!			n	1.0	0.0	0.0
							0			n	1.0	0.0	0.0
		5.07		5.87			6.773736			R41	2.0	2.3	2.3
										R41	2.0	2.3	2.3
Bericht fehlt		0.02		0.03			0.12506			n	1.0	0.5	0.0
							#VALUE!			n	1.0	0.5	0.0
		0.19		0.17			0.19			R41	1.7	2.0	2.0
										R41	1.7	2.0	2.0
		n.m.		n.m.			#VALUE!			n	1.3	0.7	0.0
							#VALUE!			n	1.3	0.7	0.0
	1 2 3 4	0.32		0.31			0.3836665			R41	2.0	3.0	3.0
		0.01		0.01			0.0173205			R34	R34		
EtOH	alle	0.55		0.6			0.4748684			R41	2.0	1.7	1.7
		3.65		3.5			3.3746111			n	1.5	0.0	0.0
		n.m.		n.m.			#VALUE!			n	0.0	0.0	0.0
Bericht fehlt		0.17		0.22			0.1428286			R41	2.0	2.0	2.0
		n.m.		n.m.			#VALUE!			n	1.0	0.3	0.0
		0.06		0.08			0.1679286			n	0.0	0.0	0.0
							#VALUE!			n	0.0	0.0	0.0
EtOH		0.3		0.47			#VALUE!			n	2.0	2.0	1.0
EtOH		0.06		0.11			0.06			R41	2.0	2.3	2.3
		n.m.		n.m.			#VALUE!			n	2.0	1.0	0.7
		0.05		0.1			0.0547723			R36		hat	Ger
		0.02		0.03			0.0742967			n	1.7	0.7	0.7
							0			n	1.7	0.7	0.7
		0.01		0.02			0.0141421			R34	R34		
EtOH		0.7		0.72			0.7293833			n	2.7	0.7	0.0
EtOH		2.58		2.76			3.5043972			n	2.0	2.0	1.0
		2.01		2.63			2.3079211			R41	2.3	2.0	3.3
		n.m.		n.m.			#VALUE!			n		Kurzber	
			I N - V I T R O - D A T E N:									D R A I	
n Labor1:			Cytotoxdaten Labor2:				Cytotoxdaten Zusammenge			R-Stz	Konjunktiv		
+-SD2	**Bem.1**	**NR50[**	**+-SD3**	**KB50[m**	**+-SD4**	**Bem**	**NR50[mg/ml**	**+-SD5**	**Bem.3**	**R-Stz**	**1h**	**24h**	**48h**
		9.1		7.99			11.347467			n	1.3	0.3	0.0
		16.6		18.19			20.422047			n	1.3	0.3	0.0

0	0	12.3	0	12.06	0	0	15.22296			n	1.3	0.3	0.0

Z E D A T E N :																	Einst	Draize-
va:Rötun		Konjunkt.: Schwell.					Iris						Cornea				nach	score,
72h	**Mit**	**1hS**	**24h**	**48h**	**72h**	**Mit**	**1hI**	**24h**	**48h**	**72h**	**Mit**	**1hC**	**24h**	**48h**	**72h**	**Mit**	**score**	**falls da**
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
3.0	3.0	1.0	2.3	2.7	2.7	2.6	0.7	1.0	1.0	1.0	1.0	0.0	1.3	1.7	2.3	1.8	R36	
	alt					alt					alt					alt	alt	
2.7	2.9	3.3	3.3	3.0	2.7	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	2.0	2.0	1.8	R36	
0.0	0.1	2.0	0.3	0.0	0.0	0.1	0.7	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	n	
2.0	2.0	2.0	2.0	2.0	1.0	1.7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.3	n	
0.0	0.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
3.0	2.9	1.5	2.7	1.7	1.7	2.0	0.0	1.0	1.0	0.7	0.9	0.0	1.0	1.0	1.5	1.5	R36	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
	alt					alt					alt					alt	alt	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.3	1.7	2.0	1.7	0.7	0.0	0.8	0.0	0.0	0.0	0.3	0.1	0.0	1.0	1.0	0.7	0.9	n	13.0
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	

