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Chronological Supplement to the Carcinogenic Potency Database: Standardized Results of Animal Bioassays Published through December 1982

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This paper is a chronological supplement to our earlier publication, "A Carcinogenic Potency Database of the Standardized Results of Animal Bioassays." We report here results of carcinogenesis bioassays published in Technical Reports of the National Cancer Institute/National Toxicology Program between July 1980 and December 1982, and the general literature between July 1981 and December 1982. This supplement includes results of 280 long-term, chronic experiments of 114 test compounds, and reports the same information about each experiment in the same plot format as the earlier paper: e.g., the species and strain of test animal, the route and duration of compound administration, dose level and other aspects of experimental protocol, histopathology and tumor incidence, TD_{50} and its statistical significance, dose response, author's opinion about carcinogenicity, and literature reference. While a number of appendices are provided to facilitate use of this supplement, we have not duplicated here the material published earlier. Instead, we refer the reader to the earlier publications (Peto et al. and Gold et al.) for a thorough description of the numerical index of carcinogenic potency (TD_{50}), a guide to the plot of the database, and a discussion of the sources of data, the rationale for the inclusion of particular experiments and particular target sites, and the conventions adopted in summarizing the literature. For 44 of the 114 chemicals reported in this second plot, results of earlier experiments are also given in the first plot; since only 1981–1982 results are reported here, the first plot is required for these repeated compounds. In this paper we also give corrections for errors that appeared in the earlier publication.

Background

The Carcinogenic Potency Database of long-term, chronic carcinogenesis bioassays was first presented in two papers in 1984, Peto et al. (*1*) and Gold et al. (*2*). Peto et al. (*1*) described our numerical index of carcinogenic potency, the TD_{50}, and the statistical procedures adopted for estimating it from experimental data. Briefly, TD_{50} may be defined as follows: for a given target site(s), if there are no tumors in control animals, then TD_{50} is that chronic dose rate in milligrams per kilogram body weight/day which would induce tumors in half the test animals at the end of a standard lifespan for the species. Since the tumor(s) of interest often does occur in control animals, TD_{50} is more precisely defined as that chronic dose rate which will halve the probability of remaining tumor-free throughout the standard lifespan of the species.

Gold et al. (*2*) presented a plot of the Carcinogenic Potency Database with an accompanying guide describing the contents, field by field, as well as a discussion of the sources of data, the criteria for the inclusion of particular experiments and particular target sites, and the conventions adopted in summarizing the literature. We have developed the Carcinogenic Potency Database in an effort to improve the use of animal bioassay data in both the study of chemical carcinogenesis and the estimation of the potential health risks of chemicals to humans. The database quantifies and standardizes a very diverse body of literature, organizes it systematically, and applies an index of carcinogenic potency, the TD_{50}, to the results of experiments on hundreds of test

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compounds. The range of TD_{50} values for carcinogens in the database is more than 10 million-fold (*2*).

The plot of the database provides a variety of information about each experiment, including: the species, strain, and sex of test animal; features of the experimental protocol such as route of administration, duration of dosing, dose level(s) in mg/kg body weight/day, and duration of experiment; histopathology and tumor incidence; carcinogenic potency and its statistical significance; shape of the dose response curve; author's opinion as to carcinogenicity; and literature reference. A word of caution is necessary about the limitations of the database. We have included only long-term tests of individual compounds which fit a set of criteria compatible with calculating potency; many animal cancer tests are excluded. Moreover, we have not attempted to evaluate whether or not a compound is a carcinogen; rather, we report the published opinions of the investigators whose data we present, as well as the statistical significance of the TD_{50} calculated from their results. Further discussion of the criteria for the database and the limitations can be found in Gold et al.(*2*).

Supplement to the Carcinogenic Potency Database

In this paper we present a chronological supplement to the plot, which updates the results for the literature published through December 1982. Rather than repeat the material published earlier, we refer the reader to the complete discussion and the plot in the earlier publication (*2*). The format of this new plot is identical to that of the first plot. It is our intention that the two plots be used together and that readers who are not familiar with the database will read the earlier papers first.

The plot of the database below includes results of 280 long-term, chronic experiments with 114 chemicals. It presents results for 32 compounds from Technical Reports of the National Cancer Institute/National Toxicology Program (NCI/NTP) published between July 1980 and December 1982, as well as results for 82 compounds published in the general literature between July 1981 and December 1982. The database as presented in the previous publication (*2*) covered the literature and the NCI/NTP Technical Reports published prior to these dates and included 2944 experiments of 770 test compounds. Results for several experiments that were published during the time frame of this supplementary plot were included in the first plot because of our ongoing analyses. We have not repeated those results here.

Experiments in rats, mice, hamsters, and rhesus monkeys are reported here for 114 compounds representing a variety of chemical classes (e.g., aromatic amines, nitroso compounds, hydrazines) with a variety of uses. Some are naturally occurring substances which are constituents of foods (e.g., caffeine, quercetin dihydrate, allyl isothiocyanate); food additives (e.g., butylated hydroxytoluene, cinnamyl anthranilate, gum arabic); industrial compounds (e.g., vinyl chloride, ethylene oxide, 1,2-propylene oxide); and drugs (e.g., phenacetin, phenobarbital, norlestrin). Of the 114 chemicals, 44 were also included in the first plot, and we have flagged these in the plot below with a triple asterisk (***) after the chemical name. For some of these substances only one experiment is reported here, but large numbers of experiments were previously reported (*2*), e.g., 2-acetylaminofluorene and isoniazid. We have not duplicated the earlier results here, and thus, for complete results on these chemicals, both publications are necessary.

As in the first database, the TD_{50} values for the NCI/NTP bioassays have been estimated using full lifetable information. For the TD_{50} values from the general literature the estimates use the final proportions of animals with tumors, since only this summary information is consistently published (*3*). The TD_{50} values for the compounds in this supplementary plot fall within the range of values reported earlier [Figure 1 in (*2*)]. In a few cases no TD_{50} could be calculated because all dosed animals had the tumor of interest, and only summary incidence data were available (*4*).

The appendices provide the same types of information as given in the earlier publication and are given the same appendix numbers. Appendix 1 lists alphabetically the compounds included in this plot and their common synonyms; Appendix 2 provides the same information ordered by Chemical Abstracts Service (CAS) Registry number. The next several appendices provide codes and definitions required for using the plot: strains of test animal (Appendix 3); routes of administration (Appendix 4); site (Appendix 5); histopathology (Appendix 6); notecodes (Appendix 7); dose-response curve symbols (Appendix 8); reference codes (Appendix 9); NCI/NTP bioassays evaluated as inadequate (Appendix 10); and species (Appendix 11). Appendices 12 and 13 give full bibliographic information for all experiments reported in this plot: the bibliography for the general literature (Appendix 12); and a list of the NCI/NTP Technical Reports (Appendix 13).

We are continuing to update the Carcinogenic Potency Database with papers published after 1982, and are also attempting to add earlier papers which we overlooked in our literature search. Therefore, we would appreciate information about any tests which the reader notices are missing.

Analyses of the Database

Our group has been using the results of the database published in Gold et al. (*2*) for several analyses, some still in progress. The good correlation of carcinogenic potency found between rats and mice and some tautologous aspects of this comparison have been examined using the chemicals tested by the NCI/NTP Bioassay Program (*4*). Two methods for estimating carcinogenic potency (TD_{50}) from animal bioassays have been compared, one based on lifetable data and one based on

summary incidence data (*5*). We have described the potencies of compounds which induce tumors at particular target sites in rats and mice and have examined other indicators of a chemical's hazard including: whether tumors were induced at more than one site in a single sex-species group of test animal, whether tumors may have caused the death of the animal or were found at sacrifice, and whether metastases of induced tumors occurred (*6*). We have identified "near-replicate" carcinogenesis bioassays by selecting from the entire database those cases in which a single compound was tested more than once in a particular species, strain, and sex of rodent by the same route of administration, and have examined the extent of reproducibility of the results for these tests (*7*).

Other work in progress using the results of the Carcinogenic Potency Database includes a description of the extent to which compounds tested for carcinogenicity are positive—using various data sources, routes of administration, and frequency of testing; the predictive value of target sites in rats and mice is also examined. Various methods are being investigated for summarizing the potency of a single compound when several experiments have been conducted and a number of different TD_{50} values have been estimated for this same chemical. We are also exploring methods for comparing current human exposure levels to a substance, with the tumorigenic dose rate (TD_{50}) estimated from the results of carcinogenesis bioassays (*8*).

Errata in the Earlier Publication

Since the earlier publication (*2*), a few errors have come to our attention. In three cases the database reports results for a single experiment as two different experiments because slightly different information had been published in two separate papers. The following corrections should be made:

For ethylene thiourea, lines 1270 and 1271 are one experiment in female Charles River CD rats, and lines 1272 and 1273 are one experiment in males.

For *N*-nitrosodiethylamine, lines 2027 and 2030 are one experiment in female Fischer F344 rats.

For nitrosopyrrolidine, lines 2087 and 2088 are one experiment in female MRC rats, and lines 2088 and 2089 are one experiment in males.

In one other case, carrageenan (acid-degraded), two separate experiments are reported in Sprague-Dawley rats—one in which the compound was administered by gavage and one in the diet. However, the plot incorrectly assigned only one experiment number, line 482, to the two of them.

In the text, page 17, column 2, line 35, the number 5.55 mg/kg body weight/day should be 6.93 mg/kg body weight/day.

We would appreciate hearing about any additional errors which are discovered as the database is used.

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Plot of the Carcinogenic Potency Database

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     Spe  Strain    Site      Xpo+Xpt                                                                                       TD50      2Tailpvl
        Sex     Route     Hist          Notes                                                                                       DR       AuOp
ACETALDEHYDE METHYLFORMYLHYDRAZONE      ..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
1      M f swa gav lun mix 12m25 es                                          . +   .                                    5.66mg    P<.0005+
 a     M f swa gav lun ade 12m25 es                                                                                     7.37mg    P<.0005
 b     M f swa gav lun adc 12m25 es                                                                                     19.6mg    P<.002
 c     M f swa gav for mix 12m25 es                                                                                     28.0mg    P<.002 +
 d     M f swa gav for sqp 12m25 es                                                                                     32.4mg    P<.003
 e     M f swa gav cli mix 12m25 es                                                                                     38.2mg    P<.005 +
 f     M f swa gav cli sqc 12m25 es                                                                                     46.4mg    P<.01
 g     M f swa gav liv hpt 12m25 es                                                                                     28.0mg    P<.02  -
2      M m swa gav pre mix 52w79 es                                     .  + .                                          1.61mg    P<.0005+
 a     M m swa gav pre sqc 52w79 es                                                                                     2.17mg    P<.0005
 b     M m swa gav pre fbs 52w79 es                                                                                     21.3mg    P<.003
 c     M m swa gav liv hpt 52w79 es                                                                                     11.0mg    P<.03  -
 d     M m swa gav lun ade 52w79 es                                                                                     13.7mg    P<.03
 e     M m swa gav lun mix 52w79 es                                                                                     14.4mg    P<.07  +

ACETOXIME                           100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
3      R f mrw wat liv mix 18m30 e                                                    .    ±                            127.mg    P<.03  -
 a     R f mrw wat liv hpa 18m30 e                                                                                      127.mg    P<.03  -
 b     R f mrw wat liv hem 18m30 e                                                                                      408.mg    P<.2   -
 c     R f mrw wat tba mix 18m30 e                                                                                      91.5mg    P<.7
4      R m mrw wat liv mix 18m26 e                                             .  +   .                                 12.1mg    P<.0005-
 a     R m mrw wat liv hpa 18m26 e                                                                                      12.1mg    P<.0005+
 b     R m mrw wat liv hem 18m26 e                                                                                      136.mg    P<.05
 c     R m mrw wat tba mix 18m26 e                                                                                      12.8mg    P<.003

2-ACETYLAMINOFLUORENE***            100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
5      M m cen eat liv mix 52w52 kr                                     .>                                              5.61mg    P<.3

AGAR                                100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
6      M f b6c eat TBA MXB 24m24                                                                              :>    no dre    P=1.   -
 a     M f b6c eat liv MXB 24m24                                                                                    no dre    P=1.
 b     M f b6c eat lun MXB 24m24                                                                                    no dre    P=1.
7      M m b6c eat liv hpa 24m24                                                                                   #18.8gm * P<.002 -
 a     M m b6c eat TBA MXB 24m24                                                                                    54.9gm * P<.8
 b     M m b6c eat liv MXB 24m24                                                                                    33.1gm * P<.4
 c     M m b6c eat lun MXB 24m24                                                                                    102.gm * P<.8
8      R f f34 eat adr coa 24m24                                                                                   #25.8gm * P<.03  -
 a     R f f34 eat TBA MXB 24m24                                                                                    no dre    P=1.
 b     R f f34 eat liv MXB 24m24                                                                                    no dre    P=1.
9      R m f34 eat TBA MXB 24m24                                                                          :>        39.3gm * P<1.   -
 a     R m f34 eat liv MXB 24m24                                                                                    25.9gm * P<.3

ALLYL ISOTHIOCYANATE                100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
10     M f b6c gav TBA MXB 24m24                                                  :>                                no dre    P=1.   -
 a     M f b6c gav liv MXB 24m24                                                                                    no dre    P=1.
 b     M f b6c gav lun MXB 24m24                                                                                    632.mg * P<.9
11     M m b6c gav lun a/c 24m24                                                       :   ±                       #118.mg * P<.04  -
 a     M m b6c gav TBA MXB 24m24                                                                                    no dre    P=1.
 b     M m b6c gav liv MXB 24m24                                                                                    no dre    P=1.
 c     M m b6c gav lun MXB 24m24                                                                                    106.mg * P<.4
12     R f f34 gav sub fbs 24m24                                                        :     ±                     207.mg * P<.04  a
 a     R f f34 gav TBA MXB 24m24                                                                                    157.mg * P<.9
 b     R f f34 gav liv MXB 24m24                                                                                    568.mg * P<.3
13     R m f34 gav --- MXA 24m24 e                                                    :   ±                         54.3mg * P<.03
 a     R m f34 gav --- ule 24m24 e                                                                                  57.2mg * P<.03
 b     R m f34 gav ubl tpp 24m24 e                                                                                  96.0mg * P<.02  c
 c     R m f34 gav TBA MXB 24m24 e                                                                                  38.0mg * P<.5
 d     R m f34 gav liv MXB 24m24 e                                                                                  174.mg * P<.2

2-AMINO-4-(5-NITRO-2-FURYL)THIAZOLE     ..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
14     R f fis eat for mix 52w68                                             .   +   .                              5.85mg    P<.0005+
 a     R f fis eat for sqp 52w68                                                                                    8.94mg    P<.0005
 b     R f fis eat ubl mix 52w68                                                                                    30.3mg    P<.003 +

11-AMINOUNDECANOIC ACID             100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
15     M f b6c eat TBA MXB 24m25 es                                                                       :>        15.6gm * P<.8   -
 a     M f b6c eat liv MXB 24m25 es                                                                                 37.9gm * P<.8
 b     M f b6c eat lun MXB 24m25 es                                                                                 18.8gm * P<.4
16     M m b6c eat --- mly 24m25 es                                                                        :  ±    #4.97gm * P<.05  -
 a     M m b6c eat TBA MXB 24m25 es                                                                                 6.50gm * P<.6
 b     M m b6c eat liv MXB 24m25 es                                                                                 6.25gm * P<.4
 c     M m b6c eat lun MXB 24m25 es                                                                                 no dre    P=1.
17     R f f34 eat TBA MXB 24m25                                                               :>                   1.25gm \ P<.7   -
 a     R f f34 eat liv MXB 24m25                                                                                    44.6gm * P<.9
18     R m f34 eat MXB MXB 24m25 es                                                               :  +  :           833.mg * P<.0005
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	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology	Brkly Code
ACETALDEHYDE METHYLFORMYLHYDRAZONE 16568-02-8										
1	1267	3.21mg	14.0mg	13/50	6.78mg	35/50			Toth;jnci,67,881-887;1981	
a	1267	4.01mg	22.5mg	12/50	6.78mg	31/50				
b	1267	9.49mg	93.0mg	2/50	6.78mg	13/50				
c	1267	12.7mg	101.mg	0/44	6.78mg	8/48				
d	1267	14.0mg	150.mg	0/44	6.78mg	7/48				
e	1267	15.6mg	292.mg	0/44	6.78mg	6/48				
f	1267	17.6mg	3.78gm	0/44	6.78mg	5/48				
g	1267	8.45mg	n.s.s.	0/32	6.78mg	3/18				
2	1267	1.01mg	2.62mg	0/37	9.40mg	45/50				
a	1267	1.40mg	3.49mg	0/37	9.40mg	41/50				
b	1267	9.65mg	98.0mg	0/37	9.40mg	8/50				
c	1267	2.68mg	n.s.s.	0/14	9.40mg	2/7				
d	1267	5.79mg	n.s.s.	8/47	9.40mg	18/49				
e	1267	5.57mg	n.s.s.	11/47	9.40mg	20/49				
ACETOXIME 127-06-0										
3	1480	38.2mg	n.s.s.	0/20	24.6mg	3/16			Mirvish;jnci,69,961-962;1982	
a	1480	38.2mg	n.s.s.	0/20	24.6mg	3/16				
b	1480	66.3mg	n.s.s.	0/20	24.6mg	1/16				
c	1480	11.3mg	n.s.s.	15/20	24.6mg	13/16				
4	1480	5.59mg	30.1mg	0/23	25.4mg	12/15				
a	1480	5.59mg	30.1mg	0/23	25.4mg	12/15				
b	1480	33.4mg	n.s.s.	0/23	25.4mg	2/15				
c	1480	4.79mg	106.mg	9/23	25.4mg	13/15				
2-ACETYLAMINOFLUORENE*** (N-2-fluorenylacetamide) 53-96-3										
5	1477	1.13mg	n.s.s.	5/8	36.0mg	7/8			Becker;canr,42,3918-3923;1982	
AGAR 9002-18-0										
6	c50475	4.42gm	n.s.s.	26/50	3.19gm	24/50	(6.38gm	16/50)		
a	c50475	34.9gm	n.s.s.	4/50	3.19gm	5/50	6.38gm	1/50	liv:hpa,nnd,hpc.	
b	c50475	13.7gm	n.s.s.	7/50	3.19gm	3/50	(6.38gm	1/50)	lun:a/c,a/a.	
7	c50475	9.17gm	79.1gm	0/50	2.94gm	3/50	5.89gm	7/50		S
a	c50475	5.67gm	n.s.s.	24/50	2.94gm	24/50	5.89gm	25/50		
b	c50475	8.46gm	n.s.s.	9/50	2.94gm	8/50	5.89gm	13/50	liv:hpa,nnd,hpc.	
c	c50475	12.1gm	n.s.s.	6/50	2.94gm	6/50	5.89gm	7/50	lun:a/c,a/a.	
8	c50475	8.92gm	n.s.s.	0/50	1.21gm	0/50	2.45gm	4/50		S
a	c50475	2.79gm	n.s.s.	47/50	1.21gm	43/50	2.45gm	43/50		
b	c50475	n.s.s.	n.s.s.	0/50	1.21gm	0/50	2.45gm	0/50	liv:hpa,nnd,hpc.	
9	c50475	1.67gm	n.s.s.	32/50	981.mg	38/50	1.96gm	35/50		
a	c50475	7.81gm	n.s.s.	0/50	981.mg	2/50	1.96gm	1/50	liv:hpa,nnd,hpc.	
ALLYL ISOTHIOCYANATE 57-06-7										
10	c50464	15.1mg	n.s.s.	18/50	8.41mg	20/50	17.5mg	20/50		
a	c50464	56.1mg	n.s.s.	2/50	8.41mg	3/50	17.5mg	1/50	liv:hpa,nnd,hpc.	
b	c50464	45.8mg	n.s.s.	2/50	8.41mg	2/50	17.5mg	3/50	lun:a/c,a/a.	
11	c50464	40.7mg	n.s.s.	0/50	8.41mg	1/50	17.5mg	3/50		S
a	c50464	17.0mg	n.s.s.	33/50	8.41mg	22/50	17.5mg	26/50		
b	c50464	18.6mg	n.s.s.	21/50	8.41mg	14/50	17.5mg	19/50	liv:hpa,nnd,hpc.	
c	c50464	26.9mg	n.s.s.	4/50	8.41mg	4/50	17.5mg	7/50	lun:a/c,a/a.	
12	c50464	61.9mg	n.s.s.	0/50	8.41mg	0/50	17.5mg	3/50		
a	c50464	10.3mg	n.s.s.	42/50	8.41mg	43/50	17.5mg	42/50		
b	c50464	92.6mg	n.s.s.	0/50	8.41mg	0/50	17.5mg	1/50	liv:hpa,nnd,hpc.	
13	c50464	24.1mg	n.s.s.	2/50	8.41mg	7/50	17.5mg	8/50	---:ule,lhc.	S
a	c50464	25.0mg	n.s.s.	2/50	8.41mg	6/50	17.5mg	8/50		S
b	c50464	39.1mg	n.s.s.	0/50	8.41mg	2/50	17.5mg	4/50		
c	c50464	8.77mg	n.s.s.	38/50	8.41mg	45/50	17.5mg	39/50		
d	c50464	47.7mg	n.s.s.	2/50	8.41mg	0/50	17.5mg	5/50	liv:hpa,nnd,hpc.	
2-AMINO-4-(5-NITRO-2-FURYL)THIAZOLE 38514-71-5										
14	1423	2.49mg	12.7mg	0/10	63.5mg	23/24			Wang;carc,3,275-277;1982	
a	1423	4.66mg	18.1mg	0/10	63.5mg	21/24				
b	1423	15.0mg	122.mg	0/10	63.5mg	11/24				
11-AMINOUNDECANOIC ACID 2432-99-7										
15	c50613	1.76gm	n.s.s.	28/50	926.mg	27/50	1.85gm	19/50		
a	c50613	3.83gm	n.s.s.	7/50	926.mg	8/50	1.85gm	5/50	liv:hpa,nnd,hpc.	
b	c50613	4.63gm	n.s.s.	2/50	926.mg	3/50	1.85gm	3/50	lun:a/c,a/a.	
16	c50613	2.09gm	n.s.s.	2/50	854.mg	9/50	1.71gm	4/50		S
a	c50613	1.20gm	n.s.s.	30/50	854.mg	29/50	1.71gm	18/50		
b	c50613	1.56gm	n.s.s.	17/50	854.mg	18/50	1.71gm	12/50	liv:hpa,nnd,hpc.	
c	c50613	4.88gm	n.s.s.	10/50	854.mg	3/50	1.71gm	4/50	lun:a/c,a/a.	
17	c50613	202.mg	n.s.s.	46/50	358.mg	47/50	(716.mg	37/50)		
a	c50613	2.10gm	n.s.s.	5/50	358.mg	5/50	716.mg	6/50	liv:hpa,nnd,hpc.	
18	c50613	494.mg	1.96gm	1/50	286.mg	10/50	573.mg	15/50	liv:nnd,hpc; ubl:tcc.	C

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     Spe  Strain   Site      Xpo+Xpt                                                                                TD50      2Tailpvl
        Sex    Route     Hist         Notes                                                                              DR       AuOp
  a    R m f34 eat liv MXA 24m25 es                                                                            1.10gm * P<.002 c
  b    R m f34 eat liv nnd 24m25 es                                                                            1.29gm * P<.004 c
  c    R m f34 eat ubl tcc 24m25 es                                                                            3.17gm / P<.002 c
  d    R m f34 eat mgl fba 24m25 es                                                                            2.91gm * P<.05
  e    R m f34 eat TBA MXB 24m25 es                                                                            802.mg * P<.1
  f    R m f34 eat liv MXB 24m25 es                                                                            1.10gm * P<.002

BENZENEDIAZONIUM TETRAFLUOROBORATE      ..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
19    H f syg gav liv hem 90w90 es                                                 .>                          66.1mg * P<.2    -
 a    H f syg gav liv kcs 90w90 es                                                                             66.1mg * P<.2    -
 b    H f syg gav liv cho 90w90 es                                                                             293.mg * P<.9    -
 c    H f syg gav lun tum 90w90 es                                                                             no dre   P=1.
20    H m syg gav liv hem 90w90 es                                                 .>                          293.mg * P<.9    -
 a    H m syg gav lun tum 90w90 es                                                                             no dre   P=1.