	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
0.3	0.8	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	4.0
0.0	0.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	4.0
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
0.0	0.5	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
	alt					alt					alt					alt	alt	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	1.0
3.0	2.3	1.0	2.0	1.0	1.0	1.3	0.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	R36	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
1.0	1.6	0.7	0.7	0.3	0.0	0.3	0.0	0.3	0.0	0.0	0.1	0.0	0.3	0.3	0.3	0.3	n	10.0
1.0	1.6	0.7	0.7	0.3	0.0	0.3	0.0	0.3	0.0	0.0	0.1	0.0	0.3	0.3	0.3	0.3	n	10.0
3.0	2.8	1.3	1.3	1.0	1.0	1.1	0.0	0.3	0.3	0.3	0.3	1.0	1.0	1.0	1.0	1.0	R36	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
+	3.0	3.0	+	+	+	3.0	nicht möglich				n.m	4.0	+	+	+	4.0	R41	
	alt					alt					alt					alt	alt	
	alt					alt					alt					alt	alt	
1.0	1.5	1.3	1.5	1.2	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.8	2.0	2.0	3.0	2.0	2.0	2.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	R36	
2.0	1.8	1.0	1.0	1.0	1.0	1.0	0.0	0.5	1.0	0.7	0.7	1.0	1.0	1.0	1.3	1.1	n	
0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.7	2.9	2.3	3.0	2.7	2.3	2.7	1.0	1.0	1.0	1.0	1.0	3.3	3.3	2.7	2.7	2.9	R36	
3.0	2.9	1.3	1.7	1.0	1.0	1.2	0.3	1.0	0.7	0.3	0.7	1.0	1.0	1.3	1.7	1.3	R36	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.0	1.1	1.0	1.0	0.7	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.0	1.7	4.0	4.0	3.0	3.0	3.3	n.m	n.m	n.m	n.m	###	n.m	3.0	3.0	3.0	3.0	R41	
0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.0	2.1	1.0	1.0	0.7	0.7	0.8	0.0	0.0	0.3	0.5	0.3	1.0	1.0	1.0	1.0	1.0	n	
0.0	0.0	0.3	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.3	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.7	1.0	0.0	0.7	1.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
	alt					alt					alt					alt	alt	
1.7	2.4	1.7	2.3	1.3	0.7	1.4	0.3	1.0	0.3	0.0	0.4	0.0	0.3	0.3	0.3	0.3	n	
1.7	2.4	1.7	2.3	1.3	0.7	1.4	0.3	1.0	0.3	0.0	0.4	0.0	0.3	0.3	0.3	0.3	n	
1.0	1.3	0.3	0.3	0.3	0.3	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.3	0.3	0.3	0.3	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	

0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.0	2.6	0.7	3.0	3.0	3.3	3.1	0.3	1.0	0.3	0.0	0.4	0.0	1.7	2.0	2.0	1.9	R36	
2.3	2.5	3.0	2.3	1.7	2.0	2.0	1.0	1.0	0.7	0.7	0.8	1.3	1.3	1.7	1.7	1.6	R36	
3.0	3.0	3.0	3.0	2.0	3.0	2.7	1.0	1.0	1.0	1.0	1.0	2.0	4.0	4.0	4.0	4.0	R41	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
	R34	R34				R34	R34				R34	R34				R34	R34	
0.0	0.2	1.3	1.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	4.0
	alt					alt					alt					alt	alt	
1.0	1.4	1.3	1.3	1.0	0.7	1.0	0.0	1.0	0.0	0.0	0.3	0.0	0.7	0.7	0.7	0.7	n	11.0
2.3	2.7	3.7	2.7	1.7	1.0	1.8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	1.7	1.3	R36	
2.3	2.6	3.7	2.0	1.3	1.3	1.5	1.0	1.0	1.0	0.7	0.9	1.3	2.0	2.0	1.3	1.8	R36	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.7	0.9	2.0	1.3	1.3	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	n	
0.7	0.9	2.0	1.3	1.3	1.0	1.2	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	n	
0.7	1.5	2.7	1.7	0.3	0.0	0.7	0.7	0.7	0.0	0.0	0.2	0.3	0.7	0.0	0.0	0.2	n	
0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.7	1.0	0.5	1.3	0.5	0.5	0.8	0.5	0.0	0.0	0.0	0.0	1.5	0.5	0.0	0.0	0.2	n	
2.3	2.0	2.3	1.3	1.7	1.3	1.4	0.0	0.3	0.7	1.0	0.7	0.0	0.7	1.3	1.7	1.2	n	25.0
1.0	1.2	0.7	1.0	1.0	0.7	0.9	0.0	0.0	0.0	0.0	0.0	2.0	2.7	2.7	2.3	2.6	R36	48.1
3.0	2.9	1.0	2.3	2.0	1.3	1.9	0.3	0.7	0.7	0.3	0.6	0.7	0.7	0.3	0.0	0.3	R36	23.0
0.0	0.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.3	1.8	3.0	2.7	2.0	1.3	2.0	0.0	1.0	0.7	0.7	0.8	0.0	0.7	0.7	0.7	0.7	R36	
1.3	1.8	3.0	2.7	2.0	1.3	2.0	0.0	1.0	0.7	0.7	0.8	0.0	0.7	0.7	0.7	0.7	R36	
2.3	2.3	2.7	2.0	1.0	1.0	1.3	1.0	1.3	0.0	0.0	0.4	0.0	0.7	1.0	1.0	0.9	n	
2.7	2.7	2.0	3.0	3.7	3.7	3.3	1.0	1.0	1.0	1.0	1.0	3.3	3.0	3.7	3.7	3.5	R41	
+	3.0	3.0	3.3	+	+	3.3	1.0	n.m	+	+	n.m	0.0	4.0	+	+	4.0	R41	
0.0	0.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
3.0	2.9	3.0	3.0	3.3	2.7	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	2.3	2.7	2.1	R36	
0.3	0.5	0.7	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	n	4.9
3.0	3.0	2.0	2.0	1.0	2.0	1.7	1.0	1.0	0.0	1.0	0.7	0.0	1.0	0.0	1.0	0.7	R36	
+	n.m	3.0	4.0	4.0	+	4.0	1.0	n.m	n.m	+	n.m	3.0	4.0	4.0	+	4.0	R41	
0.0	0.1	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.0	2.6	3.0	2.7	2.3	1.3	2.1	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	1.3	1.8	R36	
0.7	1.5	1.0	1.0	0.0	0.0	0.3	0.3	1.0	0.7	0.7	0.8	1.3	1.7	1.3	1.0	1.3	n	
1.7	2.0	2.3	1.3	1.0	0.7	1.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	n	
0.7	1.0	0.3	0.7	0.7	0.0	0.5	0.0	0.3	0.3	0.3	0.3	1.3	1.0	1.3	0.7	1.0	n	13.8
1.7	2.0	2.0	1.7	1.3	1.0	1.3	0.3	0.7	0.3	0.3	0.4	0.3	0.7	1.3	1.3	1.1	n	
0.3	0.8	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	n	4.9
3.0	3.0	2.7	3.7	2.7	2.3	2.9	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.3	2.0	2.1	R36	
3.0	3.0	2.7	3.7	2.7	2.3	2.9	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.3	2.0	2.1	R36	
1.7	1.5	0.3	2.0	2.0	2.0	2.0	0.0	0.7	0.7	0.7	0.7	2.0	2.0	1.7	1.7	1.8	R36	36.0
2.7	2.3	1.7	1.0	1.0	1.0	1.0	0.0	0.7	0.7	0.0	0.5	0.3	0.7	1.0	1.0	0.9	n	21.0
1.3	1.4	0.7	2.0	1.3	1.3	1.5	0.0	0.3	0.3	0.3	0.3	1.3	2.0	1.3	1.0	1.4	n	22.8
0.0	0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
3.0	2.9	3.0	2.3	1.3	1.7	1.8	0.7	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.7	1.9	R36	
3.0	2.9	3.0	2.3	1.3	1.7	1.8	0.7	1.0	1.0	1.0	1.0	1.0	2.0	2.0	1.7	1.9	R36	

0.7	1.1	1.0	0.0	0.0	0.0	0.0	1.0	0.3	0.0	0.0	0.1	1.0	0.7	0.0	0.0	0.2	n	10.0
0.0	1.2	2.3	1.3	0.0	0.0	0.4	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	n	
3.0	2.3	2.0	4.0	4.0	3.0	3.7	0.0	1.0	1.0	1.0	1.0	2.0	4.0	4.0	4.0	4.0	R41	
3.0	2.3	2.0	4.0	4.0	3.0	3.7	0.0	1.0	1.0	1.0	1.0	2.0	4.0	4.0	4.0	4.0	R41	
0.0	0.6	2.3	1.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	1.0	2.0	1.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.3	0.3	0.4	n	
3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	R41	
2.3	2.5	3.0	2.0	1.3	1.3	1.5	0.3	0.3	0.3	0.3	0.3	1.3	0.7	1.3	1.0	1.0	R36	
0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	n	3.8
0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	n	3.8
2.3	2.3	2.0	3.3	3.3	3.3	3.3	1.0	1.0	1.0	1.0	1.0	3.0	3.0	3.0	3.0	3.0	R41	80.0
3.0	3.0	3.0	3.7	3.7	3.3	3.6	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	2.7	1.7	R36	> 51
2.7	2.8	2.0	2.0	2.0	2.0	2.0	1.0	0.3	0.7	0.7	0.6	2.0	1.7	2.0	2.0	1.9	R36	55.0
0.0	0.1	2.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.3	2.4	2.0	2.7	2.3	1.7	2.2	0.0	0.7	0.3	0.3	0.4	0.0	1.0	0.7	1.0	0.9	R36	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.7	2.7	1.0	2.7	2.0	1.3	2.0	0.0	1.0	0.7	0.3	0.7	1.0	1.3	1.7	1.3	1.4	R36	40.0
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.0	2.3	3.3	3.0	2.3	0.7	2.0	1.0	1.0	0.7	0.0	0.6	0.0	1.0	1.0	0.3	0.8	R36	
0.0	0.3	0.2	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.3	2.3	3.3	4.0	4.0	4.0	4.0	nicht bestimmb				***	3.7	4.0	4.0	4.0	4.0	R41	
1.0	1.0	3.3	4.0	3.3	3.3	3.5	1.0	1.0	1.0	1.0	1.0	2.7	2.7	2.7	3.3	2.9	R36	
3.0	3.0	2.0	1.7	2.3	2.0	2.0	0.7	1.0	1.0	0.7	0.9	1.7	2.3	2.0	2.0	2.1	R36	57.0
3.0	3.0	2.0	1.7	2.3	2.0	2.0	0.7	1.0	1.0	0.7	0.9	1.7	2.3	2.0	2.0	2.1	R36	57.0
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	n	
1.0	1.9	0.3	1.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	1.0	0.3	0.3	0.0	0.2	n	10.1
1.0	1.3	0.7	1.7	1.0	1.7	1.5	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	R36	49.8
2.0	2.4	3.0	2.3	2.0	0.7	1.7	1.0	1.0	0.7	0.3	0.7	0.0	0.3	1.3	1.0	0.9	n	
0.3	0.4	1.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.1	0.7	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.7	2.1	2.3	2.0	1.7	1.7	1.8	0.3	0.0	0.0	0.3	0.1	0.0	0.7	0.3	0.3	0.4	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	1.7	2.7	1.0	1.0	0.0	0.7	0.0	0.3	0.0	0.0	0.1	0.7	0.0	0.0	0.0	0.0	n	
g	***		Schering			***		Schering			***		Schering			***		
3.0	2.9	3.7	2.3	1.7	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	1.3	2.0	1.5	R36	
3.0	2.9	3.7	2.3	1.7	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.3	1.3	2.0	1.5	R36	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.9	2.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.2	1.7	0.7	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
1.0	2.0	1.3	1.6	1.6	0.7	1.3	0.7	1.0	0.7	0.0	0.6	0.7	1.0	1.0	0.7	0.9	n	
2.3	2.5	2.7	2.0	1.7	0.7	1.5	1.0	1.0	0.7	0.0	0.6	1.0	1.3	1.0	0.3	0.9	R36	
2.3	2.1	2.0	2.0	1.3	2.0	1.8	0.0	0.0	0.0	0.3	0.1	0.3	1.0	1.0	1.0	1.0	n	
R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	