BENZIDINE.2HCl                      100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
21    M f cbn wat liv hpc 60w60 ek                                                . + .                        17.9mg * P<.0005+

 a    M f cbn wat liv hpa 60w60 ek                                                                             30.2mg * P<.0005+
22    M f cbn wat liv hpc 80w80 e                                               .+ .                           9.60mg * P<.0005+
 a    M f cbn wat liv hpa 80w80 e                                                                              78.7mg * P<.0005+
23    M m cbn wat liv hpa 60w60 ek                                                    .  +       .             67.7mg * P<.002 +
 a    M m cbn wat liv hpc 60w60 ek                                                                             74.3mg * P<.009 +
24    M m cbn wat liv hpc 80w80 e                                                    .+  .                     39.0mg * P<.0005+
 a    M m cbn wat liv hpa 80w80 e                                                                              186.mg * P<.09  +
25    M f cff wat liv hpc 60w60 ek                                                . + .                        17.1mg Z P<.0005+
 a    M f cff wat liv hpa 60w60 ek                                                                             24.7mg * P<.0005+
26    M f cff wat liv hpc 79w80 ae                                              .+.                            8.99mg * P<.0005+
 a    M f cff wat liv hpa 79w80 ae                                                                             41.9mg * P<.0005+
27    M m cff wat liv hpa 60w60 ek                                                    . +   .                  60.8mg * P<.0005+
 a    M m cff wat liv hpc 60w60 ek                                                                             97.5mg * P<.0005+
28    M m cff wat liv hpc 80w80 e                                                   . + .                      33.2mg * P<.0005+
 a    M m cff wat liv hpa 80w80 e                                                                              94.8mg * P<.0005+

BENZO(a)PYRENE***                   100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
29    R b sda eat mix mix 30m30 r                                .  ±                                          .956mg   P<.04  +
 a    R b sda eat for pam 30m30 r                                                                              .972mg   P<.03  +

BENZOIN                             100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
30    M f b6c eat TBA MXB 24m24                                                                 :>             6.83gm * P<.9    -
 a    M f b6c eat liv MXB 24m24                                                                                8.42gm * P<.4
 b    M f b6c eat lun MXB 24m24                                                                                no dre   P=1.
31    M m b6c eat TBA MXB 24m24                                                                :>              2.46gm * P<.6    -
 a    M m b6c eat liv MXB 24m24                                                                                3.56gm * P<.5
 b    M m b6c eat lun MXB 24m24                                                                                2.90gm * P<.3
32    R f f34 eat TBA MXB 24m24                                                     :>                         no dre   P=1.    -
 a    R f f34 eat liv MXB 24m24                                                                                no dre   P=1.
33    R m f34 eat liv MXA 24m24                                                      :    ±                    #88.2mg * P<.03  -
 a    R m f34 eat TBA MXB 24m24                                                                                no dre   P=1.
 b    R m f34 eat liv MXB 24m24                                                                                88.2mg * P<.03

2-BIPHENYLAMINE.HCl                 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
34    M f b6c eat --- MXA 24m24                                                                 :  +    :      1.12gm * P<.0005c
 a    M f b6c eat --- ang 24m24                                                                                1.28gm * P<.002 c
 b    M f b6c eat TBA MXB 24m24                                                                                1.88gm * P<.7
 c    M f b6c eat liv MXB 24m24                                                                                2.00gm * P<.4
 d    M f b6c eat lun MXB 24m24                                                                                26.1gm / P<.9
35    M m b6c eat --- MXA 24m24 e                                                               :  ±           1.25gm * P<.02  a
 a    M m b6c eat --- MXA 24m24 e                                                                              1.81gm * P<.02  a
 b    M m b6c eat TBA MXB 24m24 e                                                                              720.mg * P<.4
 c    M m b6c eat liv MXB 24m24 e                                                                              1.70gm * P<.5
 d    M m b6c eat lun MXB 24m24 e                                                                              no dre   P=1.
36    R f f34 eat TBA MXB 24m24                                                            :>                  no dre   P=1.    -
 a    R f f34 eat liv MXB 24m24                                                                                363.mg \ P<.2
37    R m f34 eat TBA MXB 24m24                                                             :>                 no dre   P=1.    -
 a    R m f34 eat liv MXB 24m24                                                                                no dre   P=1.

BIS(2-CHLORO-1-METHYLETHYL) ETHER***    ..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
38    M f b6c gav lun MXA 24m25                                                            :  +      :         311.mg * P<.002 c
 a    M f b6c gav lun a/a 24m25                                                                                381.mg * P<.006 c
 b    M f b6c gav sto MXA 24m25                                                                            +historical * P<.05  a
 c    M f b6c gav TBA MXB 24m25                                                                                231.mg * P<.2
 d    M f b6c gav liv MXB 24m25                                                                                no dre   P=1.
 e    M f b6c gav lun MXB 24m25                                                                                311.mg * P<.002
39    M m b6c gav liv MXA 24m24                                                         :  +      :            138.mg * P<.002 c
 a    M m b6c gav liv hpc 24m24                                                                                229.mg * P<.004 c
 b    M m b6c gav lun MXA 24m24                                                                                259.mg * P<.02  c
 c    M m b6c gav lun a/a 24m24                                                                                306.mg * P<.03  c
 d    M m b6c gav TBA MXB 24m24                                                                                116.mg * P<.02
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	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc						Citation or Pathology	Brkly Code
a	c50613	606.mg	4.27gm	1/50	286.mg	10/50	573.mg	10/50							liv:nnd,hpc.
b	c50613	666.mg	9.39gm	1/50	286.mg	9/50	573.mg	8/50							
c	c50613	1.36gm	12.8gm	0/50	286.mg	0/50	573.mg	7/50							
d	c50613	1.26gm	n.s.s.	0/50	286.mg	5/50	573.mg	2/50							S
e	c50613	304.mg	n.s.s.	31/50	286.mg	37/50	573.mg	37/50							
f	c50613	606.mg	4.27gm	1/50	286.mg	10/50	573.mg	10/50							liv:hpa,nnd,hpc.
BENZENEDIAZONIUM TETRAFLUOROBORATE 369-57-3															
19	1329	10.8mg	n.s.s.	0/15	1.25mg	0/15	2.50mg	0/15	5.00mg	1/15					Gold;clet,15,289-300;1982
a	1329	10.8mg	n.s.s.	0/15	1.25mg	0/15	2.50mg	0/15	5.00mg	1/15					
b	1329	11.9mg	n.s.s.	1/15	1.25mg	0/15	2.50mg	0/15	5.00mg	1/15					
c	1329	1.65mg	n.s.s.	0/15	1.25mg	0/15	2.50mg	0/15	5.00mg	0/15					
20	1329	11.9mg	n.s.s.	1/15	1.25mg	0/15	2.50mg	0/15	5.00mg	1/15					
a	1329	1.65mg	n.s.s.	0/15	1.25mg	0/15	2.50mg	0/15	5.00mg	0/15					
BENZIDINE.2HCl 531-85-1															
21	1577o	12.3mg	27.5mg	0/45	6.00mg	1/69	12.0mg	2/48	24.0mg	10/41	40.0mg	17/35	80.0mg	13/14	Schieferstein;nctr; 1982/Nelson 1982
a	1577o	17.6mg	80.9mg	1/45	6.00mg	6/69	12.0mg	8/48	24.0mg	6/41	40.0mg	12/35	80.0mg	5/14	
22	1577r	7.42mg	12.6mg	0/50	6.00mg	6/45	12.0mg	19/47	24.0mg	39/48	40.0mg	30/34	80.0mg	25/30	
a	1577r	40.5mg	338.mg	0/50	6.00mg	7/46	12.0mg	4/47	24.0mg	11/50	40.0mg	10/35	80.0mg	7/31	
23	1577o	35.9mg	414.mg	0/46	5.00mg	2/63	10.0mg	1/44	20.0mg	5/47	33.3mg	2/37	66.7mg	4/21	
a	1577o	38.4mg	3.64gm	0/46	5.00mg	1/63	10.0mg	3/44	20.0mg	3/47	33.3mg	4/37	66.7mg	2/21	
24	1577r	25.6mg	63.8mg	0/47	5.00mg	1/49	10.0mg	5/45	20.0mg	7/45	33.3mg	8/24	66.7mg	12/22	
a	1577r	65.4mg	n.s.s.	2/49	5.00mg	2/50	10.0mg	2/47	20.0mg	9/46	33.3mg	1/25	66.7mg	3/23	
25	1577m	11.8mg	26.0mg	1/48	6.00mg	2/69	12.0mg	2/48	24.0mg	6/45	40.0mg	29/45	80.0mg	9/10	
a	1577m	16.4mg	39.3mg	0/48	6.00mg	1/69	12.0mg	1/48	24.0mg	8/45	40.0mg	21/45	80.0mg	5/10	
26	1577n	6.90mg	11.9mg	0/48	6.00mg	6/51	12.0mg	16/47	24.0mg	39/50	40.0mg	26/26	80.0mg	35/38	
a	1577n	29.4mg	78.7mg	0/47	6.00mg	3/50	12.0mg	9/47	24.0mg	12/50	40.0mg	8/26	80.0mg	16/37	
27	1577m	33.9mg	153.mg	0/47	5.00mg	0/70	10.0mg	3/46	20.0mg	5/44	33.3mg	3/42	66.7mg	5/22	
a	1577m	46.4mg	353.mg	1/47	5.00mg	0/70	10.0mg	1/46	20.0mg	2/44	33.3mg	2/42	66.7mg	6/22	
28	1577n	22.7mg	53.2mg	0/49	5.00mg	5/48	10.0mg	2/50	20.0mg	12/52	33.3mg	7/28	66.7mg	16/24	
a	1577n	52.9mg	302.mg	0/47	5.00mg	0/47	10.0mg	4/50	20.0mg	3/49	33.3mg	7/26	66.7mg	2/21	
BENZO(a)PYRENE*** 50-32-8															
29	1326	.376mg	n.s.s.	3/64	.107mg	10/64									Brune;zkko,102,153-157;1981
a	1326	.393mg	n.s.s.	2/64	.107mg	9/64									
BENZOIN (2-hydroxy-1,2-diphenylethanone) 119-53-9															
30	c50011	572.mg	n.s.s.	27/50	322.mg	35/50	644.mg	28/50							
a	c50011	1.93gm	n.s.s.	2/50	322.mg	3/50	644.mg	4/50							liv:hpa,nnd,hpc.
b	c50011	2.85gm	n.s.s.	6/50	322.mg	5/50	644.mg	3/50							lun:a/c,a/a.
31	c50011	451.mg	n.s.s.	31/50	297.mg	27/50	594.mg	32/50							
a	c50011	716.mg	n.s.s.	16/50	297.mg	12/50	594.mg	18/50							liv:hpa,nnd,hpc.
b	c50011	846.mg	n.s.s.	5/50	297.mg	10/50	594.mg	8/50							lun:a/c,a/a.
32	c50011	22.3mg	n.s.s.	42/50	12.5mg	41/50	25.0mg	39/50							
a	c50011	n.s.s.	n.s.s.	0/50	12.5mg	0/50	25.0mg	0/50							liv:hpa,nnd,hpc.
33	c50011	30.5mg	n.s.s.	0/50	5.00mg	0/50	10.0mg	4/50							liv:nnd,hpc. S
a	c50011	10.3mg	n.s.s.	36/50	5.00mg	32/50	10.0mg	35/50							
b	c50011	30.5mg	n.s.s.	0/50	5.00mg	0/50	10.0mg	4/50							liv:hpa,nnd,hpc.
2-BIPHENYLAMINE.HCl 2185-92-4															
34	c50282	527.mg	3.06gm	0/50	128.mg	1/50	384.mg	8/50							---:ang,hem.
a	c50282	579.mg	4.87gm	0/50	128.mg	1/50	384.mg	7/50							
b	c50282	269.mg	n.s.s.	31/50	128.mg	30/50	384.mg	31/50							
c	c50282	475.mg	n.s.s.	7/50	128.mg	9/50	384.mg	10/50							liv:hpa,nnd,hpc.
d	c50282	1.15gm	n.s.s.	6/50	128.mg	1/50	384.mg	5/50							lun:a/c,a/a.
35	c50282	530.mg	n.s.s.	0/50	118.mg	4/50	355.mg	3/50							---:ang,hes,hem.
a	c50282	670.mg	n.s.s.	0/50	118.mg	2/50	355.mg	3/50							---:ang,hes.
b	c50282	181.mg	n.s.s.	37/50	118.mg	38/50	355.mg	27/50							
c	c50282	333.mg	n.s.s.	14/50	118.mg	19/50	355.mg	11/50							liv:hpa,nnd,hpc.
d	c50282	388.mg	n.s.s.	16/50	118.mg	6/50	(355.mg	1/50)							lun:a/c,a/a.
36	c50282	122.mg	n.s.s.	46/50	49.3mg	45/49	148.mg	46/50							
a	c50282	115.mg	n.s.s.	1/50	49.3mg	5/49	(148.mg	1/50)							liv:hpa,nnd,hpc.
37	c50282	142.mg	n.s.s.	43/50	39.4mg	40/50	118.mg	35/50							
a	c50282	n.s.s.	n.s.s.	0/50	39.4mg	0/50	118.mg	0/50							liv:hpa,nnd,hpc.
BIS(2-CHLORO-1-METHYLETHYL) ETHER*** 108-60-1															
38	c50044	155.mg	1.45gm	1/50	67.5mg	4/50	139.mg	10/50							lun:a/c,a/a.
a	c50044	177.mg	4.88gm	1/50	67.5mg	4/50	139.mg	8/50							
b	c50044	498.mg	n.s.s.	0/50	67.5mg	0/50	139.mg	3/50							sto:sqp,sqc.
c	c50044	75.0mg	n.s.s.	26/50	67.5mg	29/50	139.mg	29/50							
d	c50044	269.mg	n.s.s.	7/50	67.5mg	7/50	139.mg	5/50							liv:hpa,nnd,hpc.
e	c50044	155.mg	1.45gm	1/50	67.5mg	4/50	139.mg	10/50							lun:a/c,a/a.
39	c50044	73.4mg	693.mg	13/50	68.8mg	23/50	140.mg	27/50							liv:hpa,hpc.
a	c50044	117.mg	1.61gm	6/50	68.8mg	13/50	140.mg	17/50							
b	c50044	121.mg	n.s.s.	6/50	68.8mg	15/50	140.mg	13/50							lun:a/c,a/a.
c	c50044	138.mg	n.s.s.	5/50	68.8mg	13/50	140.mg	11/50							
d	c50044	55.0mg	n.s.s.	30/50	68.8mg	38/50	140.mg	40/50							

	Spe Sex	Strain Route	Site Hist	Xpo+Xpt	Notes	100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10	TD50	2Tailpvl DR	AuOp
e	M m	b6c gav	liv MXB	24m24			138.mg *	P<.002	
f	M m	b6c gav	lun MXB	24m24			259.mg *	P<.02	
BISPHENOL A									
40	M f	b6c eat	TBA MXB	24m25		:>	no dre	P=1.	-
a	M f	b6c eat	liv MXB	24m25			5.31gm *	P<.06	
b	M f	b6c eat	lun MXB	24m25			18.7gm *	P<.6	
41	M m	b6c eat	--- MXA	24m25		: ±	#445.mg \	P<.03	-
a	M m	b6c eat	--- lym	24m25			508.mg \	P<.05	
b	M m	b6c eat	pit crc	24m25			6.69gm *	P<.02	
c	M m	b6c eat	TBA MXB	24m25			1320.gm	P<1.	
d	M m	b6c eat	liv MXB	24m25			no dre	P=1.	
e	M m	b6c eat	lun MXB	24m25			no dre	P=1.	
42	R f	f34 eat	TBA MXB	24m25		:>	no dre	P=1.	-
a	R f	f34 eat	liv MXB	24m25			595.mg \	P<.6	
43	R m	f34 eat	mgl fba	24m25		: ±	#675.mg *	P<.03	-
a	R m	f34 eat	TBA MXB	24m25			no dre	P=1.	
b	R m	f34 eat	liv MXB	24m25			no dre	P=1.	
BUTYL BENZYL PHTHALATE*									
44	M f	b6c eat	TBA MXB	24m24		:>	no dre	P=1.	-
a	M f	b6c eat	liv MXB	24m24			8.39gm *	P<.2	
b	M f	b6c eat	lun MXB	24m24			no dre	P=1.	
45	M m	b6c eat	TBA MXB	24m24		:>	no dre	P=1.	-
a	M m	b6c eat	liv MXB	24m24			20.7gm *	P<.8	
b	M m	b6c eat	lun MXB	24m24			no dre	P=1.	
46	R f	f34 eat	--- MXA	24m24		: ±	1.41gm *	P<.03	a
a	R f	f34 eat	--- leu	24m24			1.54gm *	P<.04	a
b	R f	f34 eat	TBA MXB	24m24			no dre	P=1.	
c	R f	f34 eat	liv MXB	24m24			5.62gm *	P<.2	
47	R m	f34 eat	TBA MXB	29w29 s			no dre	P=1.	
a	R m	f34 eat	liv MXB	29w29 s			no dre	P=1.	
BUTYLATED HYDROXYANISOLE									
48	M b	swi eat	lun tum	24m24 r		.>	5.11gm	P<.2	
a	M b	swi eat	liv tum	24m24 r			no dre	P=1.	
BUTYLATED HYDROXYTOLUENE***									
49	M f	b6c eat	liv hnd	22m24 e		.>	5.98gm *	P<.3	-
a	M f	b6c eat	liv hpc	22m24 e			14.4gm *	P<.5	-
b	M f	b6c eat	lun adc	22m24 e			32.9gm *	P<.8	-
c	M f	b6c eat	lun ade	22m24 e			no dre	P=1.	-
50	M m	b6c eat	liv hnd	22m24 e		.>	3.00gm *	P<.3	-
a	M m	b6c eat	lun ade	22m24 e			212.gm *	P<1.	-
b	M m	b6c eat	liv hpc	22m24 e			no dre	P=1.	-
c	M m	b6c eat	liv hae	22m24 e			no dre	P=1.	-
d	M m	b6c eat	lun adc	22m24 e			no dre	P=1.	-
51	M b	swi eat	lun tum	24m24 r		. + .	1.48gm	P<.002	
a	M b	swi eat	liv tum	24m24 r			no dre	P=1.	
CAFFEINE***									
52	R f	sda gav	mix mix	24m24 r		.>	no dre	P=1.	-
53	R m	sda gav	mix mix	24m24 r		.>	448.mg	P<.3	-
a	R m	sda gav	eso ben	24m24 r			734.mg	P<.3	-
b	R m	sda gav	for pam	24m24 r			1.44gm	P<.7	-
54	R f	wis wat	tba mix	18m24 e		.>	no dre	P=1.	-
55	R m	wis wat	tba mix	18m24 e		.>	no dre	P=1.	-
CAPROLACTAM									
56	M f	b6c eat	TBA MXB	24m24		:>	no dre	P=1.	-
a	M f	b6c eat	liv MXB	24m24			no dre	P=1.	
b	M f	b6c eat	lun MXB	24m24			no dre	P=1.	
57	M m	b6c eat	TBA MXB	24m24		:>	no dre	P=1.	-
a	M m	b6c eat	liv MXB	24m24			34.3gm *	P<.8	
b	M m	b6c eat	lun MXB	24m24			no dre	P=1.	
58	R f	f34 eat	TBA MXB	24m24		:>	no dre	P=1.	-
a	R f	f34 eat	liv MXB	24m24			no dre	P=1.	
59	R m	f34 eat	pit can	24m24		: ±	#3.56gm *	P<.05	-
a	R m	f34 eat	TBA MXB	24m24			no dre	P=1.	
b	R m	f34 eat	liv MXB	24m24			5.69gm *	P<.7	
CARBAZOLE									
60	M f	b6c eat	liv hpc	22m24 e		. + .	102.mg Z	P<.0005	+
a	M f	b6c eat	for pam	22m24 e			1.29gm Z	P<.002	+
b	M f	b6c eat	for mix	22m24 e			1.96gm *	P<.009	+
c	M f	b6c eat	lun mix	22m24 e			no dre	P=1.	
61	M m	b6c eat	liv hpc	22m24 e		. + .	424.mg *	P<.0005	+
a	M m	b6c eat	for mix	22m24 e			2.79gm *	P<.0005	+
b	M m	b6c eat	for sqc	22m24 e			4.94gm *	P<.002	+

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology	Brkly Code
e	c50044	73.4mg	693.mg	13/50	68.8mg	23/50	140.mg	27/50		liv:hpa,nnd,hpc.
f	c50044	121.mg	n.s.s.	6/50	68.8mg	15/50	140.mg	13/50		lun:a/c,a/a.
BISPHENOL A (4,4'-isopropylidenediphenol) 80-05-7										
40	c50635	1.08gm	n.s.s.	21/50	125.mg	17/50	626.mg	19/50		
a	c50635	1.83gm	n.s.s.	0/50	125.mg	1/50	626.mg	3/50		liv:hpa,nnd,hpc.
b	c50635	2.67gm	n.s.s.	1/50	125.mg	1/50	626.mg	2/50		lun:a/c,a/a.
41	c50635	179.mg	n.s.s.	2/50	116.mg	9/50	(578.mg	5/50)		---:leu,lym. $
a	c50635	192.mg	n.s.s.	2/50	116.mg	8/50	(578.mg	3/50)		$
b	c50635	2.02gm	n.s.s.	0/50	116.mg	0/50	578.mg	3/50		$
c	c50635	701.mg	n.s.s.	23/50	116.mg	28/50	578.mg	24/50		
d	c50635	1.61gm	n.s.s.	16/50	116.mg	14/50	578.mg	10/50		liv:hpa,nnd,hpc.
e	c50635	2.31gm	n.s.s.	7/50	116.mg	2/50	578.mg	4/50		lun:a/c,a/a.
42	c50635	115.mg	n.s.s.	47/50	47.7mg	45/50	95.4mg	38/50		
a	c50635	103.mg	n.s.s.	4/50	47.7mg	6/50	(95.4mg	0/50)		liv:hpa,nnd,hpc.
43	c50635	231.mg	n.s.s.	0/50	38.1mg	0/50	76.3mg	4/50		$
a	c50635	54.1mg	n.s.s.	39/50	38.1mg	43/50	76.3mg	44/50		
b	c50635	256.mg	n.s.s.	4/50	38.1mg	7/50	76.3mg	2/50		liv:hpa,nnd,hpc.
BUTYL BENZYL PHTHALATE* 85-68-7										
44	c54375	1.64gm	n.s.s.	33/50	762.mg	27/50	1.53gm	31/50		
a	c54375	2.90gm	n.s.s.	2/50	762.mg	5/50	1.53gm	6/50		liv:hpa,nnd,hpc.
b	c54375	3.57gm	n.s.s.	8/50	762.mg	3/50	(1.53gm	3/50)		lun:a/c,a/a.
45	c54375	2.39gm	n.s.s.	38/50	710.mg	31/50	1.41gm	26/50		
a	c54375	2.49gm	n.s.s.	13/50	710.mg	12/50	1.41gm	14/50		liv:hpa,nnd,hpc.
b	c54375	5.49gm	n.s.s.	17/50	710.mg	11/50	1.41gm	8/50		lun:a/c,a/a.
46	c54375	639.mg	n.s.s.	7/49	296.mg	7/49	589.mg	19/50		---:leu,lym.
a	c54375	673.mg	n.s.s.	7/49	296.mg	7/49	589.mg	18/50		
b	c54375	402.mg	n.s.s.	44/49	296.mg	37/49	589.mg	45/50		
c	c54375	1.65gm	n.s.s.	1/49	296.mg	1/49	589.mg	4/50		liv:hpa,nnd,hpc.
47	c54375	n.s.s.	n.s.s.	0/50	228.mg	0/50	456.mg	0/50		
a	c54375	n.s.s.	n.s.s.	0/50	228.mg	0/50	456.mg	0/50		liv:hpa,nnd,hpc.
BUTYLATED HYDROXYANISOLE (BHA) 25013-16-5										
48	1525	1.30gm	n.s.s.	1/47	625.mg	3/30			Maru;clet,17,75-80;1982	
a	1525	2.39gm	n.s.s.	7/47	625.mg	2/30				
BUTYLATED HYDROXYTOLUENE*** (BHT) 128-37-0										
49	1528	1.40gm	n.s.s.	2/47	24.0mg	3/47	120.mg	5/46	600.mg 5/44	Shirai;fctx,20,861-865;1982
a	1528	2.26gm	n.s.s.	2/47	24.0mg	2/47	120.mg	1/46	600.mg 3/44	
b	1528	2.89gm	n.s.s.	3/47	24.0mg	0/47	120.mg	1/46	600.mg 2/44	
c	1528	3.81gm	n.s.s.	7/47	24.0mg	3/47	120.mg	2/46	600.mg 2/44	
50	1528	784.mg	n.s.s.	14/48	22.2mg	10/48	111.mg	13/50	554.mg 16/47	
a	1528	1.48gm	n.s.s.	8/48	22.2mg	8/48	111.mg	9/50	554.mg 8/47	
b	1528	1.53gm	n.s.s.	11/48	22.2mg	13/48	111.mg	12/50	554.mg 10/47	
c	1528	3.52gm	n.s.s.	4/48	22.2mg	5/48	111.mg	2/50	554.mg 2/47	
d	1528	4.36gm	n.s.s.	3/48	22.2mg	6/48	111.mg	2/50	554.mg 1/47	
51	1525	640.mg	7.00gm	1/47	625.mg	8/30			Maru;clet,17,75-80;1982	
a	1525	3.02gm	n.s.s.	7/47	625.mg	1/30				
CAFFEINE*** 58-08-2										
52	1326	471.mg	n.s.s.	0/32	71.4mg	0/32			Brune;zkko,102,153-157;1981	
53	1326	113.mg	n.s.s.	3/32	71.4mg	6/32				
a	1326	163.mg	n.s.s.	1/32	71.4mg	3/32				
b	1326	177.mg	n.s.s.	2/32	71.4mg	3/32				
54	1526	76.3mg	n.s.s.	41/50	42.9mg	44/48	85.7mg	37/50	Takayama;gann,73,365-371;1982	
55	1526	126.mg	n.s.s.	24/46	37.5mg	31/48	75.0mg	18/44		
CAPROLACTAM 105-60-2										
56	c50646	1.62gm	n.s.s.	31/50	956.mg	25/50	(1.91gm	16/50)		
a	c50646	13.4gm	n.s.s.	1/50	956.mg	1/50	1.91gm	1/50		liv:hpa,nnd,hpc.
b	c50646	26.9gm	n.s.s.	3/50	956.mg	0/50	1.91gm	0/50		lun:a/c,a/a.
57	c50646	3.51gm	n.s.s.	21/50	883.mg	18/50	1.77gm	19/50		
a	c50646	3.82gm	n.s.s.	8/50	883.mg	10/50	1.77gm	10/50		liv:hpa,nnd,hpc.
b	c50646	6.47gm	n.s.s.	4/50	883.mg	5/50	1.77gm	4/50		lun:a/c,a/a.
58	c50646	361.mg	n.s.s.	45/49	184.mg	46/50	368.mg	38/50		
a	c50646	n.s.s.	n.s.s.	0/49	184.mg	0/50	368.mg	0/50		liv:hpa,nnd,hpc.
59	c50646	1.08gm	n.s.s.	0/50	147.mg	0/50	294.mg	3/50		$
a	c50646	359.mg	n.s.s.	38/50	147.mg	32/50	294.mg	35/50		
b	c50646	804.mg	n.s.s.	1/50	147.mg	5/50	294.mg	2/50		liv:hpa,nnd,hpc.
CARBAZOLE (9H-carbazole) 86-74-8										
60	1481	64.8mg	174.mg	2/45	180.mg	35/49	(360.mg	24/43	749.mg 30/46)	Tsuda;jnci,69,1383-1387;1982
a	1481	663.mg	4.65gm	0/45	180.mg	5/49	360.mg	7/43	(749.mg 4/46)	
b	1481	1.15gm	83.3gm	0/45	180.mg	5/49	360.mg	8/43	749.mg 6/46	
c	1481	7.93gm	n.s.s.	2/45	180.mg	0/49	360.mg	0/43	749.mg 1/46	
61	1481	281.mg	763.mg	9/46	166.mg	12/42	332.mg	20/42	665.mg 37/48	
a	1481	1.44gm	6.58gm	0/46	166.mg	0/42	332.mg	1/42	665.mg 11/48	
b	1481	2.13gm	18.0gm	0/46	166.mg	0/42	332.mg	0/42	665.mg 7/48	

	Spe	Sex	Strain	Route	Site	Hist	Xpo+Xpt	Notes		TD50	DR	2Tailpvl	AuOp
c	M	m	b6c	eat	for	pam	22m24	e		7.03gm	*	P<.01	+
d	M	m	b6c	eat	lun	mix	22m24	e		no dre		P=1.	
CARRAGEENAN, ACID-DEGRADED* **									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
62	R	m	f34	eat	clr	mix	26w78	r	. + .	2.43gm		P<.0005	+
a	R	m	f34	eat	clr	sqc	26w78	r		3.33gm		P<.003	
63	R	m	f34	eat	clr	mix	39w78	r	. + .	1.49gm		P<.0005	+
CHLORDANE* **									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
64	M	m	cen	eat	liv	tum	52w52	kr		noTD50		P<.3	
CINNAMYL ANTHRANILATE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
65	M	f	b6c	eat	liv	MXA	24m24		:+ :	2.47gm	*	P<.0005	c
a	M	f	b6c	eat	liv	hpc	24m24			7.50gm	*	P<.0005	c
b	M	f	b6c	eat	TBA	MXB	24m24			14.4gm	*	P<.5	
c	M	f	b6c	eat	liv	MXB	24m24			2.47gm	*	P<.0005	
d	M	f	b6c	eat	lun	MXB	24m24			no dre		P=1.	
66	M	m	b6c	eat	liv	MXA	24m24		: + :	2.70gm	*	P<.0005	c
a	M	m	b6c	eat	TBA	MXB	24m24			3.08gm	*	P<.008	
b	M	m	b6c	eat	liv	MXB	24m24			2.70gm	*	P<.0005	
c	M	m	b6c	eat	lun	MXB	24m24			no dre		P=1.	
67	R	f	f34	eat	ute	esp	24m24		: + :#	1.46gm	\	P<.002	-
a	R	f	f34	eat	TBA	MXB	24m24			no dre		P=1.	
b	R	f	f34	eat	liv	MXB	24m24			no dre		P=1.	
68	R	m	f34	eat	MXB	MXB	24m24		: +	7.00gm	*	P<.003	
a	R	m	f34	eat	MXA	MXA	24m24			10.9gm	*	P<.03	
b	R	m	f34	eat	k/c	MXA	24m24			12.1gm	*	P<.03	c
c	R	m	f34	eat	pan	MXA	24m24			17.5gm	*	P<.05	c
d	R	m	f34	eat	TBA	MXB	24m24			7.69gm	*	P<.7	
e	R	m	f34	eat	liv	MXB	24m24			9.40gm	*	P<.3	
CYTEMBENA									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
69	M	f	b6c	eat	---	lhc	24m24		: ±	#50.6mg	*	P<.02	-
a	M	f	b6c	eat	liv	hpa	24m24			85.1mg	*	P<.02	
b	M	f	b6c	eat	TBA	MXB	24m24			28.4mg	*	P<.4	
c	M	f	b6c	eat	liv	MXB	24m24			72.6mg	*	P<.3	
d	M	f	b6c	eat	lun	MXB	24m24			no dre		P=1.	
70	M	m	b6c	eat	TBA	MXB	24m24		:>	18.9mg	*	P<.5	-
a	M	m	b6c	eat	liv	MXB	24m24			47.8mg	*	P<.7	
b	M	m	b6c	eat	lun	MXB	24m24			161.mg	*	P<.9	
71	R	f	f34	eat	mgl	fba	24m24		: + :	4.45mg	*	P<.002	c
a	R	f	f34	eat	liv	nnd	24m24			44.7mg	*	P<.03	
b	R	f	f34	eat	TBA	MXB	24m24			9.46mg	*	P<.4	
c	R	f	f34	eat	liv	MXB	24m24			44.7mg	*	P<.03	
72	R	m	f34	eat	MXB	MXB	24m24		: + :	1.05mg	\	P<.0005	
a	R	m	f34	eat	mul	msm	24m24			2.01mg	\	P<.0005	c
b	R	m	f34	eat	tnv	men	24m24			2.48mg	\	P<.0005	c
c	R	m	f34	eat	TBA	MXB	24m24			1.16mg	\	P<.002	
d	R	m	f34	eat	liv	MXB	24m24			56.5mg	*	P<.4	
DEXTRAN SULFATE SODIUM (DS-M-1)									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
73	R	b	aci	eat	itn	mix	94w94	e	. + .	191.mg		P<.0005	+
a	R	b	aci	eat	clr	pam	94w94	e		331.mg		P<.0005	
b	R	b	aci	eat	clr	sqc	94w94	e		1.76gm		P<.04	+
1,2-DIALLYLHYDRAZINE.2HCl									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
74	M	f	swa	wat	lun	mix	83w83	es	. + .	33.8mg		P<.0005	+
a	M	f	swa	wat	lun	ade	83w83	es		47.9mg		P<.0005	
b	M	f	swa	wat	lun	adc	83w83	es		78.3mg		P<.0005	
c	M	f	swa	wat	liv	hpt	83w83	es		409.mg		P<.4	-
d	M	f	swa	wat	liv	ang	83w83	es		no dre		P=1.	-
e	M	f	swa	wat	liv	agm	83w83	es		no dre		P=1.	-
75	M	m	swa	wat	lun	mix	82w82	es	. + .	33.9mg		P<.0005	+
a	M	m	swa	wat	lun	ade	82w82	es		35.4mg		P<.0005	
b	M	m	swa	wat	lun	adc	82w82	es		60.0mg		P<.0005	
c	M	m	swa	wat	liv	mix	82w82	es		no dre		P=1.	
d	M	m	swa	wat	liv	agm	82w82	es		no dre		P=1.	-
4,4'-DIAMINOAZOBENZENE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
76	M	f	bld	eat	lun	mix	14m31	e	.>	240.mg	*	P<.2	-
a	M	f	bld	eat	liv	mix	14m31	e		no dre		P=1.	-
77	M	m	bld	eat	lun	mix	14m31	e	.>	213.mg	*	P<.2	-
a	M	m	bld	eat	liv	mix	14m31	e		no dre		P=1.	-
4,4'-DIAMINOBENZANILIDE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
78	M	f	bld	eat	lun	mix	14m31	e	.>	360.mg	*	P<.5	-
a	M	f	bld	eat	liv	mix	14m31	e		no dre		P=1.	-
79	M	m	bld	eat	lun	mix	14m31	e	.>	no dre		P=1.	-
a	M	m	bld	eat	liv	mix	14m31	e		no dre		P=1.	-

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc		Citation or Pathology	Brkly Code
c	1481	2.67gm	430.gm	0/46	166.mg	0/42	332.mg	1/42	665.mg 4/48		
d	1481	4.29gm	n.s.s.	4/46	166.mg	0/42	332.mg	1/42	665.mg 3/48		
CARRAGEENAN, ACID-DEGRADED*** ---											
62	1517m	1.10gm	7.80gm	0/46	1.33gm	8/42				Oohashi;clet,14,267-272;1981	
a	1517m	1.36gm	17.5gm	0/46	1.33gm	6/42					
63	1517n	836.mg	3.00gm	0/46	2.00gm	17/42					
CHLORDANE*** 57-74-9											
64	1477	n.s.s.	n.s.s.	5/8	3.00mg	8/8				Becker;canr,42,3918-3923;1982	
CINNAMYL ANTHRANILATE 87-29-6											
65	c03510	1.66gm	4.50gm	3/50	1.91gm	20/50	3.79gm	33/50		liv:hpa,hpc.	
a	c03510	4.28gm	21.9gm	1/50	1.91gm	8/50	3.79gm	14/50			
b	c03510	2.96gm	n.s.s.	32/50	1.91gm	30/50	3.79gm	36/50			
c	c03510	1.66gm	4.50gm	3/50	1.91gm	20/50	3.79gm	33/50		liv:hpa,nnd,hpc.	
d	c03510	20.2gm	n.s.s.	6/50	1.91gm	4/50	3.79gm	2/50		lun:a/c,a/a.	
66	c03510	1.53gm	9.53gm	14/50	1.75gm	30/50	3.53gm	37/50		liv:hpa,hpc.	
a	c03510	1.53gm	73.0gm	22/50	1.75gm	39/50	3.53gm	40/50			
b	c03510	1.53gm	9.53gm	14/50	1.75gm	30/50	3.53gm	37/50		liv:hpa,nnd,hpc.	
c	c03510	12.5gm	n.s.s.	7/50	1.75gm	8/50	3.53gm	4/50		lun:a/c,a/a.	
67	c03510	740.mg	6.34gm	2/49	736.mg	16/50	(1.46gm	9/50)			S
a	c03510	2.38gm	n.s.s.	34/49	736.mg	37/50	1.46gm	28/50			
b	c03510	13.6gm	n.s.s.	2/49	736.mg	2/50	1.46gm	0/50		liv:hpa,nnd,hpc.	
68	c03510	3.02gm	35.3gm	0/50	583.mg	0/50	1.18gm	7/50		k/c:acn,adn; pan:acc,ana.	C
a	c03510	4.13gm	n.s.s.	0/50	583.mg	1/50	1.18gm	4/50		abc:msm; per:msm.	S
b	c03510	4.18gm	n.s.s.	0/50	583.mg	0/50	1.18gm	4/50		k/c:acn,adn.	
c	c03510	5.26gm	n.s.s.	0/50	583.mg	0/50	1.18gm	3/50		pan:acc,ana.	
d	c03510	1.12gm	n.s.s.	26/50	583.mg	30/50	1.18gm	32/50			
e	c03510	3.01gm	n.s.s.	1/50	583.mg	4/50	1.18gm	4/50		liv:hpa,nnd,hpc.	
CYTEMBENA (NCI uses CAS# 21739-91-3) 16170-75-5											
69	c50737	21.8mg	n.s.s.	0/50	5.12mg	3/50	10.2mg	4/50			S
a	c50737	29.4mg	n.s.s.	0/50	5.12mg	0/50	10.2mg	4/50			S
b	c50737	7.91mg	n.s.s.	26/50	5.12mg	23/50	10.2mg	29/50			
c	c50737	21.6mg	n.s.s.	3/50	5.12mg	3/50	10.2mg	6/50		liv:hpa,nnd,hpc.	
d	c50737	50.0mg	n.s.s.	7/50	5.12mg	4/50	10.2mg	2/50		lun:a/c,a/a.	
70	c50737	4.29mg	n.s.s.	28/50	5.12mg	30/50	10.2mg	24/50			
a	c50737	7.03mg	n.s.s.	16/50	5.12mg	18/50	10.2mg	13/50		liv:hpa,nnd,hpc.	
b	c50737	12.7mg	n.s.s.	6/50	5.12mg	7/50	10.2mg	5/50		lun:a/c,a/a.	
71	c50737	2.45mg	18.3mg	13/50	2.99mg	22/50	5.97mg	36/50			
a	c50737	16.8mg	n.s.s.	0/50	2.99mg	1/50	5.97mg	4/50			S
b	c50737	2.63mg	n.s.s.	38/50	2.99mg	44/50	5.97mg	47/50			
c	c50737	16.8mg	n.s.s.	0/50	2.99mg	1/50	5.97mg	4/50		liv:hpa,nnd,hpc.	
72	c50737	.624mg	1.90mg	3/50	2.99mg	37/50	(5.97mg	36/50)		mul:msm; tnv:men.	C
a	c50737	1.15mg	4.05mg	3/50	2.99mg	26/50	(5.97mg	26/50)			
b	c50737	1.14mg	6.60mg	0/50	2.99mg	11/50	(5.97mg	10/50)			
c	c50737	.572mg	6.25mg	42/50	2.99mg	45/50	(5.97mg	48/50)			
d	c50737	11.3mg	n.s.s.	1/50	2.99mg	1/50	5.97mg	2/50		liv:hpa,nnd,hpc.	
DEXTRAN SULFATE SODIUM (DS-M-1) (DS-M-1, MW=54,000) ---											
73	1482	110.mg	361.mg	0/20	450.mg	22/30				Hirono;carc,3,353-355;1982	
a	1482	181.mg	691.mg	0/20	450.mg	16/30					
b	1482	607.mg	n.s.s.	0/20	450.mg	4/30					
1,2-DIALLYLHYDRAZINE.2HCl ---											
74	1531	20.0mg	63.9mg	25/99	125.mg	40/47				Toth;onco,39,104-108;1982	
a	1531	28.4mg	93.7mg	20/99	125.mg	35/47					
b	1531	46.2mg	154.mg	6/99	125.mg	25/47					
c	1531	66.3mg	n.s.s.	0/5	125.mg	1/8					
d	1531	389.mg	n.s.s.	3/32	125.mg	1/33					
e	1531	328.mg	n.s.s.	1/32	125.mg	1/33					
75	1531	20.2mg	65.8mg	26/100	104.mg	40/50					
a	1531	21.8mg	64.0mg	16/100	104.mg	38/50					
b	1531	35.3mg	122.mg	12/100	104.mg	29/50					
c	1531	290.mg	n.s.s.	6/52	104.mg	2/36					
d	1531	202.mg	n.s.s.	4/47	104.mg	2/29					
4,4'-DIAMINOAZOBENZENE (DAAB) 538-41-0											
76	1368	75.0mg	n.s.s.	11/40	5.91mg	7/40	17.7mg	11/40	35.5mg 14/39	Della Porta;clet,14,329-336;1981	
a	1368	52.2mg	n.s.s.	1/40	5.91mg	0/40	17.7mg	0/40	35.5mg 0/39		
77	1368	70.9mg	n.s.s.	10/39	5.45mg	6/39	16.4mg	10/40	32.7mg 14/40		
a	1368	492.mg	n.s.s.	1/39	5.45mg	0/39	16.4mg	1/40	32.7mg 0/40		
4,4'-DIAMINOBENZANILIDE (DABA) 785-30-8											
78	1368	77.8mg	n.s.s.	11/40	5.91mg	13/40	17.7mg	10/38	35.5mg 15/40	Della Porta;clet,14,329-336;1981	
a	1368	51.7mg	n.s.s.	1/40	5.91mg	0/40	17.7mg	0/38	35.5mg 0/40		
79	1368	90.6mg	n.s.s.	10/39	5.45mg	17/39	16.4mg	10/40	32.7mg 13/39		
a	1368	596.mg	n.s.s.	1/39	5.45mg	1/39	16.4mg	0/40	32.7mg 0/39		

	Spe Sex	Strain Route	Site Hist	Xpo+Xpt Notes	100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10	TD50 DR	2Tailpvl AuOp
2,6-DIAMINOTOLUENE.2HCl							
80	M f	b6c eat	liv hpc	24m24	: ±	#181.mg *	P<.05 -
a	M f	b6c eat	TBA MXB	24m24		75.9mg *	P<.7
b	M f	b6c eat	liv MXB	24m24		129.mg *	P<.4
c	M f	b6c eat	lun MXB	24m24		no dre	P=1.
81	M m	b6c eat	--- lym	24m24	: ±	#20.5mg \	P<.05 -
a	M m	b6c eat	TBA MXB	24m24		no dre	P=1.
b	M m	b6c eat	liv MXB	24m24		no dre	P=1.
c	M m	b6c eat	lun MXB	24m24		no dre	P=1.
82	R f	f34 eat	TBA MXB	24m24	:>	no dre	P=1. -
a	R f	f34 eat	liv MXB	24m24		455.mg *	P<.1
83	R m	f34 eat	liv MXA	24m24	: ±	#117.mg *	P<.03 -
a	R m	f34 eat	pni isa	24m24		140.mg *	P<.03
b	R m	f34 eat	TBA MXB	24m24		no dre	P=1.
c	R m	f34 eat	liv MXB	24m24		117.mg *	P<.03
5,7-DIBROMOQUINOLINE					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
84	R f	f34 eat	liv hnd	24m24 e	.>	no dre	P=1. -
85	R m	f34 eat	tes ict	24m24 e	. ±	69.4mg	P<.06 -
a	R m	f34 eat	liv hnd	24m24 e		754.mg	P<.3 -
3,5-DICHLORO(N-1,1-DIMETHYL-2-PROPYNYL)BENZAMIDE					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
86	M m	b6c eat	liv hnd	52w52 r	. + .	43.4mg Z	P<.002
a	M m	b6c eat	liv hpa	52w52 r		969.mg *	P<.3
b	M m	b6c eat	liv hpc	52w52 r		56.6gm *	P<1.
87	M m	b6c eat	liv hnd	78w78 r	. + .	286.mg *	P<.003
a	M m	b6c eat	liv hpc	78w78 r		1.02gm *	P<.06
b	M m	b6c eat	liv hpa	78w78 r		1.30gm *	P<.2
88	M m	b6c eat	liv hnd	24m24 r	. + .	113.mg Z	P<.002
a	M m	b6c eat	liv hpc	24m24 r		119.mg Z	P<.0005+
b	M m	b6c eat	liv hpa	24m24 r		400.mg *	P<.0005
2,6-DICHLORO-p-PHENYLENEDIAMINE					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
89	M f	b6c eat	liv MXA	24m26	: +	883.mg *	P<.008 c
a	M f	b6c eat	liv hpc	24m26		2.03gm *	P<.04 c
b	M f	b6c eat	TBA MXB	24m26		801.mg *	P<.2
c	M f	b6c eat	liv MXB	24m26		883.mg *	P<.008
d	M f	b6c eat	lun MXB	24m26		42.1gm *	P<.9
90	M m	b6c eat	liv MXA	24m26	: ±	737.mg *	P<.07 c
a	M m	b6c eat	liv hpa	24m26		933.mg *	P<.02 c
b	M m	b6c eat	TBA MXB	24m26		1.73gm *	P<.6
c	M m	b6c eat	liv MXB	24m26		737.mg *	P<.07
d	M m	b6c eat	lun MXB	24m26		no dre	P=1.
91	R f	f34 eat	TBA MXB	24m26	:>	no dre	P=1. -
a	R f	f34 eat	liv MXB	24m26		2.96gm *	P<.3
92	R m	f34 eat	TBA MXB	24m26	:>	914.mg *	P<.9 -
a	R m	f34 eat	liv MXB	24m26		340.mg *	P<.05
DL-ETHIONINE* **					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
93	R m	fis eat	liv hpc	69w69 e	. + .	5.24mg	P<.0005+
a	R m	fis eat	liv clc	69w69 e		235.mg	P<.3
94	R m	fis eat	liv hpc	52w52	. + .	12.4mg	P<.0005+
95	R m	fis eat	liv hpc	39w52	<+	noTD50	P<.0005+
a	R m	fis eat	liv clc	39w52		250.mg	P<.3
ETHYL ALCOHOL* **					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
96	R m	sda wat	liv hnd	30m30 e	.	+8.26gm	P<.0005
a	R m	sda wat	pit tum	30m30 e		9.11gm	P<.0005+
b	R m	sda wat	adr tum	30m30 e		13.7gm	P<.0005+
c	R m	sda wat	pan tum	30m30 e		13.7gm	P<.0005+
d	R m	sda wat	liv hpc	30m30 e		28.4gm	P<.02 +
e	R m	sda wat	tba mix	30m30 e		2.13gm	P<.0005
ETHYL METHYLPHENYLGLYCIDATE					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
97	R f	wis eat	pit ade	24m24 e	. ±	331.mg *	P<.05 -
a	R f	wis eat	liv hae	24m24 e		9.36gm *	P<.2 -
b	R f	wis eat	tba ben	24m24 e		253.mg *	P<.06 -
c	R f	wis eat	tba mal	24m24 e		2.23gm *	P<.2 -
98	R m	wis eat	tes ict	24m24 e	.>	1.15gm Z	P<.2 -
a	R m	wis eat	liv tum	24m24 e		no dre	P=1. -
b	R m	wis eat	tba ben	24m24 e		1.15gm *	P<.5 -
c	R m	wis eat	tba mal	24m24 e		4.11gm *	P<.7 -
ETHYLENE OXIDE					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
99	R f	sda gav	sto mix	25m35 e	.+ .	7.43mg *	P<.0005+
a	R f	sda gav	for sqc	25m35 e		10.6mg *	P<.0005+
b	R f	sda gav	mgl adf	25m35 e		10.0mg \	P<.02 -