R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	R34	
ner	Anm.		hat Gerner			Anm.		hat Gerner			Anm.		hat Gerner			Anm.		
2.3	2.2	2.0	2.0	1.3	0.7	1.3	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	n	
1.3	1.7	0.7	1.0	0.3	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.1	n	
2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	0.0	0.0	1.0	0.3	1.0	1.0	1.0	1.0	1.0	R36	
0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.3	2.3	2.0	2.3	1.7	1.3	1.8	0.0	0.3	0.3	0.3	0.3	0.0	1.0	1.0	1.0	1.0	n	
2.3	2.3	2.0	2.3	1.7	1.3	1.8	0.0	0.3	0.3	0.3	0.3	0.0	1.0	1.0	1.0	1.0	n	
0.0	0.2	0.5	0.8	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.2	0.5	0.8	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.0	2.0	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.3	1.1	n	
2.0	2.0	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.3	1.1	n	
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
3.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	3.0	3.0	2.7	R36	
	R34	R34				R34	R34				R34	R34				R34	R34	
1.3	1.6	2.3	1.3	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	n	
0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.0	2.0	1.7	1.0	0.0	0.7	0.6	0.0	0.3	0.3	0.3	0.3	0.0	1.0	1.0	1.0	1.0	n	
0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.3	2.3	2.3	2.0	1.7	2.0	1.9	0.0	0.0	0.7	0.7	0.5	0.3	1.0	1.0	1.0	1.0	n	
0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
ner	Anm.		hat Gerner			Anm.		hat Gerner			Anm.		hat Gerner			Anm.		
0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
	R34	R34				R34	R34				R34	R34				R34	R34	
0.0	0.2	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
0.3	1.1	2.0	1.7	0.7	0.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n	
2.3	2.5	1.3	1.7	1.3	1.3	1.4	0.0	0.7	0.3	0.0	0.3	0.0	0.7	0.7	0.7	0.7	R36	
icht	***		Kurzbericht			***		Kurzbericht			***		Kurzbericht			***		
Z E D A T E N :																	Einst	Draize-
va:Rötun		Konjunkt.: Schwell.						Iris					Cornea				nach	score,
72h	**Mit**	**1h**	**24h**	**48h**	**72h**	**Mit**	**1h**	**24h**	**48h**	**72h**	**Mit**	**1h**	**24h**	**48h**	**72h**	**Mit**	**score**	**falls da**
0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n		
0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n		

0.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	n		

Irreversibilität		
u.a.		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		

Irreversibel		
Irreversibel		
nach 1h getötet		
Irreversibel		
Irreversibel		
nach 3d getötet		
Irreversibel		
Irreversibel		

Speiseröhre Ösophhagus		
Irreversibel		
Irreversibel		
Irreversibel		
Irrev. Röt. 1Tier		
irreversibel		
nach 24 h getötet		
Irreversibel		
Irreversibel		
nach 48h getötet		
Irrev. Cor. 1 Tier		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		

Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		

Irreversibel		
Irreversibel		
Irr.(Iris u.Konj.)		
Irr.(Iris u.Konj.)		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irreversibel		
Irrev. Konjunktiva		
Irreversibilität		
u.a.		
Irreversibel		