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc					Citation or Pathology	Brkly Code
2,6-DIAMINOTOLUENE.2HCl (2,6-toluenediamine.2HCl) 15481-70-6														
80	c50317	54.8mg	n.s.s.	0/50	6.40mg	0/50	12.9mg	3/50						S
a	c50317	12.6mg	n.s.s.	21/50	6.40mg	30/50	12.9mg	24/50						
b	c50317	32.0mg	n.s.s.	4/50	6.40mg	3/50	12.9mg	7/50						liv:hpa,nnd,hpc.
c	c50317	38.9mg	n.s.s.	4/50	6.40mg	8/50	12.9mg	3/50						lun:a/c,a/a.
81	c50317	7.63mg	n.s.s.	2/50	5.90mg	8/50	(11.9mg	2/50)						S
a	c50317	12.2mg	n.s.s.	31/50	5.90mg	36/50	11.9mg	26/50						
b	c50317	17.1mg	n.s.s.	21/50	5.90mg	17/50	11.9mg	18/50						liv:hpa,nnd,hpc.
c	c50317	25.7mg	n.s.s.	11/50	5.90mg	13/50	11.9mg	7/50						lun:a/c,a/a.
82	c50317	22.7mg	n.s.s.	42/50	12.4mg	38/50	24.8mg	39/50						
a	c50317	112.mg	n.s.s.	0/50	12.4mg	0/50	24.8mg	2/50						liv:hpa,nnd,hpc.
83	c50317	47.6mg	n.s.s.	0/50	9.90mg	2/50	19.8mg	4/50						liv:nnd,hpc. S
a	c50317	53.0mg	n.s.s.	0/50	9.90mg	1/50	19.8mg	4/50						S
b	c50317	16.3mg	n.s.s.	32/50	9.90mg	38/50	19.8mg	36/50						
c	c50317	47.6mg	n.s.s.	0/50	9.90mg	2/50	19.8mg	4/50						liv:hpa,nnd,hpc.
5,7-DIBROMOQUINOLINE 34522-69-5														
84	1529	199.mg	n.s.s.	3/44	50.0mg	2/37							Fukushima;clet,14,115-123;1981	
85	1529	26.1mg	n.s.s.	8/31	40.0mg	14/28								
a	1529	123.mg	n.s.s.	0/31	40.0mg	1/28								
3,5-DICHLORO(N-1,1-DIMETHYL-2-PROPYNYL)BENZAMIDE 23950-58-5														
86	1473m	19.5mg	263.mg	9/84	2.40mg	3/42	12.0mg	2/42	60.0mg	13/42	(300.mg	13/42)	Essigmann;canr,41,2823-2831;1981	
a	1473m	214.mg	n.s.s.	2/84	2.40mg	1/42	12.0mg	2/42	60.0mg	3/42	300.mg	3/42		
b	1473m	361.mg	n.s.s.	2/84	2.40mg	0/42	12.0mg	2/42	60.0mg	2/42	300.mg	1/42		
87	1473n	133.mg	1.86gm	13/84	2.40mg	14/42	12.0mg	9/42	60.0mg	13/42	300.mg	19/41		
a	1473n	329.mg	n.s.s.	3/84	2.40mg	3/42	12.0mg	3/42	60.0mg	4/42	300.mg	6/41		
b	1473n	375.mg	n.s.s.	3/84	2.40mg	4/42	12.0mg	4/42	60.0mg	2/42	300.mg	6/41		
88	1473o	56.1mg	544.mg	22/126	2.40mg	14/63	12.0mg	24/63	60.0mg	26/63	(300.mg	19/63)		
a	1473o	64.5mg	323.mg	6/126	2.40mg	9/63	12.0mg	12/63	60.0mg	20/63	(300.mg	14/63)		
b	1473o	247.mg	756.mg	5/126	2.40mg	6/63	12.0mg	7/63	60.0mg	8/63	300.mg	28/63		
2,6-DICHLORO-p-PHENYLENEDIAMINE 609-20-1														
89	c50260	409.mg	18.5gm	6/50	121.mg	6/50	362.mg	16/50						liv:hpa,hpc.
a	c50260	770.mg	n.s.s.	2/50	121.mg	2/50	362.mg	7/50						
b	c50260	273.mg	n.s.s.	31/50	121.mg	26/50	362.mg	37/50						
c	c50260	409.mg	18.5gm	6/50	121.mg	6/50	362.mg	16/50						liv:hpa,nnd,hpc.
d	c50260	1.67gm	n.s.s.	2/50	121.mg	2/50	362.mg	2/50						lun:a/c,a/a.
90	c50260	284.mg	n.s.s.	16/50	111.mg	19/50	334.mg	29/50						liv:hpa,hpc.
a	c50260	431.mg	n.s.s.	4/50	111.mg	7/50	334.mg	15/50						
b	c50260	299.mg	n.s.s.	32/50	111.mg	30/50	334.mg	38/50						
c	c50260	284.mg	n.s.s.	16/50	111.mg	19/50	334.mg	29/50						liv:hpa,nnd,hpc.
d	c50260	559.mg	n.s.s.	13/50	111.mg	5/50	(334.mg	4/50)						lun:a/c,a/a.
91	c50260	66.1mg	n.s.s.	49/50	92.8mg	45/50	(278.mg	38/50)						
a	c50260	757.mg	n.s.s.	3/50	92.8mg	2/50	278.mg	6/50						liv:hpa,nnd,hpc.
92	c50260	58.3mg	n.s.s.	42/50	37.1mg	37/50	74.2mg	34/50						
a	c50260	132.mg	n.s.s.	1/50	37.1mg	3/50	74.2mg	5/50						liv:hpa,nnd,hpc.
DL-ETHIONINE*** 67-21-0														
93	1491m	2.49mg	11.5mg	0/20	40.0mg	18/20							Leopold;canr,42,4364-4374;1982	
a	1491m	38.3mg	n.s.s.	0/20	40.0mg	1/20								
94	1491n	6.33mg	27.2mg	0/20	100.mg	15/20								
95	1491o	n.s.s.	6.85mg	0/20	75.0mg	20/20								
a	1491o	40.8mg	n.s.s.	0/20	75.0mg	1/20								
ETHYL ALCOHOL*** 64-17-5														
96	1440	4.47gm	29.0gm	10/80	2.50gm	29/79							Radike;enhp,41,59-62;1981	
a	1440	4.89gm	32.1gm	8/80	2.50gm	26/79								
b	1440	7.38gm	29.9gm	0/80	2.50gm	14/79								
c	1440	7.38gm	29.9gm	0/80	2.50gm	14/79								
d	1440	11.9gm	n.s.s.	1/80	2.50gm	8/79								
e	1440	1.42gm	3.51gm	16/80	2.50gm	61/79								
ETHYL METHYLPHENYLGLYCIDATE 77-83-8														
97	1383	126.mg	n.s.s.	18/43	10.0mg	30/44	50.0mg	24/41	250.mg	31/43			Dunnington;fctx,19,691-699;1981	
a	1383	1.52gm	n.s.s.	0/44	10.0mg	0/44	50.0mg	0/42	250.mg	1/45				
b	1383	92.7mg	n.s.s.	24/44	10.0mg	35/44	50.0mg	33/42	250.mg	37/45				
c	1383	601.mg	n.s.s.	1/44	10.0mg	3/44	50.0mg	3/42	250.mg	5/45				
98	1383	335.mg	n.s.s.	2/38	8.00mg	8/35	40.0mg	1/35	200.mg	8/36				
a	1383	50.8mg	n.s.s.	0/37	8.00mg	0/38	40.0mg	0/39	200.mg	0/39				
b	1383	230.mg	n.s.s.	10/38	8.00mg	20/39	40.0mg	11/39	200.mg	17/39				
c	1383	491.mg	n.s.s.	2/38	8.00mg	6/39	40.0mg	4/39	200.mg	5/39				
ETHYLENE OXIDE 75-21-8														
99	1486	5.12mg	11.3mg	0/50	1.53mg	12/50	6.11mg	35/50					Dunkelberg;bjca,46,924-933;1982	
a	1486	7.06mg	16.9mg	0/50	1.53mg	8/50	6.11mg	29/50						
b	1486	4.33mg	n.s.s.	4/50	1.53mg	13/50	(6.11mg	1/50)						

	Spe Sex	Strain Route	Site Hist	Xpo+Xpt Notes	TD50 DR	2Tailpvl AuOp
DI(2-ETHYLHEXYL)ADIPATE				100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
100	M f	b6c eat	liv hpc	24m24 : +	:3.05gm \	P<.0005c
a	M f	b6c eat	liv MXA	24m24	3.84gm *	P<.0005c
b	M f	b6c eat	TBA MXB	24m24	no dre	P=1.
c	M f	b6c eat	liv MXB	24m24	3.84gm *	P<.0005
d	M f	b6c eat	lun MXB	24m24	no dre	P=1.
101	M m	b6c eat	liv MXA	24m24 : ±	5.33gm *	P<.06 c
a	M m	b6c eat	liv hpa	24m24	9.04gm *	P<.07 c
b	M m	b6c eat	TBA MXB	24m24	no dre	P=1.
c	M m	b6c eat	liv MXB	24m24	5.33gm *	P<.06
d	M m	b6c eat	lun MXB	24m24	11.7gm \	P<.6
102	R f	f34 eat	TBA MXB	24m24 :>	no dre	P=1. -
a	R f	f34 eat	liv MXB	24m24	14.5gm *	P<.6
103	R m	f34 eat	TBA MXB	24m24 :>	no dre	P=1. -
a	R m	f34 eat	liv MXB	24m24	no dre	P=1.
DI(2-ETHYLHEXYL)PHTHALATE				100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
104	M f	b6c eat	liv MXA	24m24 : + :	3.40gm *	P<.0005c
a	M f	b6c eat	liv hpc	24m24	4.30gm *	P<.0005c
b	M f	b6c eat	TBA MXB	24m24	1.39gm \	P<.003
c	M f	b6c eat	liv MXB	24m24	3.40gm *	P<.0005
d	M f	b6c eat	lun MXB	24m24	29.8gm *	P<.07
105	M m	b6c eat	liv MXA	24m24 : ±	4.05gm *	P<.03 c
a	M m	b6c eat	liv hpc	24m24	7.50gm *	P<.08 c
b	M m	b6c eat	TBA MXB	24m24	6.41gm *	P<.4
c	M m	b6c eat	liv MXB	24m24	4.05gm *	P<.03
d	M m	b6c eat	lun MXB	24m24	no dre	P=1.
106	R f	f34 eat	liv MXA	24m24 : + :	2.28gm *	P<.0005c
a	R f	f34 eat	liv hpc	24m24	4.74gm *	P<.002 c
b	R f	f34 eat	liv nnd	24m24	4.85gm *	P<.02
c	R f	f34 eat	TBA MXB	24m24	3.49gm *	P<.6
d	R f	f34 eat	liv MXB	24m24	2.28gm *	P<.0005
107	R m	f34 eat	liv MXA	24m24 : ±	2.41gm *	P<.03 c
a	R m	f34 eat	liv hpc	24m24	6.85gm *	P<.1 c
b	R m	f34 eat	TBA MXB	24m24	no dre	P=1.
c	R m	f34 eat	liv MXB	24m24	2.41gm *	P<.03
FLUOMETURON				100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
108	M f	b6c eat	TBA MXB	24m24 :>	369.mg *	P<.2 -
a	M f	b6c eat	liv MXB	24m24	1.23gm *	P<.4
b	M f	b6c eat	lun MXB	24m24	no dre	P=1.
109	M m	b6c eat	liv MXA	24m24 : ±	229.mg *	P<.06 a
a	M m	b6c eat	TBA MXB	24m24	265.mg *	P<.3
b	M m	b6c eat	liv MXB	24m24	229.mg *	P<.06
c	M m	b6c eat	lun MXB	24m24	1.42gm *	P<.6
110	R f	f34 eat	TBA MXB	24m24 v :>	no dre	P=1. -
a	R f	f34 eat	liv MXB	24m24 v	no dre	P=1.
111	R m	f34 eat	liv nnd	24m24 v : ±	#55.4mg *	P<.04 -
a	R m	f34 eat	TBA MXB	24m24 v	no dre	P=1.
b	R m	f34 eat	liv MXB	24m24 v	55.4mg *	P<.04
FORMALDEHYDE				100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
112	M m	syg inh	res tum	94w94 r .>	no dre	P=1. -
113	M m	syg inh	res tum	25m25 rs .>	no dre	P=1. -
GEMFIBROZIL				100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
114	M f	cd1 eat	tba mix	78w78 e .>	220.mg *	P<.6 -
a	M f	cd1 eat	tba ben	78w78 e	173.mg *	P<.3 -
b	M f	cd1 eat	tba mal	78w78 e	no dre	P=1. -
115	M m	cd1 eat	tba mix	78w78 e .>	no dre	P=1. -
a	M m	cd1 eat	tba ben	78w78 e	no dre	P=1. -
b	M m	cd1 eat	tba mal	78w78 e	no dre	P=1. -
116	R f	cdr eat	tba mix	24m24 e .>	no dre	P=1. -
a	R f	cdr eat	tba ben	24m24 e	no dre	P=1.
b	R f	cdr eat	tba mal	24m24 e	587.mg *	P<.9
117	R m	cdr eat	tba mix	24m24 e . ±	8.07mg *	P<.08
a	R m	cdr eat	tba ben	24m24 e	7.85mg *	P<.02
b	R m	cdr eat	tba mal	24m24 e	41.6mg *	P<.2
beta-N-[gamma-L(+)-GLUTAMYL]-4-HYDROXYMETHYLPHENYLHYDRAZINE				..:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
118	M f	swa wat	liv ang	28m28 e .>	2.72gm	P<.4
a	M f	swa wat	lun ade	28m28 e	3.29gm	P<.8
b	M f	swa wat	lun mix	28m28 e	no dre	P=1. -
119	M m	swa wat	liv ang	28m28 aes .>	2.04gm	P<.4
a	M m	swa wat	liv hpt	28m28 aes	3.31gm	P<.5 -
b	M m	swa wat	lun ade	28m28 aes	no dre	P=1.
c	M m	swa wat	lun mix	28m28 aes	no dre	P=1. -

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology	Brkly Code
DI(2-ETHYLHEXYL)ADIPATE 103-23-1										
100	c54386	1.57gm	9.40gm	1/50	1.52gm	14/50	(3.19gm	12/50)		
a	c54386	2.29gm	11.3gm	3/50	1.52gm	19/50	3.19gm	18/50		liv:hpa,hpc.
b	c54386	3.44gm	n.s.s.	37/50	1.52gm	33/50	3.19gm	30/50		
c	c54386	2.29gm	11.3gm	3/50	1.52gm	19/50	3.19gm	18/50		liv:hpa,nnd,hpc.
d	c54386	17.8gm	n.s.s.	6/50	1.52gm	1/50	3.19gm	3/50		lun:a/c,a/a.
101	c54386	2.25gm	n.s.s.	13/50	1.41gm	20/50	2.96gm	27/50		liv:hpa,hpc.
a	c54386	3.62gm	n.s.s.	6/50	1.41gm	8/50	2.96gm	15/50		
b	c54386	2.99gm	n.s.s.	33/50	1.41gm	32/50	2.96gm	34/50		
c	c54386	2.25gm	n.s.s.	13/50	1.41gm	20/50	2.96gm	27/50		liv:hpa,nnd,hpc.
d	c54386	2.04gm	n.s.s.	8/50	1.41gm	9/50	(2.96gm	3/50)		lun:a/c,a/a.
102	c54386	699.mg	n.s.s.	44/50	589.mg	41/50	(1.23gm	34/50)		
a	c54386	4.76gm	n.s.s.	0/50	589.mg	3/50	1.23gm	1/50		liv:hpa,nnd,hpc.
103	c54386	1.47gm	n.s.s.	30/49	466.mg	32/50	986.mg	26/50		
a	c54386	4.46gm	n.s.s.	2/49	466.mg	2/50	986.mg	2/50		liv:hpa,nnd,hpc.
DI(2-ETHYLHEXYL)PHTHALATE 117-81-7										
104	c52733	2.11gm	6.92gm	1/50	1.52gm	12/50	3.19gm	18/50		liv:hpa,hpc.
a	c52733	2.62gm	7.76gm	0/50	1.52gm	7/50	3.19gm	17/50		
b	c52733	695.mg	8.22gm	20/50	1.52gm	35/50	(3.19gm	35/50)		
c	c52733	2.11gm	6.92gm	1/50	1.52gm	12/50	3.19gm	18/50		liv:hpa,nnd,hpc.
d	c52733	9.03gm	n.s.s.	0/50	1.52gm	1/50	3.19gm	2/50		lun:a/c,a/a.
105	c52733	1.81gm	n.s.s.	14/50	1.41gm	25/49	2.96gm	29/50		liv:hpa,hpc.
a	c52733	3.02gm	n.s.s.	9/50	1.41gm	14/49	2.96gm	19/50		
b	c52733	1.71gm	n.s.s.	29/50	1.41gm	37/49	2.96gm	38/50		
c	c52733	1.81gm	n.s.s.	14/50	1.41gm	25/49	2.96gm	29/50		liv:hpa,nnd,hpc.
d	c52733	8.12gm	n.s.s.	10/50	1.41gm	9/49	2.96gm	7/50		lun:a/c,a/a.
106	c52733	1.33gm	4.98gm	0/50	591.mg	6/50	1.23gm	13/50		liv:nnd,hpc.
a	c52733	2.30gm	12.1gm	0/50	591.mg	2/50	1.23gm	8/50		
b	c52733	2.28gm	n.s.s.	0/50	591.mg	4/50	1.23gm	5/50		S
c	c52733	666.mg	n.s.s.	41/50	591.mg	43/50	1.23gm	49/50		
d	c52733	1.33gm	4.98gm	0/50	591.mg	6/50	1.23gm	13/50		liv:hpa,nnd,hpc.
107	c52733	1.08gm	n.s.s.	3/50	466.mg	6/50	986.mg	12/50		liv:nnd,hpc.
a	c52733	2.30gm	n.s.s.	1/50	466.mg	1/50	986.mg	5/50		
b	c52733	940.mg	n.s.s.	36/50	466.mg	35/50	986.mg	34/50		
c	c52733	1.08gm	n.s.s.	3/50	466.mg	6/50	986.mg	12/50		liv:hpa,nnd,hpc.
FLUOMETURON 2164-17-2										
108	c08695	127.mg	n.s.s.	9/25	64.4mg	15/50	129.mg	23/50		
a	c08695	324.mg	n.s.s.	1/25	64.4mg	3/50	129.mg	4/50		liv:hpa,nnd,hpc.
b	c08695	636.mg	n.s.s.	1/25	64.4mg	2/50	129.mg	1/50		lun:a/c,a/a.
109	c08695	103.mg	n.s.s.	4/25	59.4mg	13/50	118.mg	21/50		liv:hpa,hpc.
a	c08695	80.2mg	n.s.s.	9/25	59.4mg	27/50	118.mg	29/50		
b	c08695	103.mg	n.s.s.	4/25	59.4mg	13/50	118.mg	21/50		liv:hpa,nnd,hpc.
c	c08695	262.mg	n.s.s.	2/25	59.4mg	4/50	118.mg	6/50		lun:a/c,a/a.
110	c08695	16.0mg	n.s.s.	45/50	6.10mg	41/50	12.4mg	42/50		
a	c08695	77.6mg	n.s.s.	3/50	6.10mg	3/50	12.4mg	1/50		liv:hpa,nnd,hpc.
111	c08695	21.1mg	n.s.s.	0/50	5.00mg	1/50	9.90mg	4/50		S
a	c08695	9.84mg	n.s.s.	30/50	5.00mg	24/50	9.90mg	35/50		
b	c08695	21.1mg	n.s.s.	0/50	5.00mg	1/50	9.90mg	4/50		liv:hpa,nnd,hpc.
FORMALDEHYDE 50-00-0										
112	1414m	6.50mg	n.s.s.	0/50	.772mg	0/50			Dalbey;txcy,24,9-14;1982	
113	1414n	25.6mg	n.s.s.	0/132	1.29mg	0/88				
GEMFIBROZIL 25812-30-0										
114	1518n	40.2mg	n.s.s.	21/72	3.90mg	23/72	39.0mg	25/72	Fitzgerald;jnci,67,1105-1115;1981	
a	1518n	44.7mg	n.s.s.	14/72	3.90mg	15/72	39.0mg	19/72		
b	1518n	83.1mg	n.s.s.	10/72	3.90mg	10/72	39.0mg	10/72		
115	1518n	28.5mg	n.s.s.	47/72	3.60mg	46/72	36.0mg	45/72		
a	1518n	48.8mg	n.s.s.	39/72	3.60mg	37/72	36.0mg	33/72		
b	1518n	62.9mg	n.s.s.	15/72	3.60mg	20/72	36.0mg	16/72		
116	1518m	11.2mg	n.s.s.	47/50	1.50mg	50/50	15.0mg	44/50		
a	1518m	15.0mg	n.s.s.	44/50	1.50mg	50/50	15.0mg	41/50		
b	1518m	35.3mg	n.s.s.	12/50	1.50mg	8/50	15.0mg	11/50		
117	1518m	2.62mg	n.s.s.	41/50	1.20mg	44/50	12.0mg	47/50		
a	1518m	3.21mg	n.s.s.	35/50	1.20mg	39/50	12.0mg	45/50		
b	1518m	12.9mg	n.s.s.	15/50	1.20mg	18/50	12.0mg	22/50		
beta-N-[gamma-L(+)-GLUTAMYL]-4-HYDROXYMETHYLPHENYLHYDRAZINE (agaritine) 2757-90-6										
118	1584	500.mg	n.s.s.	1/56	125.mg	2/34			Toth;acnr,1,255-258;1981/1982a	
a	1584	362.mg	n.s.s.	20/94	125.mg	12/50				
b	1584	458.mg	n.s.s.	29/94	125.mg	13/50				
119	1584	311.mg	n.s.s.	3/83	104.mg	2/25				
a	1584	396.mg	n.s.s.	1/83	104.mg	1/25				
b	1584	643.mg	n.s.s.	13/100	104.mg	4/47				
c	1584	567.mg	n.s.s.	19/100	104.mg	6/47				

	Spe Sex	Strain Route	Site Hist	Xpo + Xpt Notes	100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10	TD50	2Tailpvl DR	AuOp	
GUAR GUM									
120	M f	b6c eat	TBA MXB	24m25		:no	dre	P=1.	-
a	M f	b6c eat	liv MXB	24m25		no	dre	P=1.	
b	M f	b6c eat	lun MXB	24m25		no	dre	P=1.	
121	M m	b6c eat	TBA MXB	24m24		:no	dre	P=1.	-
a	M m	b6c eat	liv MXB	24m24		no	dre	P=1.	
b	M m	b6c eat	lun MXB	24m24		no	dre	P=1.	
122	R f	f34 eat	TBA MXB	24m24	:>	no	dre	P=1.	-
a	R f	f34 eat	liv MXB	24m24		no	dre	P=1.	
123	R m	f34 eat	sub fib	24m24	:	#13.4gm	*	P<.03	-
a	R m	f34 eat	TBA MXB	24m24		16.5gm	*	P<.9	
b	R m	f34 eat	liv MXB	24m24		no	dre	P=1.	
GUM ARABIC					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
124	M f	b6c eat	TBA MXB	24m24	:>	no	dre	P=1.	-
a	M f	b6c eat	liv MXB	24m24		31.1gm	*	P<.06	
b	M f	b6c eat	lun MXB	24m24		24.7gm	\	P<.3	
125	M m	b6c eat	--- hem	24m24		#80.8gm	*	P<.05	-
a	M m	b6c eat	TBA MXB	24m24		46.0gm	/	P<.8	
b	M m	b6c eat	liv MXB	24m24		no	dre	P=1.	
c	M m	b6c eat	lun MXB	24m24		no	dre	P=1.	
126	R f	f34 eat	TBA MXB	24m24	:>	8.31gm	*	P<.7	-
a	R f	f34 eat	liv MXB	24m24		no	dre	P=1.	
127	R m	f34 eat	TBA MXB	24m24	:>	7.97gm	*	P<.7	-
a	R m	f34 eat	liv MXB	24m24		33.5gm	*	P<.7	
HYDRAZINE SULFATE* **					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
128	M b	swi gav	lun tum	54w54 r	. + .	3.92mg		P<.0005	+
a	M b	swi gav	liv tum	54w54 r		no	dre	P=1.	
8-HYDROXYQUINOLINE* **					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
129	R f	f34 eat	liv hnd	24m24 e	.>	no	dre	P=1.	-
130	R m	f34 eat	liv hnd	24m24 e	. ±	269.mg		P<.04	-
ISONIAZID* **					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
131	M b	swi gav	lun tum	97w97 r	. + .	24.5mg		P<.0005	+
a	M b	swi gav	liv tum	97w97 r		no	dre	P=1.	
LOCUST BEAN GUM					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
132	M f	b6c eat	pit adn	24m24		:#20.2gm	\	P<.03	-
a	M f	b6c eat	ute esp	24m24		86.5gm	*	P<.05	
b	M f	b6c eat	TBA MXB	24m24		no	dre	P=1.	
c	M f	b6c eat	liv MXB	24m24		no	dre	P=1.	
d	M f	b6c eat	lun MXB	24m24		no	dre	P=1.	
133	M m	b6c eat	lun a/a	24m24	:	±#7.16gm	\	P<.05	-
a	M m	b6c eat	TBA MXB	24m24		no	dre	P=1.	
b	M m	b6c eat	liv MXB	24m24		no	dre	P=1.	
c	M m	b6c eat	lun MXB	24m24		no	dre	P=1.	
134	R f	f34 eat	adr coa	24m24	:	#11.9gm	*	P<.04	-
a	R f	f34 eat	TBA MXB	24m24		29.5gm	*	P<.9	
b	R f	f34 eat	liv MXB	24m24		no	dre	P=1.	
135	R m	f34 eat	TBA MXB	24m24	:>	no	dre	P=1.	-
a	R m	f34 eat	liv MXB	24m24		516.gm	*	P<1.	
MALEIC HYDRAZIDE* **					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
136	M f	cb6 gav	liv tum	28m28 e	.>	no	dre	P=1.	-
a	M f	cb6 gav	lun tum	28m28 e		no	dre	P=1.	-
b	M f	cb6 gav	tba tum	28m28 e		147.mg		P<.3	-
137	M m	cb6 gav	lun tum	28m28 e	.>	2.43gm		P<.5	-
a	M m	cb6 gav	liv tum	28m28 e		3.48gm		P<.9	-
b	M m	cb6 gav	tba tum	28m28 e		no	dre	P=1.	-
MALONALDEHYDE, SODIUM					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
138	M f	swi wat	liv hpt	52w52 e	pool . ±	4.62mg	Z	P<.03	
a	M f	swi wat	liv mix	52w52 e		14.1mg	*	P<.02	+
b	M f	swi wat	liv hem	52w52 e		24.8mg	*	P<.02	
c	M f	swi wat	liv hnd	52w52 e		44.3mg	*	P<.3	
d	M f	swi wat	lun ade	52w52 e		no	dre	P=1.	-
D-MANNITOL					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
139	M f	b6c eat	--- hes	24m24		#46.7gm	*	P<.04	-
a	M f	b6c eat	--- lle	24m24		48.0gm	*	P<.02	
b	M f	b6c eat	TBA MXB	24m24		no	dre	P=1.	
c	M f	b6c eat	liv MXB	24m24		no	dre	P=1.	
d	M f	b6c eat	lun MXB	24m24		no	dre	P=1.	
140	M m	b6c eat	TBA MXB	24m24		no	dre	P=1.	-
a	M m	b6c eat	liv MXB	24m24		no	dre	P=1.	
b	M m	b6c eat	lun MXB	24m24		98.1gm	*	P<.8	
141	R f	f34 eat	TBA MXB	24m24	:>	5.00gm	\	P<.7	-

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology / Brkly Code
GUAR GUM 9000-30-0									
120	c50395	8.80gm	n.s.s.	32/50	3.16gm	26/50	6.32gm	27/50	
a	c50395	27.4gm	n.s.s.	5/50	3.16gm	2/50	6.32gm	4/50	liv:hpa,nnd,hpc.
b	c50395	33.9gm	n.s.s.	5/50	3.16gm	1/50	6.32gm	3/50	lun:a/c,a/a.
121	c50395	8.14gm	n.s.s.	32/50	2.92gm	33/50	5.89gm	32/50	
a	c50395	7.71gm	n.s.s.	16/50	2.92gm	12/50	(5.89gm	7/50)	liv:hpa,nnd,hpc.
b	c50395	21.6gm	n.s.s.	12/50	2.92gm	9/50	5.89gm	8/50	lun:a/c,a/a.
122	c50395	2.53gm	n.s.s.	46/50	1.24gm	47/50	2.48gm	46/50	
a	c50395	18.5gm	n.s.s.	2/50	1.24gm	1/50	2.48gm	1/50	liv:hpa,nnd,hpc.
123	c50395	5.10gm	n.s.s.	0/50	990.mg	1/50	1.98gm	4/50	S
a	c50395	1.29gm	n.s.s.	39/50	990.mg	41/50	1.98gm	42/50	
b	c50395	16.4gm	n.s.s.	3/50	990.mg	0/50	1.98gm	1/50	liv:hpa,nnd,hpc.
GUM ARABIC (gum acacia) 9000-01-5									
124	c50748	6.45gm	n.s.s.	30/50	3.19gm	33/50	6.38gm	31/50	
a	c50748	12.2gm	n.s.s.	3/50	3.19gm	2/50	6.38gm	10/50	liv:hpa,nnd,hpc.
b	c50748	6.59gm	n.s.s.	3/50	3.19gm	7/50	(6.38gm	1/50)	lun:a/c,a/a.
125	c50748	24.5gm	n.s.s.	0/50	2.94gm	0/50	5.89gm	3/50	S
a	c50748	5.01gm	n.s.s.	36/50	2.94gm	28/50	5.89gm	40/50	
b	c50748	12.4gm	n.s.s.	16/50	2.94gm	11/50	5.89gm	15/50	liv:hpa,nnd,hpc.
c	c50748	12.1gm	n.s.s.	12/50	2.94gm	10/50	5.89gm	12/50	lun:a/c,a/a.
126	c50748	1.29gm	n.s.s.	45/50	1.23gm	46/50	2.45gm	47/50	
a	c50748	10.2gm	n.s.s.	3/50	1.23gm	3/50	2.45gm	2/50	liv:hpa,nnd,hpc.
127	c50748	1.08gm	n.s.s.	40/50	981.mg	45/50	1.96gm	42/50	
a	c50748	4.15gm	n.s.s.	4/50	981.mg	5/50	1.96gm	5/50	liv:hpa,nnd,hpc.
HYDRAZINE SULFATE* 10034-93-2**									
128	1525	2.23mg	7.57mg	1/47	27.6mg	22/30			Maru;clet,17,75-80;1982
a	1525	28.4mg	n.s.s.	7/47	27.6mg	2/30			
8-HYDROXYQUINOLINE* 148-24-3**									
129	1529	285.mg	n.s.s.	3/44	50.0mg	1/39			Fukushima;clet,14,115-123;1981
130	1529	81.4mg	n.s.s.	0/31	40.0mg	3/31			
ISONIAZID* (INH) 54-85-3**									
131	1525	13.0mg	55.8mg	1/47	27.6mg	15/30			Maru;clet,17,75-80;1982
a	1525	116.mg	n.s.s.	7/47	27.6mg	1/30			
LOCUST BEAN GUM (carob seed gum) 9000-40-2									
132	c50419	6.98gm	n.s.s.	0/50	3.19gm	4/50	(6.44gm	1/50)	S
a	c50419	26.2gm	n.s.s.	0/50	3.19gm	0/50	6.44gm	3/50	S
b	c50419	4.02gm	n.s.s.	45/50	3.19gm	36/50	(6.44gm	30/50)	
c	c50419	34.8gm	n.s.s.	3/50	3.19gm	2/50	6.44gm	2/50	liv:hpa,nnd,hpc.
d	c50419	29.4gm	n.s.s.	5/50	3.19gm	2/50	6.44gm	4/50	lun:a/c,a/a.
133	c50419	2.90gm	n.s.s.	7/50	2.94gm	17/50	(5.94gm	11/50)	S
a	c50419	5.06gm	n.s.s.	36/50	2.94gm	41/50	5.94gm	38/50	
b	c50419	14.0gm	n.s.s.	18/50	2.94gm	16/50	5.94gm	14/50	liv:hpa,nnd,hpc.
c	c50419	9.89gm	n.s.s.	14/50	2.94gm	21/50	5.94gm	14/50	lun:a/c,a/a.
134	c50419	4.97gm	n.s.s.	1/50	1.23gm	4/50	2.45gm	6/50	S
a	c50419	1.74gm	n.s.s.	44/50	1.23gm	43/50	2.45gm	42/50	
b	c50419	n.s.s.	n.s.s.	0/50	1.23gm	0/50	2.45gm	0/50	liv:hpa,nnd,hpc.
135	c50419	1.78gm	n.s.s.	37/50	981.mg	35/50	1.96gm	35/50	
a	c50419	9.23gm	n.s.s.	1/50	981.mg	2/50	1.96gm	1/50	liv:hpa,nnd,hpc.
MALEIC HYDRAZIDE* (1,2-dihydro-3,6-pyridazinedione) 123-33-1**									
136	1520	340.mg	n.s.s.	1/12	72.9mg	2/35			Cabral;txcy,24,169-173;1982
a	1520	394.mg	n.s.s.	2/12	72.9mg	2/35			
b	1520	51.4mg	n.s.s.	5/12	72.9mg	22/35			
137	1520	395.mg	n.s.s.	0/11	72.9mg	1/37			
a	1520	237.mg	n.s.s.	1/11	72.9mg	4/37			
b	1520	112.mg	n.s.s.	7/11	72.9mg	18/37			
MALONALDEHYDE, SODIUM 24382-04-5									
138	1521	1.14mg	n.s.s.	0/97p	100.ug	0/49	1.00mg	2/50 (10.0mg 0/48)	Bird;jtxe,10,897-905;1982
a	1521	5.07mg	n.s.s.	1/97p	100.ug	2/49	1.00mg	4/50 10.0mg 6/48	
b	1521	7.78mg	n.s.s.	1/97p	100.ug	1/49	1.00mg	0/50 10.0mg 4/48	
c	1521	10.3mg	n.s.s.	0/97p	100.ug	1/49	1.00mg	2/50 10.0mg 2/48	
d	1521	14.3mg	n.s.s.	6/97p	100.ug	4/49	1.00mg	5/50 10.0mg 2/48	
D-MANNITOL 69-65-8									
139	c50362	17.7gm	n.s.s.	0/50	3.19gm	2/50	6.38gm	3/50	S
a	c50362	19.5gm	n.s.s.	0/50	3.19gm	2/50	6.38gm	4/50	S
b	c50362	11.2gm	n.s.s.	26/50	3.19gm	24/50	6.38gm	18/50	
c	c50362	25.7gm	n.s.s.	3/50	3.19gm	3/50	6.38gm	2/50	liv:hpa,nnd,hpc.
d	c50362	36.9gm	n.s.s.	3/50	3.19gm	2/50	6.38gm	1/50	lun:a/c,a/a.
140	c50362	10.6gm	n.s.s.	33/50	2.94gm	26/50	5.89gm	26/50	
a	c50362	14.5gm	n.s.s.	14/50	2.94gm	14/50	5.89gm	11/50	liv:hpa,nnd,hpc.
b	c50362	10.7gm	n.s.s.	9/50	2.94gm	12/50	5.89gm	11/50	lun:a/c,a/a.
141	c50362	686.mg	n.s.s.	45/50	1.23gm	44/50	(2.45gm	36/50)	

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   Spe Strain  Site     Xpo+Xpt                                                                     TD50      2Tailpvl
     Sex   Route    Hist      Notes                                                                     DR       AuOp
  a   R f f34 eat liv MXB 24m24                                                                  no dre    P=1.
142   R m f34 eat TBA MXB 24m24                                                      :>          no dre    P=1.    -
  a   R m f34 eat liv MXB 24m24                                                                  18.0gm * P<.1

2-METHOXY-4-AMINOAZOBENZENE    100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
143   M f b6c eat liv tum 56w56 r                                               .>               no dre    P=1.    -
144   M m b6c eat liv tum 56w56 r                                               .>               no dre    P=1.    -

3-METHOXY-4-AMINOAZOBENZENE    100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
145   M f b6c eat liv hpa 56w56 r                                          .  +      .           60.2mg * P<.005 +
146   M m b6c eat liv tum 56w56 r                                          .>                    no dre    P=1.    -

METHYL CLOFENAPATE             100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
147   R m f34 eat liv hpc 75w75 er                                   <+                          noTD50    P<.0005+

N-METHYL-N-FORMYLHYDRAZINE***  100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
148   M f swa wat lun mix 23m24 aes                       . +   .                                .745mg * P<.0005+
  a   M f swa wat lun adc 23m24 aes                                                              1.12mg * P<.0005
  b   M f swa wat lun ade 23m24 aes                                                              1.50mg * P<.002
  c   M f swa wat liv hpt 23m24 aes                                                              9.23mg * P<.2    -
  d   M f swa wat liv agm 23m24 aes                                                              23.8mg * P<.5    -
149   M m swa wat lun mix 23m24 aes                       .  +    .                              .865mg * P<.0005+
  a   M m swa wat lun ade 23m24 aes                                                              1.30mg * P<.002
  b   M m swa wat stg pla 23m24 aes                                                              3.43mg \ P<.01   -
  c   M m swa wat lun adc 23m24 aes                                                              2.48mg * P<.03
  d   M m swa wat sub fbs 23m24 aes                                                              2.60mg \ P<.02   -
  e   M m swa wat for sqp 23m24 aes                                                              11.2mg * P<.02   -
  f   M m swa wat liv mix 23m24 aes                                                              no dre    P=1.

METHYL LINOLEATE HYDROPEROXIDE 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
150   R m wis gav git mix 30w87 e                                               .>               no dre    P=1.    -
  a   R m wis gav liv tum 30w87 e                                                                no dre    P=1.    -

METHYL LINOLEATE, NATIVE       100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
151   R m wis gav git mix 30w87 e                                               .>               no dre    P=1.    -
  a   R m wis gav liv tum 30w87 e                                                                no dre    P=1.    -

N-METHYL-N'-NITRO-N-NITROSOGUANIDINE***..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
152   R m wis wat git mix 32w87 e                        . + .                                   .581mg * P<.0005+
  a   R m wis wat liv tum 32w87 e                                                                no dre    P=1.

3-METHYLCHOLANTHRENE***        100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
153   R m lee eat liv tum 26w65                            .>                                    no dre    P=1.    -
154   R m lee eat liv tum 39w65                               .>                                 no dre    P=1.    -
155   R m lee eat liv tum 65w65                                 .>                               no dre    P=1.    -

6-METHYLQUINOLINE              100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
156   R f f34 eat liv hnd 24m24 e                                               .>               230.mg    P<.4    -
157   R m f34 eat liv hnd 24m24 e                                              .  ±              123.mg    P<.03   -

8-METHYLQUINOLINE              100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
158   R f f34 eat liv hnd 24m24 e                                                  .>            no dre    P=1.    -
159   R m f34 eat liv hnd 24m24 e                                               .>               no dre    P=1.    -
2-NAPHTHYLAMINE***             100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
160   R f wis gav ubl mix 13m23 er                                         .  ±                  61.6mg    P<.02   +

2-NAPHTHYLAMINO,1-SULFONIC ACID 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
161   M f bld eat lun mix 15m33 e                                                       .>       9.96gm    P<.8    -
  a   M f bld eat liv mix 15m33 e                                                                876.gm    P<1.    -
162   M m bld eat lun mix 15m33 e                                                      .>        4.92gm    P<.7    -
  a   M m bld eat liv mix 15m33 e                                                                379.gm    P<1.    -

NICOTINE.HCl                   100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
163   M f swa wat lun tum 28m29 e                                                       .>       11.1gm * P<.9    -
  a   M f swa wat liv mix 28m29 e                                                                no dre    P=1.    -
164   M m swa wat liv mix 26m28 e                                                      .>        no dre    P=1.    -
  a   M m swa wat lun tum 26m28 e                                                                no dre    P=1.    -

NICOTINIC ACID                 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
165   M f swa wat lun tum 32m32 e                                                             .> 17.0gm    P<.2    -
  a   M f swa wat liv mix 32m32 e                                                                no dre    P=1.    -
166   M m swa wat lun tum 28m28 e                                                              .>no dre    P=1.    -
  a   M m swa wat liv mix 28m28 e                                                                no dre    P=1.    -

NITRATE, SODIUM***             100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
167   R f f34 eat liv mix 24m29 e                                                                no dre    P=1.    -
  a   R f f34 eat tba mix 24m29 e                                                                no dre    P=1.    -
168   R m f34 eat liv mix 24m29 e                                                                no dre    P=1.    -
  a   R m f34 eat tba mix 24m29 e                                                                2.62gm * P<.6    -
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	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology Brkly Code
a	c50362	n.s.s.	n.s.s.	0/50	1.23gm	1/50	2.45gm	0/50	liv:hpa,nnd,hpc.
142	c50362	1.77gm	n.s.s.	40/50	981.mg	40/50	1.96gm	36/50	
a	c50362	6.18gm	n.s.s.	0/50	981.mg	2/50	1.96gm	2/50	liv:hpa,nnd,hpc.
2-METHOXY-4-AMINOAZOBENZENE ---									
143	1500	90.9mg	n.s.s.	0/13	117.mg	0/13			Watanabe;gann,73,136-140;1982
144	1500	83.9mg	n.s.s.	0/13	108.mg	0/13			
3-METHOXY-4-AMINOAZOBENZENE 3544-23-8									
145	1500	25.8mg	388.mg	0/13	78.0mg	1/13	117.mg	6/13	Watanabe;gann,73,136-140;1982
146	1500	27.7mg	n.s.s.	0/13	72.0mg	0/10	108.mg	0/12	
METHYL CLOFENAPATE 21340-68-1									
147	1478	n.s.s.	9.17mg	0/10	40.0mg	14/14			Reddy;canr,42,259-266;1982
N-METHYL-N-FORMYLHYDRAZINE*** 758-17-8									
148	1266	.444mg	1.77mg	29/94	.500mg	31/48	1.00mg	32/48	Toth;myco,78,11-16;1982a
a	1266	.665mg	2.72mg	14/94	.500mg	23/48	1.00mg	22/48	
b	1266	.779mg	7.82mg	20/94	.500mg	23/48	1.00mg	21/48	
c	1266	2.27mg	n.s.s.	0/50	.500mg	2/23	1.00mg	0/17	
d	1266	4.03mg	n.s.s.	3/77	.500mg	1/45	1.00mg	3/38	
149	1266	.488mg	2.69mg	19/83	.417mg	27/45	.833mg	24/47	
a	1266	.686mg	5.95mg	13/83	.417mg	20/45	.833mg	18/47	
b	1266	1.04mg	215.mg	0/80	.417mg	3/39	(.833mg	0/43)	
c	1266	1.08mg	n.s.s.	9/83	.417mg	14/45	.833mg	11/47	
d	1266	.916mg	n.s.s.	1/83	.417mg	5/45	(.833mg	0/47)	
e	1266	3.38mg	n.s.s.	0/80	.417mg	0/39	.833mg	3/43	
f	1266	3.97mg	n.s.s.	5/80	.417mg	3/39	.833mg	2/43	
METHYL LINOLEATE HYDROPEROXIDE 27323-65-5									
150	1475	41.6mg	n.s.s.	0/30	9.61mg	0/30			Arffmann;jnci,67,1071-1075;1981
a	1475	41.6mg	n.s.s.	0/30	9.61mg	0/30			
METHYL LINOLEATE, NATIVE ---									
151	1475	42.0mg	n.s.s.	0/30	9.71mg	0/30			Arffmann;jnci,67,1071-1075;1981
a	1475	42.0mg	n.s.s.	0/30	9.71mg	0/30			
N-METHYL-N'-NITRO-N-NITROSOGUANIDINE*** (MNNG) 70-25-7									
152	1475	.366mg	1.00mg	0/30	.366mg	10/30	1.52mg	20/30	Arffmann;jnci,67,1071-1075;1981
a	1475	1.28mg	n.s.s.	0/30	.366mg	0/30	1.52mg	0/30	
3-METHYLCHOLANTHRENE*** 56-49-5									
153	1484m	.518mg	n.s.s.	0/40	1.07mg	0/6			Flaks;carc,3,981-991;1982
154	1484n	1.94mg	n.s.s.	0/40	1.61mg	0/15			
155	1484o	3.24mg	n.s.s.	0/40	2.68mg	0/15			
6-METHYLQUINOLINE 91-62-3									
156	1529	52.6mg	n.s.s.	3/44	25.0mg	5/37			Fukushima;clet,14,115-123;1981
157	1529	42.5mg	n.s.s.	0/31	20.0mg	4/38			
8-METHYLQUINOLINE 611-32-5									
158	1529	175.mg	n.s.s.	3/44	25.0mg	0/34			Fukushima;clet,14,115-123;1981
159	1529	78.3mg	n.s.s.	0/31	20.0mg	0/19			
2-NAPHTHYLAMINE*** 91-59-8									
160	1564	21.2mg	n.s.s.	0/20	24.4mg	4/18			Hicks;bjca,46,646-661;1982
2-NAPHTHYLAMINO,1-SULFONIC ACID 81-16-3									
161	1488	942.mg	n.s.s.	14/49	306.mg	15/48			Della Porta;carc,3,647-649;1982
a	1488	3.33gm	n.s.s.	1/49	306.mg	1/48			
162	1488	765.mg	n.s.s.	14/48	283.mg	16/47			
a	1488	2.42gm	n.s.s.	2/48	283.mg	2/47			
NICOTINE.HCl 636-79-3									
163	1530	834.mg	n.s.s.	15/95	125.mg	6/46	188.mg	9/48	Toth;acnr,2,71-74;1982/1979
a	1530	1.06gm	n.s.s.	0/99	125.mg	0/50	188.mg	0/48	
164	1530	606.mg	n.s.s.	2/62	104.mg	0/38	156.mg	0/32	
a	1530	1.41gm	n.s.s.	22/88	104.mg	6/50	156.mg	6/48	
NICOTINIC ACID 59-67-6									
165	1530	5.50gm	n.s.s.	15/95	2.00gm	13/48			Toth;acnr,2,71-74;1982/1979
a	1530	36.8gm	n.s.s.	0/99	2.00gm	0/50			
166	1530	7.84gm	n.s.s.	22/88	1.67gm	9/50			
a	1530	9.24gm	n.s.s.	2/62	1.67gm	1/33			
NITRATE, SODIUM*** 7631-99-4									
167	1490	10.1gm	n.s.s.	2/50	1.06gm	0/50	2.11gm	0/49	Maekawa;fctx,20,25-33;1982
a	1490	2.99gm	n.s.s.	46/50	1.06gm	43/50	2.11gm	39/49	
168	1490	10.2gm	n.s.s.	6/50	846.mg	7/50	1.69gm	4/50	
a	1490	409.mg	n.s.s.	47/50	846.mg	50/50	1.69gm	48/50	