Risiken erkennen – Gesundheit schützen

Bundesinstitut für Risikobewertung (BfR) • Postfach 33 00 13 • D - 14191 Berlin

Bundesinstitut für Risikobewertung
Postfach 33 00 13
D - 14191 Berlin
Tel. 0 30 - 84 12 - 0
Fax 0 30 - 84 12 - 47 41
bfr@bfr.bund.de
www.bfr.bund.de

Neepa Y Choksi, Ph.D.
Raymond Tice, Ph.D.
ILS Inc. Co. NICEATM
NIEHS
MD EC-17, P.O. Box 12233
Research Triangle Park NC 27709
USA - by Air Mail

Ihre Zeichen und Nachrichten vom	Gesch.-Z.: Bitte bei Antwort angeben	Tel.-Durchwahl/Fax	Datum	Org.-Einheit/Ansprechpartner
18.06.2004		2270	09.07.2004	FGr. 91/ZEBET

HET-CAM Test: Background Review Document (BRD)

Dear Neepa and Ray,

please excuse that due to a high workload and the OECD Workshop on Prediction Models/Data Interpretation Procedures I have not been able to respond any earlier.

I am quite happy with the HET-CAM draft BRD. However, after discussing the BRD with Manfred Liebsch, I realised that I have made some comments in my presentation that may not have been correct or misleading. Please allow me, therefore, to provide you with additional information on the following topics.

1. The official French test guideline for safety testing cosmetics for eye irritation properties (attachment 1, please excuse the poor quality, you may be able to find a better copy) . As you can see since Nov. 29, 1996 the HET-CAM assay is an offical method for cosmetics testing in France.
2. A copy of pg. 1 of EU Directive 86/609/EEC on the protection of experimental animals (attachment 2). In Article 2 (a) in the definition of an animal under the Directive "foetal or embryonic forms" are excluded. Thus, experiments on embryonated chicken eggs may be conducted under the current EU legislation.
3. A copy of a publication by Martin Rosenbruch (Bayer AG, Germany) ALTEX 14, 111-113 in German with an English summary "The sensitivity of chicken embryos in incubated eggs" (attachment 3). The author is referring to Hamburger and Hamilton (1951) and to the book "Development of the Avian Embryo" (Freeman and Vince 1974) and claims that the vessels of the yalk sac and of the chorion allantois membrane do not contain sensitive nerves.
4. A copy of pg.765-767 of the ATLA publication of the validation study of the HET-CAM test in Germany (Spielmann et al., ATLA 24,741-858, 1996) (attachment 4).
5. A copy of a page of my presentation at the OTWG meeting in April 2004 in Washington DC (attachment 5), in which strong irritating chemicals were classified with the endpoint

"mtc 10" and my conclusion was " not sufficient".

Please allow me to comment on the documents #4 + #5. In the publication of the HET-CAM validation study the results of classifying R41 (severely irritating) chemicals using only mtc10 for 142 "new" chemicals are given in Figure 5 on pg. 766. In the text you will see that when using an mtc10 of 174 sec, a specificity of 88% was obtained an overlabelling of 8%. In Figure 6 similar data are presented for the whole group of 189 test chemicals. When an mtc10 of 139sec was used, a specificity of 87% and an over labelling of 9% were obtained.

In a tiered testing strategy a test that is able to identify 88% of the strong eye irritants with an overlabelling of less than 10% is an acceptable test that may be used as the first step of a tiered testing strategy. That was the conclusion of experts in Germany from industry and from the regulatory agencies.

I do have to excuse that in my presentation I have focused too much on the 100% correct classification of severely irritating chemicals. Figures 5+6 show that a mtc10 of 50 sec will provide a 100% correct classification. However - it is quite unfortunate that I did not bring this up in my presentation - an mtc10 of 139 sec will allow to identify severely irritating materials with a specificity of 88% and a 9% chance of over labelling.

In addition, I do have to stress that this is the result that has lead to the acceptance of HET-CAM data for the classification of severely eye irritating materials by the regulatory agencies in Germany.

I hope that my letter will reach you in time and that you will be able to take it into account in the final draft of your BRD of the HET-CAM test.

With the best regards

Dr. med. Horst Spielmann
Direktor und Professor
Head of ZEBET

Enclosures !

1

FÉDÉRATION DES INDUSTRIES
DE LA PARFUMERIE

PRODUITS DE PARFUMERIE, DE BEAUTÉ ET DE TOILETTE

CIRCULAIRE N° 97016 QUESTIONS TECHNIQUES N° 2

Emetteur : Anne DAHINGER-BROOMER/fl

15.01.97

ARRETE DU 29 NOVEMBRE 1996

METHODE OFFICIELLE POUR EVALUER LE POTENTIEL IRRITANT DES COSMETIQUES

Par arrêté du 29 novembre publié au JORF du 26 décembre 1996, l'arrêté du 5 avril 1971 relatif aux méthodes officielles d'analyse des produits cosmétiques est complété par une nouvelle méthode d'évaluation du potentiel irritant.