	Spe	Sex	Strain	Route	Site	Hist	Xpo+Xpt	Notes		TD50	DR	2Tailpvl	AuOp
NITRITE, SODIUM***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
169	R	f	f34	wat	liv	mix	24m28	e	.>	no dre		P=1.	-
a	R	f	f34	wat	tba	mix	24m28	e		no dre		P=1.	-
170	R	m	f34	wat	liv	mix	24m28	e	.>	1.31gm	*	P<.5	-
a	R	m	f34	wat	tba	mix	24m28	e		noTD50		P=1.	-
4-(5-NITRO-2-FURYL)THIAZOLE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
171	R	f	asd	eat	mgl	fba	46w68	e	. + .	15.6mg		P<.0005	+
a	R	f	asd	eat	for	sqc	46w68	e		19.5mg		P<.0005	+
b	R	f	asd	eat	liv	tum	46w68	e		no dre		P=1.	
c	R	f	asd	eat	tba	mix	46w68	e		7.68mg		P<.0005	+
N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE***									....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
172	R	m	fis	eat	ubl	car	72w72		<+	noTD50		P<.0005	+
6-NITROQUINOLINE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
173	R	f	f34	eat	liv	hnd	24m24	e	.>	no dre		P=1.	-
174	R	m	f34	eat	liv	hnd	24m24	e	.>	267.mg		P<.2	-
8-NITROQUINOLINE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
175	R	f	f34	eat	for	sqp	24m24	e	. + .	9.55mg		P<.0005	+
a	R	f	f34	eat	for	sqc	24m24	e		32.8mg		P<.0005	+
b	R	f	f34	eat	liv	hnd	24m24	e		no dre		P=1.	-
176	R	m	f34	eat	for	sqp	24m24	e	. + .	10.1mg		P<.0005	+
a	R	m	f34	eat	for	sqc	24m24	e		24.9mg		P<.0005	+
b	R	m	f34	eat	liv	hnd	24m24	e		no dre		P=1.	-
N-NITROSO-BIS-(4,4,4-TRIFLUORO-n-BUTYL)AMINE									....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
177	R	f	sda	gav	liv	hpc	7m23		. + .	.707mg		P<.0005	+
a	R	f	sda	gav	lun	mix	7m23			1.12mg		P<.0005	+
b	R	f	sda	gav	tba	mal	7m23			.291mg		P<.0005	
178	R	m	sda	gav	liv	hpc	7m23		. + .	.793mg		P<.0005	+
a	R	m	sda	gav	lun	mix	7m23			.793mg		P<.0005	+
b	R	m	sda	gav	tba	mal	7m23			.363mg		P<.0005	
1-NITROSO-3,5-DIMETHYL-4-BENZOYLPIPERAZINE									..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
179	R	f	f34	wat	for	pam	12m29	e	. + .	9.66mg		P<.007	+
a	R	f	f34	wat	liv	tum	12m29	e		9.10mg		P<.04	
b	R	f	f34	wat	for	bcc	12m29	e		26.4mg		P<.1	+
c	R	f	f34	wat	tba	mix	12m29	e		no dre		P=1.	+
N-NITROSO-N-METHYL-N-DODECYLAMINE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
180	R	m	f34	gav	ubl	tcc	7m26	e	. + .	.487mg		P<.0005	+
a	R	m	f34	gav	for	car	7m26	e		5.07mg		P<.007	+
b	R	m	f34	gav	---	leu	7m26	e		.970mg		P<.02	
c	R	m	f34	gav	pan	isc	7m26	e		2.75mg		P<.02	
d	R	m	f34	gav	lun	adc	7m26	e		6.54mg		P<.02	+
e	R	m	f34	gav	liv	hpc	7m26	e		8.98mg		P<.04	+
f	R	m	f34	gav	for	pam	7m26	e		13.9mg		P<.1	+
g	R	m	f34	gav	lun	ade	7m26	e		28.5mg		P<.3	+
h	R	m	f34	gav	tba	mix	7m26	e		noTD50		P<.6	+
N-NITROSO-N-METHYL-N-TETRADECYLAMINE									..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
181	R	m	f34	gav	ubl	tcc	7m24	e	<+	noTD50		P<.0005	+
a	R	m	f34	gav	lun	ade	7m24	e		29.4mg		P<.1	+
b	R	m	f34	gav	lun	adc	7m24	e		60.5mg		P<.3	+
c	R	m	f34	gav	liv	tum	7m24	e		no dre		P=1.	
d	R	m	f34	gav	tba	mix	7m24	e		noTD50		P<.6	+
N-NITROSO-N-METHYLDECYLAMINE									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
182	R	m	f34	gav	ubl	tcc	7m24	e	. + .	1.26mg		P<.0005	+
a	R	m	f34	gav	lun	adc	7m24	e		8.32mg		P<.007	+
b	R	m	f34	gav	lun	ade	7m24	e		14.7mg		P<.04	+
c	R	m	f34	gav	liv	hpc	7m24	e		22.7mg		P<.1	+
d	R	m	f34	gav	for	pam	7m24	e		46.6mg		P<.3	+
e	R	m	f34	gav	nas	mix	7m24	e		46.6mg		P<.3	+
f	R	m	f34	gav	for	car	7m24	e		46.6mg		P<.3	+
g	R	m	f34	gav	tba	mix	7m24	e		no dre		P=1.	+
NITROSOAMYLURETHAN									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
183	R	f	don	wat	eso	sqc	52w60	ae	.+ .	1.01mg	Z	P<.0005	+
a	R	f	don	wat	mix	sqc	52w60	ae		1.09mg	*	P<.0005	+
b	R	f	don	wat	eso	pam	52w60	ae		1.46mg	*	P<.0005	+
c	R	f	don	wat	for	pam	52w60	ae		1.54mg	Z	P<.0005	
d	R	f	don	wat	mix	pam	52w60	ae		1.70mg	Z	P<.0005	+
e	R	f	don	wat	for	sqc	52w60	ae		2.81mg	Z	P<.002	
f	R	f	don	wat	tba	mix	52w60	ae		.336mg	*	P<.0005	

RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology / Brkly Code
NITRITE, SODIUM* 7632-00-0**								
169	1490	420.mg	n.s.s.	1/49	51.0mg	0/48	85.0mg 0/48	Maekawa;fctx,20,25-33;1982
a	1490	154.mg	n.s.s.	45/49	51.0mg	41/48	85.0mg 35/48	
170	1490	306.mg	n.s.s.	4/46	45.2mg	5/49	81.0mg 7/50	
a	1490	n.s.s.	n.s.s.	46/46	45.2mg	49/49	81.0mg 50/50	
4-(5-NITRO-2-FURYL)THIAZOLE 53757-28-1								
171	1411	8.56mg	38.6mg	6/36	52.1mg	24/35		Swaminathan;canr,41,2648-2653;1981
a	1411	11.2mg	38.0mg	0/36	52.1mg	19/35		
b	1411	161.mg	n.s.s.	0/36	52.1mg	0/35		
c	1411	4.26mg	15.2mg	6/36	52.1mg	31/35		
N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE* (FANFT) 24554-26-5**								
172	1430	n.s.s.	24.4mg	0/27	80.0mg	8/8		Fukushima;canr,41,3100-3103;1981
6-NITROQUINOLINE 613-50-3								
173	1529	185.mg	n.s.s.	3/44	25.0mg	0/36		Fukushima;clet,14,115-123;1981
174	1529	65.7mg	n.s.s.	0/31	20.0mg	2/40		
8-NITROQUINOLINE 607-35-2								
175	1529	4.34mg	18.6mg	1/44	50.0mg	36/37		Fukushima;clet,14,115-123;1981
a	1529	19.6mg	59.5mg	0/44	50.0mg	24/37		
b	1529	381.mg	n.s.s.	3/44	50.0mg	0/37		
176	1529	5.21mg	19.5mg	0/31	40.0mg	28/30		
a	1529	14.2mg	48.3mg	0/31	40.0mg	20/30		
b	1529	247.mg	n.s.s.	0/31	40.0mg	0/30		
N-NITROSO-BIS-(4,4,4-TRIFLUORO-n-BUTYL)AMINE ---								
177	1489	.382mg	1.47mg	0/24	1.35mg	17/24		Preussmann;carc,3,1219-1222;1982
a	1489	.576mg	2.55mg	0/24	1.35mg	13/24		
b	1489	.120mg	.693mg	4/24	1.35mg	23/24		
178	1489	.425mg	1.68mg	0/24	1.35mg	16/24		
a	1489	.425mg	1.68mg	0/24	1.35mg	16/24		
b	1489	.176mg	.788mg	2/24	1.35mg	22/24		
1-NITROSO-3,5-DIMETHYL-4-BENZOYLPIPERAZINE 61034-40-0								
179	1208	3.65mg	111.mg	0/20	2.81mg	5/20		Singer;canr,41,1034-1038;1981
a	1208	3.31mg	n.s.s.	1/20	2.81mg	6/20		
b	1208	6.48mg	n.s.s.	0/20	2.81mg	2/20		
c	1208	.701mg	n.s.s.	20/20	2.81mg	19/20		
N-NITROSO-N-METHYL-N-DODECYLAMINE 55090-44-3								
180	1206	.200mg	1.12mg	0/20	1.84mg	19/20		Lijinsky;canr,41,1288-1292;1981
a	1206	1.92mg	58.5mg	0/20	1.84mg	5/20		
b	1206	.356mg	n.s.s.	11/20	1.84mg	18/20		
c	1206	1.11mg	n.s.s.	3/20	1.84mg	10/20		
d	1206	2.25mg	n.s.s.	0/20	1.84mg	4/20		
e	1206	2.71mg	n.s.s.	0/20	1.84mg	3/20		
f	1206	3.40mg	n.s.s.	0/20	1.84mg	2/20		
g	1206	4.63mg	n.s.s.	0/20	1.84mg	1/20		
h	1206	n.s.s.	n.s.s.	19/20	1.84mg	20/20		
N-NITROSO-N-METHYL-N-TETRADECYLAMINE 75881-20-8								
181	1206	n.s.s.	1.65mg	0/20	4.71mg	20/20		Lijinsky;canr,41,1288-1292;1981
a	1206	7.23mg	n.s.s.	0/20	4.71mg	2/20		
b	1206	9.84mg	n.s.s.	0/20	4.71mg	1/20		
c	1206	18.7mg	n.s.s.	0/20	4.71mg	0/20		
d	1206	n.s.s.	n.s.s.	19/20	4.71mg	20/20		
N-NITROSO-N-METHYLDECYLAMINE 75881-22-0								
182	1206	.630mg	2.73mg	0/20	3.63mg	17/20		Lijinsky;canr,41,1288-1292;1981
a	1206	3.14mg	95.9mg	0/20	3.63mg	5/20		
b	1206	4.45mg	n.s.s.	0/20	3.63mg	3/20		
c	1206	5.58mg	n.s.s.	0/20	3.63mg	2/20		
d	1206	7.59mg	n.s.s.	0/20	3.63mg	1/20		
e	1206	7.59mg	n.s.s.	0/20	3.63mg	1/20		
f	1206	7.59mg	n.s.s.	0/20	3.63mg	1/20		
g	1206	.953mg	n.s.s.	19/20	3.63mg	18/20		
NITROSOAMYLURETHAN (1-amyl-1-nitrosourethan) ---								
183	1494	.664mg	1.63mg	0/37	2.86mg	19/29	5.71mg 17/29 (11.4mg 18/27)	Onodera;gann,73,48-54;1982
a	1494	.769mg	1.59mg	0/37	2.86mg	19/29	5.71mg 21/29 11.4mg 21/27	
b	1494	1.02mg	2.18mg	0/37	2.86mg	16/29	5.71mg 19/29 11.4mg 18/27	
c	1494	.746mg	3.98mg	0/37	2.86mg	10/29	(5.71mg 3/29 11.4mg 2/27)	
d	1494	1.05mg	3.02mg	0/37	2.86mg	11/29	5.71mg 14/29 (11.4mg 8/27)	
e	1494	1.14mg	12.1mg	0/37	2.86mg	6/29	(5.71mg 1/29 11.4mg 0/27)	
f	1494	.187mg	.626mg	11/37	2.86mg	29/29	5.71mg 29/29 11.4mg 26/27	

	Spe Sex	Strain Route	Site Hist	Xpo+Xpt	Notes	100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10	TD50	2Tailpvl DR	AuOp
N-NITROSOBIS(2-OXOPROPYL)AMINE									
184	R m	mrw gav	urt mix	24m24		. + .	.891mg		P<.0005+
a	R m	mrw gav	liv tum	24m24			1.56mg		P<.002 +
b	R m	mrw gav	clr tum	24m24			1.56mg		P<.002 +
c	R m	mrw gav	nas tum	24m24			1.56mg		P<.002 +
d	R m	mrw gav	lun tum	24m24			1.92mg		P<.003 +
e	R m	mrw gav	pro sqk	24m24			2.41mg		P<.006 +
f	R m	mrw gav	thy tum	24m24			3.16mg		P<.02 +
N-NITROSODIETHANOLAMINE									
185	R m	sda wat	liv mix	27m34	ae	. +.	8.23mg	Z	P<.0005+
a	R m	sda wat	liv hpd	27m34	ae		9.51mg	Z	P<.0005+
b	R m	sda wat	nas mix	27m34	ae		168.mg	Z	P<.0005+
c	R m	sda wat	nas olp	27m34	ae		679.mg	Z	P<.002
d	R m	sda wat	nas sqc	27m34	ae		954.mg	Z	P<.004
e	R m	sda wat	liv cgd	27m34	ae		10.7gm	*	P<.2
N-NITROSODIMETHYLAMINE***									
186	M f	cbl gav	frb olp	50w72	e	. + .	.153mg		P<.0005+
a	M f	cbl gav	liv ben	50w72	e		.350mg		P<.003
b	M f	cbl gav	liv mal	50w72	e		.429mg		P<.006
c	M f	cbl gav	lun tum	50w72	e		no dre		P=1.
d	M f	cbl gav	tba mix	50w72	e		96.4ug		P<.002
187	M m	cbl gav	frb olp	50w72	e	. + .	.161mg		P<.0005+
a	M m	cbl gav	liv mal	50w72	e		.179mg		P<.0005+
b	M m	cbl gav	liv ben	50w72	e		.508mg		P<.2 +
c	M m	cbl gav	lun ade	50w72	e		21.1mg		P<1.
d	M m	cbl gav	tba mix	50w72	e		60.0ug		P<.0005
NITROSOETHYLURETHAN									
188	R f	don wat	mix sqc	51w60	ae	. + .	.164mg	Z	P<.0005
a	R f	don wat	for sqc	51w60	ae		.248mg	*	P<.0005+
b	R f	don wat	mix pam	51w60	ae		.339mg	Z	P<.0005
c	R f	don wat	eso pam	51w60	ae		.473mg	Z	P<.0005
d	R f	don wat	for pam	51w60	ae		.508mg	*	P<.0005+
e	R f	don wat	eso sqc	51w60	ae		.540mg	Z	P<.0005
f	R f	don wat	duo adc	51w60	ae		.555mg	*	P<.0005+
g	R f	don wat	tba mix	51w60	ae		78.4ug	*	P<.0005
N-NITROSOPYRROLIDINE***									
189	H f	syg wat	liv hct	24m24		. + .	35.9mg	*	P<.008 +
a	H f	syg wat	tba mix	24m24			8.44mg	*	P<.002
190	H m	syg wat	liv hct	24m24		. + .	8.88mg	*	P<.0005+
a	H m	syg wat	liv hae	24m24			130.mg	*	P<.2
b	H m	syg wat	tba mix	24m24			9.26mg	*	P<.007
o-NITROSOTOLUENE									
191	R m	f34 eat	liv mix	72w93	e	. + .	50.7mg		P<.0005+
a	R m	f34 eat	ski fib	72w93	e		55.8mg		P<.0005+
b	R m	f34 eat	liv hpt	72w93	e		59.2mg		P<.0005+
c	R m	f34 eat	ubl mix	72w93	e		71.5mg		P<.0005+
d	R m	f34 eat	ubl pam	72w93	e		78.8mg		P<.0005+
e	R m	f34 eat	spl fib	72w93	e		87.0mg		P<.0005+
f	R m	f34 eat	pec scs	72w93	e		303.mg		P<.009
g	R m	f34 eat	pec mso	72w93	e		195.mg		P<.03
NORLESTRIN***									
192	P f	rhe eat	ute ley	8y10	e	.>	6.42mg	*	P<.2 -
a	P f	rhe eat	ski pam	8y10	e		10.1mg	*	P<.6 -
b	P f	rhe eat	pdu ade	8y10	e		no dre		P=1. -
c	P f	rhe eat	lun tum	8y10	e		no dre		P=1.
d	P f	rhe eat	liv tum	8y10	e		no dre		P=1.
4,4'-OXYDIANILINE									
193	M f	b6c eat	MXB MXB	24m24	s	: + :	19.7mg	Z	P<.002
a	M f	b6c eat	hag adn	24m24	s		46.8mg	Z	P<.0005c
b	M f	b6c eat	liv MXA	24m24	s		108.mg	*	P<.0005c
c	M f	b6c eat	liv hpc	24m24	s		252.mg	*	P<.01 c
d	M f	b6c eat	thy fca	24m24	s		598.mg	*	P<.0005c
e	M f	b6c eat	liv hpa	24m24	s		244.mg	*	P<.02 c
f	M f	b6c eat	TBA MXB	24m24	s		32.9mg	Z	P<.02
g	M f	b6c eat	liv MXB	24m24	s		108.mg	*	P<.0005
h	M f	b6c eat	lun MXB	24m24	s		156.mg	Z	P<.08
194	M m	b6c eat	hag adn	24m24		: + :	26.2mg	Z	P<.0005c
a	M m	b6c eat	--- hem	24m24			379.mg	*	P<.003
b	M m	b6c eat	pit adn	24m24			568.mg	*	P<.004
c	M m	b6c eat	MXB MXB	24m24			167.mg	*	P<.3
d	M m	b6c eat	liv MXA	24m24			225.mg	*	P<.5 c

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc					Citation or Pathology	Brkly Code
N-NITROSOBIS(2-OXOPROPYL)AMINE 60599-38-4														
184	1393	.411mg	2.36mg	0/15	1.43mg	10/15							Pour;clet,13,303-308;1981	
a	1393	.658mg	5.63mg	0/15	1.43mg	7/15								
b	1393	.658mg	5.63mg	0/15	1.43mg	7/15								
c	1393	.658mg	5.63mg	0/15	1.43mg	7/15								
d	1393	.770mg	9.22mg	0/15	1.43mg	6/15								
e	1393	.907mg	22.8mg	0/15	1.43mg	5/15								
f	1393	1.08mg	n.s.s.	0/15	1.43mg	4/15								
N-NITROSODIETHANOLAMINE 1116-54-7														
185	1483	6.04mg	11.5mg	0/88	1.07mg	7/72	4.29mg	43/72	17.9mg	33/36	(71.4mg	32/36	286.mg 31/36) Preussmann; canr,42,5167-5171;1982	
a	1483	6.94mg	13.3mg	0/88	1.07mg	5/72	4.29mg	40/72	17.9mg	32/36	(71.4mg	31/36	286.mg 31/36)	
b	1483	75.3mg	795.mg	0/88	1.07mg	2/72	4.29mg	0/72	17.9mg	6/36	(71.4mg	6/36	286.mg 1/36)	
c	1483	276.mg	4.62gm	0/88	1.07mg	1/72	4.29mg	0/72	17.9mg	4/36	71.4mg	3/36	(286.mg 0/36)	
d	1483	339.mg	11.0gm	0/88	1.07mg	1/72	4.29mg	0/72	17.9mg	2/36	71.4mg	3/36	(286.mg 1/36)	
e	1483	2.17gm	n.s.s.	0/88	1.07mg	0/72	4.29mg	1/72	17.9mg	0/36	71.4mg	1/36	286.mg 1/36	
N-NITROSODIMETHYLAMINE* (DMN) 62-75-9**														
186	1522	78.1ug	.360mg	0/32	.238mg	12/30							Griciute;clet,13,345-351;1981	
a	1522	.143mg	1.82mg	0/32	.238mg	6/30								
b	1522	.163mg	4.64mg	0/32	.238mg	5/30								
c	1522	.706mg	n.s.s.	0/32	.238mg	0/30								
d	1522	46.8ug	.441mg	8/32	.238mg	20/30								
187	1522	82.3ug	.377mg	0/38	.198mg	12/36								
a	1522	89.3ug	.440mg	0/38	.198mg	11/36								
b	1522	.161mg	n.s.s.	2/38	.198mg	6/36								
c	1522	.340mg	n.s.s.	2/38	.198mg	2/36								
d	1522	30.8ug	.196mg	13/38	.198mg	28/36								
NITROSOETHYLURETHAN (1-ethyl-1-nitrosourethan) 614-95-9														
188	1494	.108mg	.260mg	0/37	.714mg	21/26	1.43mg	21/28	(2.86mg	11/24)			Onodera;gann,73,48-54;1982	
a	1494	.170mg	.375mg	0/37	.714mg	11/26	1.43mg	22/28	2.86mg	22/24				
b	1494	.213mg	.581mg	0/37	.714mg	14/26	1.43mg	14/28	(2.86mg	9/24)				
c	1494	.284mg	.884mg	0/37	.714mg	11/26	1.43mg	11/28	(2.86mg	7/24)				
d	1494	.338mg	.807mg	0/37	.714mg	6/26	1.43mg	16/28	2.86mg	16/24				
e	1494	.317mg	1.08mg	0/37	.714mg	11/26	1.43mg	9/28	(2.86mg	4/24)				
f	1494	.364mg	.900mg	0/37	.714mg	5/26	1.43mg	12/28	2.86mg	18/24				
g	1494	41.3ug	.151mg	11/37	.714mg	25/26	1.43mg	27/28	2.86mg	24/24				
N-NITROSOPYRROLIDINE* 930-55-2**														
189	1503	12.4mg	770.mg	0/50	.573mg	0/30	2.18mg	1/30	4.50mg	3/30			Ketkar;zkko,104,75-79;1982	
a	1503	4.27mg	39.7mg	3/50	.573mg	2/30	2.18mg	10/30	4.50mg	8/30				
190	1503	4.67mg	20.4mg	0/50	.504mg	1/30	1.92mg	2/30	3.96mg	10/30				
a	1503	21.2mg	n.s.s.	0/50	.504mg	0/30	1.92mg	0/30	3.96mg	1/30				
b	1503	4.14mg	159.mg	8/50	.504mg	3/30	1.92mg	4/30	3.96mg	13/30				
o-NITROSOTOLUENE 611-23-4														
191	1487	28.3mg	105.mg	1/27	105.mg	20/29							Hecht;clet,16,103-108;1982	
a	1487	30.9mg	119.mg	1/27	105.mg	19/29								
b	1487	33.1mg	119.mg	0/27	105.mg	18/29								
c	1487	39.1mg	149.mg	0/27	105.mg	16/29								
d	1487	42.5mg	168.mg	0/27	105.mg	15/29								
e	1487	46.1mg	191.mg	0/27	105.mg	14/29								
f	1487	115.mg	8.01gm	0/27	105.mg	5/29								
g	1487	78.5mg	n.s.s.	2/27	105.mg	9/29								
NORLESTRIN* 8015-12-1**														
192	1441	1.05mg	n.s.s.	0/16	37.5ug	0/16	.383mg	0/16	1.91mg	1/16			Fitzgerald;jtxe,10,879-896;1982	
a	1441	1.13mg	n.s.s.	0/16	37.5ug	1/16	.383mg	0/16	1.91mg	1/16				
b	1441	1.86mg	n.s.s.	0/16	37.5ug	1/16	.383mg	0/16	1.91mg	0/16				
c	1441	28.5ug	n.s.s.	0/16	37.5ug	0/16	.383mg	0/16	1.91mg	0/16				
d	1441	28.5ug	n.s.s.	0/16	37.5ug	0/16	.383mg	0/16	1.91mg	0/16				
4,4'-OXYDIANILINE 101-80-4														
193	c50146	9.78mg	97.5mg	10/50	19.1mg	25/50	(38.3mg	23/50	102.mg	35/50)			hag:adn; liv:hpa,hpc; thy:fca.	C
a	c50146	27.4mg	135.mg	2/50	19.1mg	15/50	38.3mg	14/50	(102.mg	12/50)				
b	c50146	58.1mg	413.mg	8/50	19.1mg	13/50	38.3mg	15/50	102.mg	29/50			liv:hpa,hpc.	
c	c50146	115.mg	17.8gm	4/50	19.1mg	7/50	38.3mg	6/50	102.mg	15/50				
d	c50146	258.mg	2.04gm	0/50	19.1mg	0/50	38.3mg	0/50	102.mg	7/50				
e	c50146	109.mg	n.s.s.	4/50	19.1mg	6/50	38.3mg	9/50	102.mg	14/50				
f	c50146	15.9mg	4.65gm	28/50	19.1mg	37/50	38.3mg	40/50	(102.mg	42/50)				
g	c50146	58.1mg	413.mg	8/50	19.1mg	13/50	38.3mg	15/50	102.mg	29/50			liv:hpa,nnd,hpc.	
h	c50146	58.4mg	n.s.s.	5/50	19.1mg	5/50	38.3mg	10/50	(102.mg	3/50)			lun:a/c,a/a.	
194	c50146	14.2mg	73.2mg	1/50	17.7mg	17/50	(35.3mg	13/50	94.2mg	17/50)				
a	c50146	183.mg	2.05gm	0/50	17.7mg	0/50	35.3mg	5/50	94.2mg	5/50				S
b	c50146	231.mg	4.96gm	1/50	17.7mg	0/50	35.3mg	0/50	94.2mg	7/50				S
c	c50146	44.8mg	n.s.s.	30/50	17.7mg	42/50	35.3mg	36/50	94.2mg	39/50			hag:adn; liv:hpa,hpc.	C
d	c50146	50.7mg	n.s.s.	29/50	17.7mg	40/50	35.3mg	34/50	94.2mg	36/50			liv:hpa,hpc.	