Il s'agit d'une **méthode in vitro** dite alternative ou complémentaire à l'expérimentation animale, dont le principe repose sur l'observation de la membrane chorio-allantoïdienne d'œufs de poule après dix jours d'incubation.

Cette méthode connue en anglais sous l'abréviation HET-CAM (Hen Eggtest-Chorioallantoïc Membrane) a été publiée en 1986 (N.P. Luepke et F.H. Kemper) dans le journal « Food and Chemical Toxicology » et fait l'objet de nombreuses études de validations, dont le travail de O. Blein-Sella commandité par l'OPAL qui a fait l'objet d'une thèse présentée à Paris en 1991.

Cette méthode très sensible peut être utilisée pour l'évaluation du potentiel irritant oculaire des produits cosmétiques qui contiennent notamment des tensioactifs.

Le texte de la méthode est joint en annexe de cette circulaire.

PJ : 1

8, PLACE DU GÉNÉRAL CATROUX 75017 PARIS
TÉL 01 44 15 83 83 TÉLÉCOPIE 01 44 15 83 84
ADRESSE POSTALE : BP 101 04 75814 PARIS CEDEX 17

Ces informations peuvent être apportées sous forme de pictogrammes.

II. – *Risques particuliers*

1. Choix du site :

a) L'accès immédiat de l'aire de jeux doit être aménagé de façon à protéger les utilisateurs et les tiers contre les risques liés à la circulation des véhicules à moteur ;

b) Les plantes et arbres présents sur les aires de jeux doivent être choisis, implantés et protégés de façon à ne pas occasionner d'accidents pour les enfants (empoisonnements ou blessures).

2. Aménagements :

a) Les équipements et les zones de sécurité qui les entourent doivent être dégagés de tout obstacle ne faisant pas partie intégrante du jeu ;

b) Les limites des zones présentant des risques particuliers, comme les abords des balançoires ou des tourniquets, doivent être matérialisées de manière que, dans leur utilisation normale ou raisonnablement prévisible, ils n'occasionnent pas de heurts entre les enfants utilisant l'équipement et ceux qui ne l'utilisent pas ;

c) Les jeux utilisant l'eau doivent être conçus de manière à écarter tout risque de noyade ou d'infection raisonnablement prévisible ;

d) Les bacs à sable doivent être maintenus dans des conditions d'hygiène satisfaisantes ;

e) Les équipements doivent être implantés de manière que les adultes puissent, en toutes circonstances, accéder à tous les endroits où les enfants sont susceptibles de se trouver ;

f) Les éléments des équipements doivent être installés de façon à assurer la stabilité de ces derniers et à éviter ainsi tout risque de renversement, de chute ou de déplacement inopiné ;

g) Lorsque cela est prévu par la notice d'installation, les équipements doivent être fixés au sol.

3. Matériaux de revêtement et de réception :

a) Les zones sur lesquelles les enfants sont susceptibles de tomber alors qu'ils utilisent les équipements doivent être revêtues de matériaux amortissants appropriés ;

b) La durée de vie des matériaux amortissants utilisés doit correspondre à leur utilisation sur une aire collective de jeux, notamment pour ce qui concerne les processus d'usure et de vieillissement et les effets des variations climatiques. Les matériaux de remblai doivent être appliqués en couche suffisamment épaisse pour en permettre une bonne répartition.

c) Les matériaux de revêtement de l'aire de jeux doivent satisfaire aux conditions d'hygiène et de propreté permettant d'éviter toute souillure ou contamination.

4. Entretien et maintenance :

a) Les exploitants ou gestionnaires doivent élaborer un plan d'entretien de l'aire de jeux et un plan de maintenance des équipements qui y sont implantés et respecter ces plans. Ces derniers doivent mentionner le nom ou la raison sociale du ou des organismes chargés de les exécuter ainsi que la nature et la périodicité des contrôles à effectuer ;

b) Les exploitants ou gestionnaires doivent organiser l'inspection régulière de l'aire de jeux et de ses équipements, pour en vérifier l'état et pour déterminer les actions de réparation et d'entretien qui doivent être entreprises. La nature et la fréquence des inspections doivent être fonction, notamment, des instructions du fabricant, du degré de fréquentation de l'aire de jeux et des conditions climatiques ;

c) L'accès aux équipements qui ne répondent plus aux exigences de sécurité légales ou réglementaires doit être interdit ;

d) Les plans, ainsi qu'un registre comportant, pour chaque site, la date et le résultat des contrôles effectués, seront tenus à la disposition des agents de contrôle, habilités à cet effet par l'article L. 222-1 du code de la consommation.

Arrêté du 29 novembre 1996 relatif aux méthodes officielles d'analyse nécessaires aux contrôles des produits cosmétiques

NOR : *ECEC9600217A*

Le ministre délégué aux finances et au commerce extérieur,

Vu le code de la consommation ;

Vu le décret du 22 janvier 1919 modifié portant règlement d'administration publique pour l'application de la loi du 1er août 1905 sur la répression des fraudes, et notamment ses articles 3 et 20 ;

Vu l'arrêté du 5 avril 1971 relatif aux méthodes officielles d'analyse de cosmétiques et produits de beauté, modifié en dernier lieu par l'arrêté du 11 mai 1993 ;

Vu l'avis de la commission générale d'unification des méthodes d'analyse,

Arrête :

Art. 1er. – L'arrêté du 5 avril 1971 susvisé relatif aux méthodes officielles d'analyse de cosmétiques et produits de beauté est complété par une annexe IV intitulée « Méthode officielle d'évaluation du potentiel irritant par application sur la membrane chorio-allantoïdienne de l'œuf de poule » qui figure en annexe du présent arrêté.

Art. 2. – Le directeur général de la concurrence, de la consommation et de la répression des fraudes est chargé de l'exécution du présent arrêté, qui sera publié au *Journal officiel* de la République française.

Fait à Paris, le 29 novembre 1996.

Pour le ministre et par délégation :
Le directeur général de la concurrence,
de la consommation
et de la répression des fraudes,
C. BABUSIAUX

ANNEXE IV

MÉTHODE OFFICIELLE D'ÉVALUATION DU POTENTIEL IRRITANT PAR APPLICATION SUR LA MEMBRANE CHORIO-ALLANTOÏDIENNE DE L'ŒUF DE POULE

Objectif et principe

Cette méthode est une alternative à l'expérimentation animale pour l'évaluation du potentiel irritant des produits cosmétiques.

Le principe en est basé sur l'observation, par une personne entraînée, des effets irritants (hyperémie, hémorragie, coagulation) pouvant survenir dans les cinq minutes suivant le dépôt d'un produit sur la membrane chorio-allantoïdienne (MCA) d'œuf de poule embryonné, au dixième jour d'incubation.

Dans le cas des produits cosmétiques, notamment à base de tensioactifs, cette méthode est applicable à l'évaluation du potentiel irritant oculaire.

Matériel (liste indicative)

Œufs de poule embryonnés (la souche White Leghorn est recommandée), d'un poids compris entre 50 et 65 g le jour de la réception.

Enceinte thermostatée.

Incubateur à œufs.

Lampe à mirer les œufs.

Pince anatomique droite (pince à disséquer, brucelles, ...) à bouts mousse et sans mors.

Ciseaux à bouts ronds.

Bain thermostaté à 37 °C.

Chronomètre.

Pipettes, tubes à essai, béchers...

Seringues de 1 ml à 5 ml.

Balance de précision.

Soluté injectable de pentobarbital.

Eau pour préparations injectables.

Soluté isotonique de NaCl à 0,9 p. 100.

Protocole expérimental

Réception des œufs

Dès réception, les œufs fêlés ou cassés sont éliminés. Les autres sont conservés à l'abri de la lumière et à une température de 12 °C ± 1 °C (enceinte ou local adapté) pendant au moins vingt-quatre heures avant de les placer en couveuse.

Mise en couveuse

Les œufs sont pesés et identifiés puis placés dans l'incubateur (température optimale : 37,8 °C, humidité comprise entre 50 et 60 p. 100). Si l'incubateur n'est pas équipé d'un système de retournement automatique, les œufs doivent être retournés manuellement au moins deux fois par jour.

Pendant toute la durée de l'incubation, la température et l'humidité sont contrôlées et réglées si nécessaire.

Les œufs sont placés en position verticale (poche d'air vers le haut) dès le début dans le cas d'incubateurs équipés de plateaux oscillants et au huitième jour d'incubation dans les autres cas.

Vérification des œufs

Au dixième jour d'incubation, les œufs sont mirés et les œufs défectueux sont rejetés.

Essai proprement dit

Les différentes étapes de l'essai sont enchaînées rapidement sous un éclairage d'une intensité suffisante ne dégageant pas de chaleur afin de ne pas dessécher la MCA. Dans le cas contraire, l'atmosphère est humidifiée à l'aide, par exemple, d'un brumisateur.

L'œuf étant placé verticalement sur un support (poche d'air vers le haut), la coquille est entaillée au niveau de la poche d'air en prenant soin de ne pas léser la MCA. A l'aide d'une pince ou d'une paire de ciseaux à bouts ronds, la coquille est enlevée jusqu'au niveau de la membrane coquillière. Toute la surface de la membrane coquillière est alors humidifiée avec du soluté isotonique de chlorure de sodium tiédi à 37 °C. Le soluté est ensuite éliminé par inclinaison de l'œuf. Avec une pince la membrane coquillière est décollée délicatement puis retirée afin de découvrir la membrane chorio-allantoïdienne sous-jacente.

Tout œuf dont la membrane chorio-allantoïdienne est défectueuse ou présente des traces d'hémorragie est rejeté.