Spe Strain Site Xpo+Xpt TD50 2Tailpvl
Sex Route Hist Notes DR AuOp

e M m b6c eat TBA MXB 24m24 318.mg * P<.7
f M m b6c eat liv MXB 24m24 225.mg * P<.5
g M m b6c eat lun MXB 24m24 no dre P=1.
195 R f f34 eat MXB MXB 24m24 s :+ : 12.1mg Z P<.0005
a R f f34 eat thy MXA 24m24 s 14.3mg Z P<.0005c
b R f f34 eat liv MXA 24m24 s 20.1mg Z P<.0005c
c R f f34 eat thy fca 24m24 s 27.5mg Z P<.0005c
d R f f34 eat liv nnd 24m24 s 29.5mg Z P<.0005c
e R f f34 eat thy fcc 24m24 s 41.2mg * P<.0005c
f R f f34 eat liv hpc 24m24 s 93.7mg Z P<.0005c
g R f f34 eat TBA MXB 24m24 s 20.6mg Z P<.02
h R f f34 eat liv MXB 24m24 s 20.1mg Z P<.0005
196 R m f34 eat MXB MXB 24m24 : +: 6.65mg * P<.0005
a R m f34 eat liv MXA 24m24 7.12mg Z P<.0005c
b R m f34 eat liv hpc 24m24 15.7mg Z P<.0005c
c R m f34 eat thy MXA 24m24 17.7mg Z P<.0005c
d R m f34 eat liv nnd 24m24 22.5mg * P<.0005c
e R m f34 eat thy fcc 24m24 32.1mg * P<.0005c
f R m f34 eat thy fca 24m24 47.4mg * P<.0005c
g R m f34 eat TBA MXB 24m24 no dre P=1.
h R m f34 eat liv MXB 24m24 7.12mg Z P<.0005

PHENACETIN*** 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
197 M f b6c eat lun ade 22m24 e . ± 6.89gm * P<.1 -
a M f b6c eat ubl pam 22m24 e 37.0gm * P<.1 +
b M f b6c eat ubl tcc 22m24 e 37.0gm * P<.1 +
c M f b6c eat lun adc 22m24 e 8.83gm * P<.2 -
d M f b6c eat liv hnd 22m24 e 14.0gm * P<.3 -
e M f b6c eat liv hem 22m24 e 29.2gm * P<.4 -
f M f b6c eat liv hpc 22m24 e 47.7gm * P<.7 -
198 M m b6c eat kid rca 22m24 e . + . 1.10gm * P<.0005+
a M m b6c eat lun adc 22m24 e 3.80gm * P<.006 -
b M m b6c eat kid rcc 22m24 e 4.02gm / P<.0005
c M m b6c eat lun ade 22m24 e 5.28gm * P<.2 -
d M m b6c eat liv hpc 22m24 e 17.1gm \ P<.9 -
e M m b6c eat liv hnd 22m24 e no dre P=1. -
f M m b6c eat liv hem 22m24 e no dre P=1. -

PHENOBARBITAL*** 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
199 M m b6c wat liv mix 52w52 r <+ noTD50 P<.006 +
200 M m c5n wat liv tum 78w78 r .> no dre P=1. -
201 M m cen wat liv mix 52w52 kr noTD50 P<.3
202 M m cen wat liv mix 52w52 r noTD50 P<.09 +

PHENOL 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
203 M f b6c wat TBA MXB 24m24 :> no dre P=1. -
a M f b6c wat liv MXB 24m24 no dre P=1.
b M f b6c wat lun MXB 24m24 18.5gm * P<.6
204 M m b6c wat TBA MXB 24m24 :> no dre P=1. -
a M m b6c wat liv MXB 24m24 2.45gm \ P<.5
b M m b6c wat lun MXB 24m24 8.29gm * P<.5
205 R f f34 wat TBA MXB 24m24 :> no dre P=1. -
a R f f34 wat liv MXB 24m24 no dre P=1.
206 R m f34 wat thy ccr 24m24 : + : #420.mg \ P<.007 -
a R m f34 wat --- MXA 24m24 133.mg \ P<.03
b R m f34 wat --- mle 24m24 143.mg \ P<.04
c R m f34 wat --- leu 24m24 143.mg \ P<.04
d R m f34 wat TBA MXB 24m24 no dre P=1.
e R m f34 wat liv MXB 24m24 no dre P=1.

PHENYL-beta-NAPHTHYLAMINE*** 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
207 R f sda gav liv tum 32m32 e .> no dre P=1.
a R f sda gav tba mix 32m32 e no dre P=1. -
208 R m sda gav liv tum 37m37 e .> no dre P=1.
a R m sda gav tba mix 37m37 e no dre P=1. -

1-PHENYLAZO-2-NAPHTHOL*** 100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10
209 M f b6c eat --- lym 24m24 : ± #128.mg \ P<.03 -
a M f b6c eat TBA MXB 24m24 391.mg * P<.4
b M f b6c eat liv MXB 24m24 833.mg * P<.2
c M f b6c eat lun MXB 24m24 3.03gm * P<.8
210 M m b6c eat TBA MXB 24m24 : ± 154.mg * P<.04 -
a M m b6c eat liv MXB 24m24 587.mg * P<.4
b M m b6c eat lun MXB 24m24 1.08gm * P<.5
211 R f f34 eat liv MXA 24m24 : + : 86.5mg * P<.01 c
a R f f34 eat liv nnd 24m24 96.6mg * P<.02 c
b R f f34 eat sub fib 24m24 346.mg * P<.05
c R f f34 eat TBA MXB 24m24 no dre P=1.
d R f f34 eat liv MXB 24m24 86.5mg * P<.01

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc		Citation or Pathology	Brkly Code
e	c50146	50.1mg	n.s.s.	39/50	17.7mg	45/50	35.3mg	40/50	94.2mg	42/50	
f	c50146	50.7mg	n.s.s.	29/50	17.7mg	40/50	35.3mg	34/50	94.2mg	36/50	liv:hpa,nnd,hpc.
g	c50146	381.mg	n.s.s.	13/50	17.7mg	10/50	35.3mg	8/50	94.2mg	4/50	lun:a/c,a/a.
195	c50146	8.62mg	18.3mg	3/50	9.80mg	4/50	19.6mg	37/50	24.5mg	26/50	liv:nnd,hpc; thy:fca,fcc. C
a	c50146	10.2mg	20.8mg	0/50	9.80mg	4/50	19.6mg	29/50	24.5mg	23/50	thy:fca,fcc.
b	c50146	13.2mg	35.5mg	3/50	9.80mg	0/50	19.6mg	24/50	24.5mg	17/50	liv:nnd,hpc.
c	c50146	18.1mg	44.4mg	0/50	9.80mg	2/50	19.6mg	17/50	24.5mg	16/50	
d	c50146	18.1mg	61.1mg	3/50	9.80mg	0/50	19.6mg	20/50	24.5mg	11/50	
e	c50146	24.6mg	77.8mg	0/50	9.80mg	2/50	19.6mg	12/50	24.5mg	7/50	
f	c50146	45.6mg	260.mg	0/50	9.80mg	0/50	19.6mg	4/50	24.5mg	6/50	
g	c50146	9.60mg	n.s.s.	42/50	9.80mg	36/50	19.6mg	45/50	24.5mg	31/50	
h	c50146	13.2mg	35.5mg	3/50	9.80mg	0/50	19.6mg	24/50	24.5mg	17/50	liv:hpa,nnd,hpc.
196	c50146	5.00mg	9.96mg	2/50	7.80mg	18/50	15.7mg	43/50	19.6mg	43/50	liv:nnd,hpc; thy:fca,fcc. C
a	c50146	5.38mg	10.3mg	1/50	7.80mg	13/50	15.7mg	41/50	19.6mg	39/50	liv:nnd,hpc.
b	c50146	11.1mg	23.7mg	0/50	7.80mg	4/50	15.7mg	23/50	19.6mg	22/50	
c	c50146	12.2mg	30.1mg	1/50	7.80mg	6/50	15.7mg	17/50	19.6mg	28/50	thy:fca,fcc.
d	c50146	14.7mg	50.7mg	1/50	7.80mg	9/50	15.7mg	18/50	19.6mg	17/50	
e	c50146	20.6mg	63.2mg	0/50	7.80mg	5/50	15.7mg	9/50	19.6mg	15/50	
f	c50146	27.0mg	143.mg	1/50	7.80mg	1/50	15.7mg	8/50	19.6mg	13/50	
g	c50146	15.2mg	n.s.s.	45/50	7.80mg	38/50	15.7mg	48/50	19.6mg	46/50	
h	c50146	5.38mg	10.3mg	1/50	7.80mg	13/50	15.7mg	41/50	19.6mg	39/50	liv:hpa,nnd,hpc.
PHENACETIN*** 62-44-2											
197	1501	2.60gm	n.s.s.	7/48	720.mg	6/50	1.50gm	14/49			Nakanishi;ijcn,29,439-444;1982
a	1501	9.10gm	n.s.s.	0/48	720.mg	0/50	1.50gm	2/49			
b	1501	9.10gm	n.s.s.	0/48	720.mg	0/50	1.50gm	2/49			
c	1501	3.23gm	n.s.s.	3/48	720.mg	6/50	1.50gm	8/49			
d	1501	4.15gm	n.s.s.	2/48	720.mg	5/50	1.50gm	5/49			
e	1501	6.97gm	n.s.s.	1/48	720.mg	1/50	1.50gm	3/49			
f	1501	6.28gm	n.s.s.	2/48	720.mg	3/50	1.50gm	3/49			
198	1501	754.mg	1.69gm	0/48	665.mg	11/48	1.38gm	32/48			
a	1501	1.90gm	41.0gm	3/48	665.mg	8/48	1.38gm	13/48			
b	1501	2.20gm	8.53gm	0/48	665.mg	1/48	1.38gm	14/48			
c	1501	1.87gm	n.s.s.	8/48	665.mg	14/48	1.38gm	14/48			
d	1501	1.39gm	n.s.s.	10/48	665.mg	11/48	(1.38gm	3/48)			
e	1501	4.58gm	n.s.s.	14/48	665.mg	10/48	1.38gm	10/48			
f	1501	10.5gm	n.s.s.	4/48	665.mg	1/48	1.38gm	2/48			
PHENOBARBITAL*** (phenobarbitone) 50-06-6											
199	1477m	n.s.s.	11.5mg	5/16	83.3mg	16/16					Becker;canr,42,3918-3923;1982
200	1477n	155.mg	n.s.s.	0/16	83.3mg	0/16					
201	1477o	n.s.s.	n.s.s.	5/8	83.3mg	8/8					
202	1477r	n.s.s.	n.s.s.	10/16	83.3mg	16/16					
PHENOL 108-95-2											
203	c50124	1.71gm	n.s.s.	27/50	491.mg	21/50	981.mg	21/50			
a	c50124	7.62gm	n.s.s.	3/50	491.mg	1/50	981.mg	1/50			liv:hpa,nnd,hpc.
b	c50124	3.60gm	n.s.s.	1/50	491.mg	3/50	981.mg	2/50			lun:a/c,a/a.
204	c50124	1.48gm	n.s.s.	30/50	409.mg	28/50	818.mg	25/50			
a	c50124	523.mg	n.s.s.	14/50	409.mg	19/50	(818.mg	9/50)			liv:hpa,nnd,hpc.
b	c50124	1.91gm	n.s.s.	6/50	409.mg	5/50	818.mg	10/50			lun:a/c,a/a.
205	c50124	257.mg	n.s.s.	45/50	140.mg	45/50	280.mg	38/50			
a	c50124	866.mg	n.s.s.	4/50	140.mg	1/50	(280.mg	0/50)			liv:hpa,nnd,hpc.
206	c50124	158.mg	5.60gm	0/50	123.mg	5/50	(245.mg	1/50)			S
a	c50124	57.0mg	n.s.s.	18/50	123.mg	31/50	(245.mg	25/50)			---:leu,lym. S
b	c50124	59.1mg	n.s.s.	18/50	123.mg	30/50	(245.mg	24/50)			S
c	c50124	59.1mg	n.s.s.	18/50	123.mg	30/50	(245.mg	25/50)			S
d	c50124	189.mg	n.s.s.	40/50	123.mg	44/50	245.mg	38/50			
e	c50124	716.mg	n.s.s.	5/50	123.mg	4/50	245.mg	4/50			liv:hpa,nnd,hpc.
PHENYL-beta-NAPHTHYLAMINE*** (Agerite powder) 135-88-6											
207	1524	2.42gm	n.s.s.	0/40	171.mg	0/40					Ketkar;clet,16,203-206;1982
a	1524	2.00gm	n.s.s.	30/40	171.mg	3/40					
208	1524	3.34gm	n.s.s.	0/40	171.mg	0/40					
a	1524	1.80gm	n.s.s.	24/40	171.mg	8/40					
1-PHENYLAZO-2-NAPHTHOL*** (C.I. Solvent Yellow 14) 842-07-9											
209	c53929	55.6mg	n.s.s.	9/50	63.8mg	23/50	(128.mg	17/50)			S
a	c53929	96.1mg	n.s.s.	28/50	63.8mg	34/50	128.mg	36/50			
b	c53929	279.mg	n.s.s.	2/50	63.8mg	4/50	128.mg	6/50			liv:hpa,nnd,hpc.
c	c53929	342.mg	n.s.s.	3/50	63.8mg	6/50	128.mg	4/50			lun:a/c,a/a.
210	c53929	68.5mg	n.s.s.	24/50	58.9mg	30/50	118.mg	37/50			
a	c53929	159.mg	n.s.s.	15/50	58.9mg	11/50	118.mg	19/50			liv:hpa,nnd,hpc.
b	c53929	250.mg	n.s.s.	5/50	58.9mg	7/50	118.mg	7/50			lun:a/c,a/a.
211	c53929	40.2mg	4.20gm	2/50	12.4mg	3/49	24.8mg	11/50			liv:nnd,hpc.
a	c53929	43.2mg	n.s.s.	2/50	12.4mg	3/49	24.8mg	10/50			
b	c53929	104.mg	n.s.s.	0/50	12.4mg	0/49	24.8mg	3/50			S
c	c53929	24.4mg	n.s.s.	44/50	12.4mg	41/49	24.8mg	38/50			
d	c53929	40.2mg	4.20gm	2/50	12.4mg	3/49	24.8mg	11/50			liv:hpa,nnd,hpc.

	Spe Sex	Strain Route	Site Hist	Xpo + Xpt Notes	100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10	TD50 DR	2Tailpvl AuOp
212	R m f34	eat liv	nnd 24m24		: + :	17.7mg /	P<.0005c
a	R m f34	eat liv	MXA 24m24			17.9mg /	P<.0005c
b	R m f34	eat TBA	MXB 24m24			106.mg *	P<.8
c	R m f34	eat liv	MXB 24m24			17.9mg /	P<.0005
PRAZIQUANTEL							
213	H f syg	gav tba	mix 80w80	e	.>	250.mg *	P<.5 -
214	H m syg	gav tba	mix 80w80	e	.>	no dre	P=1. -
215	R f sda	gav tba	mix 24m30	e	.>	no dre	P=1. -
216	R m sda	gav tba	mix 24m30	e	.>	no dre	P=1. -
beta-PROPIOLACTONE* **							
217	R f sda	gav sto	tum 12m35	e	. + .	1.61mg	P<.0005+
PROPYL GALLATE							
218	M f b6c	eat liv	hpa 24m24		:	#8.26gm *	P<.01 -
a	M f b6c	eat TBA	MXB 24m24			no dre	P=1.
b	M f b6c	eat liv	MXB 24m24			21.4gm *	P<.5
c	M f b6c	eat lun	MXB 24m24			44.3gm *	P<.6
219	M m b6c	eat ---	lym 24m24		:	±#6.54gm *	P<.02 -
a	M m b6c	eat ---	mly 24m24			12.1gm *	P<.03
b	M m b6c	eat ---	lhc 24m24			15.1gm *	P<.03
c	M m b6c	eat TBA	MXB 24m24			3.64gm \	P<.6
d	M m b6c	eat liv	MXB 24m24			no dre	P=1.
e	M m b6c	eat lun	MXB 24m24			55.6gm *	P<.9
220	R f f34	eat mgl	ade 24m24		:	#8.08gm *	P<.05 -
a	R f f34	eat TBA	MXB 24m24			no dre	P=1.
b	R f f34	eat liv	MXB 24m24			no dre	P=1.
221	R m f34	eat pni	isa 24m24		: + :	#749.mg \	P<.002 -
a	R m f34	eat adr	MXA 24m24			613.mg \	P<.03
b	R m f34	eat adr	phe 24m24			613.mg \	P<.03
c	R m f34	eat pni	MXA 24m24			840.mg \	P<.03
d	R m f34	eat pre	MXA 24m24			1.04gm \	P<.03
e	R m f34	eat thy	MXA 24m24			6.87gm *	P<.05
f	R m f34	eat TBA	MXB 24m24			no dre	P=1.
g	R m f34	eat liv	MXB 24m24			no dre	P=1.
1,2-PROPYLENE OXIDE							
222	R f sda	gav sto	mix 25m35	e	. + .	39.5mg *	P<.0005+
a	R f sda	gav for	sqc 25m35	e		44.3mg *	P<.0005+
QUERCETIN DIHYDRATE* **							
223	H f syg	eat ilm	adc 24m24			140.gm	P<.3 -
a	H f syg	eat for	pam 24m24			no dre	P=1. -
224	H f syg	eat for	pam 23m23		.>	18.9gm	P<.2 -
a	H f syg	eat ute	ley 23m23			39.2gm	P<.4 -
225	H f syg	eat for	pam 12m23		.>	no dre	P=1. -
226	H m syg	eat for	pam 24m24			56.7gm	P<.3 -
a	H m syg	eat adr	coa 24m24			no dre	P=1. -
227	H m syg	eat for	pam 23m23			no dre	P=1. -
a	H m syg	eat adr	coa 23m23			nc dre	P=1. -
228	H m syg	eat for	pam 12m23		.>	1.44gm	P<.5 -
QUILLAIA EXTRACT* **							
229	R f wis	eat thy	ade 25m25	e	.	±8.70gm *	P<.09 -
a	R f wis	eat liv	ade 25m25	e		72.4gm *	P<.2 -
230	R m wis	eat liv	ade 25m25	e	.>	no dre	P=1. -
C.I. FOOD RED 3* **							
231	M f b6c	eat TBA	MXB 24m24		:>	no dre	P=1. -
a	M f b6c	eat liv	MXB 24m24			no dre	P=1.
b	M f b6c	eat lun	MXB 24m24			no dre	P=1.
232	M m b6c	eat TBA	MXB 24m24		:>	no dre	P=1. -
a	M m b6c	eat liv	MXB 24m24			no dre	P=1.
b	M m b6c	eat lun	MXB 24m24			no dre	P=1.
233	R f f34	eat ute	esp 24m24		: ±	#3.27gm *	P<.02 -
a	R f f34	eat cli	sea 24m24			16.4gm *	P<.02
b	R f f34	eat TBA	MXB 24m24			7.18gm *	P<.7
c	R f f34	eat liv	MXB 24m24			no dre	P=1.
234	R m f34	eat TBA	MXB 24m24		:>	1.86gm *	P<.5 -
a	R m f34	eat liv	MXB 24m24			9.85gm *	P<.7
D & C RED NO. 9* **							
235	M f b6c	eat TBA	MXB 24m24		:>	18.2gm *	P<1. -
a	M f b6c	eat liv	MXB 24m24			9.24gm *	P<.8
b	M f b6c	eat lun	MXB 24m24			9.20gm *	P<.7
236	M m b6c	eat TBA	MXB 24m24		:>	2.12gm *	P<.8 -
a	M m b6c	eat liv	MXB 24m24			781.mg *	P<.2
b	M m b6c	eat lun	MXB 24m24			5.39gm *	P<.7