0,20 ml du produit à l'essai (pur ou dilué), maintenu à 37 °C, sont alors déposés délicatement sur la MCA à l'aide d'une seringue ou d'une pipette et le chronomètre est aussitôt déclenché. Après 20 secondes de contact, la membrane est rincée avec 5 ml de soluté isotonique de chlorure de sodium (maintenu à 37 °C) à l'aide d'une seringue en évitant toute projection brutale. Le liquide de rinçage est éliminé par inclinaison de l'œuf. Les éventuels phénomènes d'irritation sont observés pendant 5 minutes selon la procédure décrite ci-après. Le temps exact d'apparition de chaque phénomène est relevé.

L'effet irritant du produit à l'essai (ou de chacune de ses dilutions) est évalué sur quatre œufs. En fin d'essai, les œufs reçoivent une injection de pentobarbital puis sont éliminés.

Procédure de lecture

Les observations prises en compte pour la notation du produit doivent être réalisées à l'œil nu.

Les phénomènes observés (hyperémie, hémorragie, coagulation) ne sont pas retenus en fonction de leur intensité mais en fonction de leur présence : il s'agit d'une réponse de type tout ou rien.

Le temps est noté à l'apparition de chacun des phénomènes.

Hyperémie

Phénomène observé : des capillaires non visibles avant l'ajout du produit deviennent visibles, alors que les capillaires visibles se dilatent et deviennent plus rouges. Ce phénomène peut également affecter les vaisseaux de diamètre supérieur.

Hémorragie

Phénomène observé : libération de sang s'échappant des vaisseaux et/ou des capillaires, pouvant se présenter sous différents aspects, et notamment en « chou-fleur », en nappe, en voile diffus, en piqueté (le sang s'échappe ponctuellement à différents endroits de la membrane).

Il est à noter que :

- l'hémorragie peut présenter un caractère éphémère ; elle doit néanmoins être prise en compte ;
- l'observation, dans les 30 premières secondes, d'une hémorragie massive impose la prise en compte de l'hyperémie masquée.

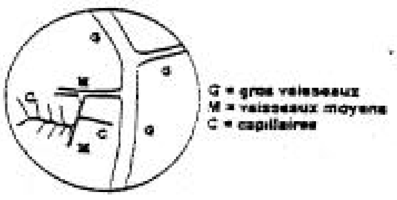
Coagulation (opacité et/ou thrombose)

Opacité :

Phénomène observé : apparition sur tout ou partie de la membrane, soit d'un voile opalescent évoluant éventuellement vers une opacification, soit d'une opacification directe.

Il est nécessaire de vérifier que le phénomène n'est pas lié au comportement physicochimique du produit en milieu aqueux (par exemple formation d'un colloïde, d'un précipité, ...).

Thrombose :



Phénomène observé : rupture du flux sanguin dans les vaisseaux se traduisant par un aspect segmenté (alternance d'étranglements et de zones turgescentes plus ou moins sombres).

Il est à noter que les observations ne doivent pas prendre en compte les modifications intervenues au niveau des capillaires.

Résultats

Les phénomènes observés sont quantifiés selon le tableau ci-après, en fonction de leur délai d'apparition :

Notation en fonction du temps

PHÉNOMÈNE	TEMPS		
	$t \leq 30$ s	30 s $< t \leq 2$ mn	2 mn $< t \leq 5$ mn
Hyperémie	5	3	1
Hémorragie	7	5	3
Coagulation (*)	9	7	5

(*) Coagulation = opacité et/ou thrombose.

Le score pour chaque œuf est la somme des notes d'hyperémie, d'hémorragie et de coagulation. La notation du produit testé est la moyenne arithmétique, arrondie à une décimale des scores obtenus sur quatre œufs. La notation maximum est 21.

Le potentiel irritant sur la membrane chorio-allantoïdienne du produit à l'essai (pur ou dilué) est donné par l'échelle suivante :

Notation (N)	Classification
$N < 1$.	Pratiquement non irritant.
$1 \leq N < 5$.	Faiblement irritant.
$5 \leq N < 9$.	Modérément irritant.
$N \geq 9$.	Irritant.

Remarques importantes

Il est à noter que la reproductibilité des résultats est d'autant meilleure que la personne réalisant l'essai est entraînée et que les conditions expérimentales sont respectées.

De manière à vérifier la qualité des conditions opératoires et celle des expérimentateurs, il est conseillé de procéder régulièrement à des contrôles à l'aide d'une référence. A cet effet, l'établissement préalable d'une courbe étalon avec des solutions aqueuses à 0,05 p. 100 – 0,4 p. 100 et 3,2 p. 100 (m/v) de lauryl sulfobétaïne est recommandé.

L'expérimentateur appréciera le potentiel irritant du produit à l'essai par comparaison aux données acquises pour des produits de même catégorie.

Le rapport d'essai doit comporter toutes les indications prévues par les règles de bonne pratique de laboratoire.

Bibliographie

LUEPKE N.P. The Hen's egg test (HET) : « An alternative toxicity test ». *Brit. J. Dermatol.* 1986, 115, Suppl. 31, 133-135.

LUEPKE N.P. & KEMPER F.H. The HET-CAM test : « An alternative to the Draize eye test ». *Food Chem. Toxicol.* 1986, 24, n° 6/7, 495-496.