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology / Brkly Code
212	c53929	10.4mg	50.0mg	5/50	9.90mg	10/50	19.8mg	30/50	
a	c53929	10.3mg	55.3mg	6/50	9.90mg	10/50	19.8mg	31/50	liv:nnd,hpc.
b	c53929	13.5mg	n.s.s.	36/50	9.90mg	33/50	19.8mg	45/50	
c	c53929	10.3mg	55.3mg	6/50	9.90mg	10/50	19.8mg	31/50	liv:hpa,nnd,hpc.
PRAZIQUANTEL (Embay 8440, Droncit) 55268-74-1									
213	1519m	50.3mg	n.s.s.	12/99	14.3mg	9/50	35.7mg	8/49	Ketkar;txcy,24,345-350;1982
214	1519m	79.5mg	n.s.s.	23/99	14.3mg	16/49	35.7mg	7/50	
215	1519n	57.7mg	n.s.s.	76/97	11.4mg	37/50	28.6mg	35/50	
216	1519n	106.mg	n.s.s.	61/103	11.4mg	27/50	28.6mg	23/50	
beta-PROPIOLACTONE*** 57-57-8									
217	1486	.986mg	2.65mg	0/50	2.86mg	46/50			Dunkelberg;bjca,46,924-933;1982
PROPYL GALLATE 121-79-9									
218	c50588	3.56gm	370.gm	0/50	758.mg	2/50	1.52gm	5/50	S
a	c50588	2.54gm	n.s.s.	25/50	758.mg	17/50	1.52gm	22/50	
b	c50588	4.17gm	n.s.s.	3/50	758.mg	3/50	1.52gm	5/50	liv:hpa,nnd,hpc.
c	c50588	6.71gm	n.s.s.	1/50	758.mg	1/50	1.52gm	2/50	lun:a/c,a/a.
219	c50588	2.92gm	n.s.s.	1/50	700.mg	3/50	1.40gm	8/50	S
a	c50588	4.60gm	n.s.s.	0/50	700.mg	1/50	1.40gm	4/50	S
b	c50588	5.22gm	n.s.s.	0/50	700.mg	0/50	1.40gm	4/50	S
c	c50588	604.mg	n.s.s.	29/50	700.mg	31/50	(1.40gm	22/50)	
d	c50588	4.54gm	n.s.s.	17/50	700.mg	15/50	1.40gm	10/50	liv:hpa,nnd,hpc.
e	c50588	4.19gm	n.s.s.	4/50	700.mg	5/50	1.40gm	5/50	lun:a/c,a/a.
220	c50588	2.44gm	n.s.s.	0/50	292.mg	0/50	583.mg	3/50	S
a	c50588	663.mg	n.s.s.	38/50	292.mg	34/50	583.mg	36/50	
b	c50588	n.s.s.	n.s.s.	0/50	292.mg	1/50	583.mg	0/50	liv:hpa,nnd,hpc.
221	c50588	338.mg	2.74gm	0/50	233.mg	8/50	(466.mg	2/50)	S
a	c50588	256.mg	n.s.s.	4/50	233.mg	13/50	(466.mg	8/50)	adr:phm,phe. S
b	c50588	256.mg	n.s.s.	4/50	233.mg	13/50	(466.mg	8/50)	S
c	c50588	335.mg	n.s.s.	2/50	233.mg	9/50	(466.mg	4/50)	pni:isa,isc. S
d	c50588	404.mg	n.s.s.	1/50	233.mg	7/50	(466.mg	0/50)	pre:ade,car,adc. S
e	c50588	2.08gm	n.s.s.	0/50	233.mg	0/50	466.mg	3/50	thy:fca,fcc. S
f	c50588	581.mg	n.s.s.	33/50	233.mg	37/50	466.mg	32/50	
g	c50588	3.51gm	n.s.s.	2/50	233.mg	1/50	466.mg	1/50	liv:hpa,nnd,hpc.
1,2-PROPYLENE OXIDE 75-56-9									
222	1486	24.0mg	71.6mg	0/50	3.13mg	2/50	12.5mg	21/50	Dunkelberg;bjca,46,924-933;1982
a	1486	26.3mg	82.6mg	0/50	3.13mg	2/50	12.5mg	19/50	
QUERCETIN DIHYDRATE*** 6151-25-3									
223	1144m	22.7gm	n.s.s.	0/20	10.5gm	1/20			Morino;carc,3,93-97;1982
a	1144m	20.5gm	n.s.s.	2/20	10.5gm	2/20			
224	1144n	4.63gm	n.s.s.	0/8	4.18gm	2/15			
a	1144n	6.37gm	n.s.s.	0/8	4.18gm	1/15			
225	1144o	698.mg	n.s.s.	0/8	523.mg	0/7			
226	1144m	12.6gm	n.s.s.	1/20	9.20gm	3/20			
a	1144m	18.0gm	n.s.s.	2/20	9.20gm	2/20			
227	1144n	10.7gm	n.s.s.	1/8	3.68gm	0/15			
a	1144n	12.2gm	n.s.s.	1/8	4.18gm	0/15			
228	1144o	228.mg	n.s.s.	1/8	461.mg	2/7			
QUILLAIA EXTRACT*** (spray-dried aqueous extract of quillaia bark) ---									
229	1527	3.06gm	n.s.s.	0/39	150.mg	2/40	500.mg	5/45	1.50gm 4/42 Drake;fctx,20,15-23;1982
a	1527	11.8gm	n.s.s.	0/42	150.mg	0/45	500.mg	0/46	1.50gm 1/46
230	1527	605.mg	n.s.s.	0/40	120.mg	0/33	400.mg	0/26	1.20gm 0/44
C.I. FOOD RED 3*** (carmoisine, C.I. Acid Red 14, disodium salt) 3567-69-9									
231	c53849	1.45gm	n.s.s.	28/50	386.mg	29/50	773.mg	23/49	
a	c53849	3.32gm	n.s.s.	3/50	386.mg	5/50	773.mg	2/49	liv:hpa,nnd,hpc.
b	c53849	2.93gm	n.s.s.	4/50	386.mg	4/50	773.mg	4/49	lun:a/c,a/a.
232	c53849	680.mg	n.s.s.	31/50	357.mg	28/50	713.mg	31/50	
a	c53849	1.28gm	n.s.s.	15/50	357.mg	9/50	713.mg	14/50	liv:hpa,nnd,hpc.
b	c53849	2.18gm	n.s.s.	4/50	357.mg	4/50	713.mg	4/50	lun:a/c,a/a.
233	c53849	1.47gm	n.s.s.	9/90	613.mg	11/50	1.23gm	14/50	S
a	c53849	4.96gm	n.s.s.	0/90	613.mg	0/50	1.23gm	3/50	S
b	c53849	1.01gm	n.s.s.	68/90	613.mg	34/50	1.23gm	44/50	
c	c53849	9.34gm	n.s.s.	3/90	613.mg	1/50	1.23gm	1/50	liv:hpa,nnd,hpc.
234	c53849	407.mg	n.s.s.	61/90	238.mg	22/50	495.mg	34/50	
a	c53849	1.34gm	n.s.s.	5/90	238.mg	3/50	495.mg	3/50	liv:hpa,nnd,hpc.
D & C RED NO. 9*** (brilliant red) 5160-02-1									
235	c53792	319.mg	n.s.s.	26/50	128.mg	25/50	255.mg	27/50	
a	c53792	803.mg	n.s.s.	5/50	128.mg	3/50	255.mg	6/50	liv:hpa,nnd,hpc.
b	c53792	1.13gm	n.s.s.	2/50	128.mg	1/50	255.mg	3/50	lun:a/c,a/a.
236	c53792	258.mg	n.s.s.	23/50	118.mg	28/50	235.mg	24/50	
a	c53792	293.mg	n.s.s.	8/50	118.mg	13/50	235.mg	15/50	liv:hpa,nnd,hpc.
b	c53792	703.mg	n.s.s.	4/50	118.mg	4/50	235.mg	5/50	lun:a/c,a/a.

	Spe	Sex	Strain	Route	Site	Hist	Xpo+Xpt	Notes	Plot	TD50	DR	2Tailpvl	AuOp
237	R	f	f34	eat	liv	nnd	24m24		: ±	1.14gm	*	P<.08	a
a	R	f	f34	eat	TBA	MXB	24m24			no dre		P=1.	
b	R	f	f34	eat	liv	MXB	24m24			1.14gm	*	P<.08	
238	R	m	f34	eat	MXB	MXB	24m24		: + :	104.mg	/	P<.0005	
a	R	m	f34	eat	spl	MXA	24m24			146.mg	/	P<.0005	c
b	R	m	f34	eat	spl	fbs	24m24			211.mg	/	P<.0005	c
c	R	m	f34	eat	liv	nnd	24m24			265.mg	*	P<.004	c
d	R	m	f34	eat	spl	ost	24m24			728.mg	*	P<.005	c
e	R	m	f34	eat	liv	MXA	24m24			357.mg	*	P<.03	c
f	R	m	f34	eat	TBA	MXB	24m24			331.mg	/	P<.5	
g	R	m	f34	eat	liv	MXB	24m24			357.mg	*	P<.03	
ROSANILINE.HCl***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
239	R	f	sda	gav	liv	tum	25m25	ev	.>	no dre		P=1.	
a	R	f	sda	gav	tba	mix	25m25	ev		no dre		P=1.	-
240	R	m	sda	gav	liv	tum	26m26	ev	.>	no dre		P=1.	
a	R	m	sda	gav	tba	mix	26m26	ev		no dre		P=1.	-
p-ROSANILINE.HCl***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
241	R	f	sda	gav	liv	tum	29m29	ev	.>	no dre		P=1.	
a	R	f	sda	gav	tba	mix	29m29	ev		no dre		P=1.	-
242	R	m	sda	gav	liv	tum	29m29	ev	.>	no dre		P=1.	
a	R	m	sda	gav	tba	mix	29m29	ev		no dre		P=1.	-
RUTIN TRIHYDRATE***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
243	H	f	syg	eat	adr	coa	24m24			132.gm		P<.6	-
a	H	f	syg	eat	ute	ley	24m24			140.gm		P<.3	-
244	H	m	syg	eat	adr	coa	24m24			no dre		P=1.	-
a	H	m	syg	eat	for	pam	24m24			no dre		P=1.	-
SACCHARIN, SODIUM***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
245	R	m	f34	eat	ubl	tum	24m24	r	.	no dre		P=1.	-
246	R	m	f34	eat	ubl	tum	24m24	r	.	no dre		P=1.	-
247	R	m	fis	eat	ubl	mix	23m24			no dre		P=1.	-
SAFROLE***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
248	M	m	bal	eat	liv	hpa	52w52	ek	. + .	68.3mg		P<.0005	+
a	M	m	bal	eat	liv	hpc	52w52	ek		368.mg		P<.09	+
b	M	m	bal	eat	lun	tum	52w52	ek		no dre		P=1.	
249	M	m	bal	eat	liv	hpa	52w75	ek	<+	noTD50		P<.009	+
a	M	m	bal	eat	liv	hpc	52w75	ek		129.mg		P<.02	+
b	M	m	bal	eat	lun	tum	52w75	ek		no dre		P=1.	
STERIGMATOCYSTIN***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
250	M	f	bd1	eat	liv	hae	55w68	ek	. + .	.574mg		P<.0005	
a	M	f	bd1	eat	liv	ang	55w68	ek		1.33mg		P<.004	+
b	M	f	bd1	eat	brf	ang	55w68	ek		8.77mg		P<.3	+
c	M	f	bd1	eat	liv	hpa	55w68	ek		8.77mg		P<.3	
d	M	f	bd1	eat	lun	ade	55w68	ek		8.77mg		P<.3	
251	M	f	bd1	eat	liv	ang	55w73	e	. +.	.689mg		P<.0005	+
a	M	f	bd1	eat	liv	hae	55w73	e		5.77mg		P<.005	
b	M	f	bd1	eat	brf	ang	55w73	e		7.03mg		P<.01	+
c	M	f	bd1	eat	lun	ade	55w73	e		8.92mg		P<.03	
d	M	f	bd1	eat	lun	ang	55w73	e		37.2mg		P<.3	
e	M	f	bd1	eat	liv	hpc	55w73	e		37.2mg		P<.3	
TARA GUM									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
252	M	f	b6c	eat	TBA	MXB	24m24			no dre		P=1.	-
a	M	f	b6c	eat	liv	MXB	24m24			no dre		P=1.	
b	M	f	b6c	eat	lun	MXB	24m24			no dre		P=1.	
253	M	m	b6c	eat	TBA	MXB	24m24		:>	31.0gm	*	P<.7	-
a	M	m	b6c	eat	liv	MXB	24m24			289.gm	*	P<1.	
b	M	m	b6c	eat	lun	MXB	24m24			85.6gm	*	P<.8	
254	R	f	f34	eat	TBA	MXB	24m25		:>	5.03gm	*	P<.5	-
a	R	f	f34	eat	liv	MXB	24m25			no dre		P=1.	
255	R	m	f34	eat	TBA	MXB	24m24		:>	93.3gm	*	P<1.	-
a	R	m	f34	eat	liv	MXB	24m24			24.5gm	*	P<.4	
TETRAFLUOROBORATE, SODIUM									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
256	H	f	syg	gav	liv	cho	70w70	es	.>	no dre		P=1.	
a	H	f	syg	gav	lun	tum	70w70	es		no dre		P=1.	
257	H	m	syg	gav	liv	hem	90w90	es	.>	no dre		P=1.	
a	H	m	syg	gav	lun	tum	90w90	es		no dre		P=1.	
TIN (II) CHLORIDE***									100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10				
258	M	f	b6c	eat	pit	ade	24m24	ae	: ±	#1.39gm	*	P<.05	-
a	M	f	b6c	eat	liv	hpc	24m24	ae		1.42gm	*	P<.03	
b	M	f	b6c	eat	---	lhc	24m24	ae		2.55gm	*	P<.02	
c	M	f	b6c	eat	TBA	MXB	24m24	ae		386.mg	*	P<.09	
d	M	f	b6c	eat	liv	MXB	24m24	ae		1.02gm	*	P<.06	

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology	Brkly Code
237	c53792	386.mg	n.s.s.	1/50	49.5mg	1/50	149.mg	5/50		
a	c53792	149.mg	n.s.s.	44/50	49.5mg	42/50	149.mg	40/50		
b	c53792	386.mg	n.s.s.	1/50	49.5mg	1/50	149.mg	5/50		liv:hpa,nnd,hpc.
238	c53792	66.0mg	190.mg	1/50	39.6mg	6/50	119.mg	26/50	liv:nnd,hpc; spl:fbs,ost,lei,srn. C	
a	c53792	88.7mg	265.mg	0/50	39.6mg	0/50	119.mg	23/50		spl:fbs,ost,lei,srn.
b	c53792	119.mg	425.mg	0/50	39.6mg	0/50	119.mg	17/50		
c	c53792	140.mg	1.80gm	0/50	39.6mg	6/50	119.mg	7/50		
d	c53792	276.mg	5.35gm	0/50	39.6mg	0/50	119.mg	5/50		
e	c53792	154.mg	n.s.s.	1/50	39.6mg	6/50	119.mg	7/50		liv:nnd,hpc.
f	c53792	69.0mg	n.s.s.	43/50	39.6mg	34/50	119.mg	44/50		
g	c53792	154.mg	n.s.s.	1/50	39.6mg	6/50	119.mg	7/50		liv:hpa,nnd,hpc.
ROSANILINE.HCl*** (magenta I) 632-99-5										
239	1524	266.mg	n.s.s.	0/40	30.4mg	0/40			Ketkar;clet,16,203-206;1982	
a	1524	210.mg	n.s.s.	23/40	30.4mg	3/40				
240	1524	285.mg	n.s.s.	0/40	30.4mg	0/40				
a	1524	244.mg	n.s.s.	10/40	30.4mg	1/40				
p-ROSANILINE.HCl*** (p-magenta) 569-61-9										
241	1524	597.mg	n.s.s.	0/40	48.6mg	0/40			Ketkar;clet,16,203-206;1982	
a	1524	244.mg	n.s.s.	23/40	48.6mg	11/40				
242	1524	571.mg	n.s.s.	0/40	48.7mg	0/40				
a	1524	201.mg	n.s.s.	10/40	48.7mg	7/40				
RUTIN TRIHYDRATE*** 153-18-4										
243	1144	18.4gm	n.s.s.	1/20	10.5gm	2/20			Morino;carc,3,93-97;1982	
a	1144	22.7gm	n.s.s.	0/20	10.5gm	1/20				
244	1144	18.0gm	n.s.s.	2/20	9.20gm	2/20				
a	1144	22.7gm	n.s.s.	1/20	9.20gm	1/20				
SACCHARIN, SODIUM*** 128-44-9										
245	1479m	8.49gm	n.s.s.	0/37	1.96gm	0/21			Cohen;canr,42,65-71;1982	
246	1479n	8.66gm	n.s.s.	0/37	2.00gm	0/21				
247	1430	10.3gm	n.s.s.	0/27	1.92gm	0/26			Fukushima;canr,41,3100-3103;1981	
SAFROLE*** 94-59-7										
248	1474m	27.1mg	234.mg	0/10	480.mg	7/10			Lipsky;jnci,67,365-371;1981	
a	1474m	90.1mg	n.s.s.	0/10	480.mg	2/10				
b	1474m	247.mg	n.s.s.	0/10	480.mg	0/10				
249	1474n	n.s.s.	164.mg	0/5	333.mg	5/5				
a	1474n	36.1mg	n.s.s.	0/5	333.mg	3/5				
b	1474n	178.mg	n.s.s.	0/5	333.mg	0/5				
STERIGMATOCYSTIN*** 10048-13-2										
250	1492m	.226mg	1.80mg	0/10	3.15mg	8/10			Enomoto;fctx,20,547-556;1982	
a	1492m	.490mg	9.33mg	0/10	3.15mg	5/10				
b	1492m	1.43mg	n.s.s.	0/10	3.15mg	1/10				
c	1492m	1.43mg	n.s.s.	0/10	3.15mg	1/10				
d	1492m	1.43mg	n.s.s.	0/10	3.15mg	1/10				
251	1492n	.420mg	1.20mg	0/35	2.94mg	29/38				
a	1492n	2.35mg	41.4mg	0/35	2.94mg	6/38				
b	1492n	2.67mg	320.mg	0/35	2.94mg	5/38				
c	1492n	3.08mg	n.s.s.	0/35	2.94mg	4/38				
d	1492n	6.06mg	n.s.s.	0/35	2.94mg	1/38				
e	1492n	6.06mg	n.s.s.	0/35	2.94mg	1/38				
TARA GUM 39300-88-4										
252	c54364	10.4gm	n.s.s.	34/50	3.19gm	26/50	6.38gm	26/50		
a	c54364	9.39gm	n.s.s.	10/50	3.19gm	6/50	(6.38gm	3/50)		liv:hpa,nnd,hpc.
b	c54364	38.2gm	n.s.s.	8/50	3.19gm	2/50	6.38gm	3/50		lun:a/c,a/a.
253	c54364	5.09gm	n.s.s.	31/50	2.94gm	28/50	5.89gm	36/50		
a	c54364	10.5gm	n.s.s.	17/50	2.94gm	12/50	5.89gm	18/50		liv:hpa,nnd,hpc.
b	c54364	10.5gm	n.s.s.	10/50	2.94gm	11/50	5.89gm	12/50		lun:a/c,a/a.
254	c54364	1.19gm	n.s.s.	41/50	1.21gm	48/50	2.43gm	47/50		
a	c54364	21.2gm	n.s.s.	2/50	1.21gm	0/50	2.43gm	1/50		liv:hpa,nnd,hpc.
255	c54364	1.47gm	n.s.s.	36/50	972.mg	39/50	1.96gm	38/50		
a	c54364	6.14gm	n.s.s.	1/50	972.mg	2/50	1.96gm	3/50		liv:hpa,nnd,hpc.
TETRAFLUOROBORATE, SODIUM 13755-29-8										
256	1329	4.24mg	n.s.s.	1/15	3.03mg	0/15			Gold;clet,15,289-300;1982	
a	1329	4.24mg	n.s.s.	0/15	3.03mg	0/15				
257	1329	7.01mg	n.s.s.	1/15	3.03mg	0/15				
a	1329	7.01mg	n.s.s.	0/15	3.03mg	0/15				
TIN (II) CHLORIDE*** (stannous chloride) 7772-99-8										
258	c02722	564.mg	n.s.s.	0/50	130.mg	4/50	258.mg	2/50		S
a	c02722	574.mg	n.s.s.	0/50	130.mg	3/50	258.mg	3/50		S
b	c02722	871.mg	n.s.s.	0/50	130.mg	0/50	258.mg	4/50		S
c	c02722	150.mg	n.s.s.	22/50	130.mg	32/50	258.mg	27/50		
d	c02722	396.mg	n.s.s.	3/50	130.mg	4/50	258.mg	8/50		liv:hpa,nnd,hpc.

	Spe Sex	Strain Route	Site Hist	Xpo + Xpt	Notes	TD50 DR	2Tailpvl AuOp
e	M f	b6c eat	lun MXB	24m24	ae	no dre	P=1.
259	M m	b6c eat	TBA MXB	24m24		no dre	P=1. -
a	M m	b6c eat	liv MXB	24m24		no dre	P=1.
b	M m	b6c eat	lun MXB	24m24		no dre	P=1.
260	R f	f34 eat	TBA MXB	24m24		12.0gm *	P<1. -
a	R f	f34 eat	liv MXB	24m24		676.gm *	P<1.
261	R m	f34 eat	thy MXA	24m24	ae	#87.4mg \	P<.004 -
a	R m	f34 eat	thy ccr	24m24	ae	405.mg *	P<.03
b	R m	f34 eat	lun a/a	24m24	ae	951.mg *	P<.04
c	R m	f34 eat	TBA MXB	24m24	ae	180.mg *	P<.4
d	R m	f34 eat	liv MXB	24m24	ae	no dre	P=1.
o-TOLUIDINE.HCl***					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
262	R m	f34 eat	ski fib	72w93	e	38.7mg	P<.0005+
a	R m	f34 eat	mam fba	72w93	e	149.mg	P<.0005+
b	R m	f34 eat	spl fib	72w93	e	167.mg	P<.0005+
c	R m	f34 eat	pec scs	72w93	e	190.mg	P<.0005
d	R m	f34 eat	ubl mix	72w93	e	474.mg	P<.03 +
e	R m	f34 eat	liv mix	72w93	e	1.00gm	P<.4
L-TRYPTOPHAN***					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
263	R m	fis eat	ubl mix	23m24		no dre	P=1. -
VINYL CHLORIDE***					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
264	R m	sda inh	liv hpc	12m30	e	40.8mg	P<.0005+
a	R m	sda inh	liv ang	12m30	e	90.0mg	P<.0005+
b	R m	sda inh	adr tum	12m30	e	251.mg	P<.003
c	R m	sda inh	liv mix	12m30	e	294.mg	P<.004 +
d	R m	sda inh	pit tum	12m30	e	138.mg	P<.02
e	R m	sda inh	tba mix	12m30	e	17.3mg	P<.0005+
VINYLIDENE CHLORIDE***					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
265	M f	b6c eat	--- MXA	24m24		#3.90mg \	P<.05 -
a	M f	b6c eat	--- lym	24m24		4.02mg \	P<.02
b	M f	b6c eat	TBA MXB	24m24		2.09mg \	P<.06
c	M f	b6c eat	liv MXB	24m24		no dre	P=1.
d	M f	b6c eat	lun MXB	24m24		66.7mg *	P<.2
266	M m	b6c eat	TBA MXB	24m24		34.8mg *	P<.6 -
a	M m	b6c eat	liv MXB	24m24		133.mg *	P<.8
b	M m	b6c eat	lun MXB	24m24		60.4mg *	P<.4
267	R f	f34 eat	TBA MXB	24m24		no dre	P=1. -
a	R f	f34 eat	liv MXB	24m24		no dre	P=1.
268	R m	f34 eat	TBA MXB	24m24		no dre	P=1. -
a	R m	f34 eat	liv MXB	24m24		no dre	P=1.
C.I. DISPERSE YELLOW 3					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
269	M f	b6c eat	MXB MXB	24m24		717.mg *	P<.003
a	M f	b6c eat	liv MXA	24m24		1.02gm *	P<.0005c
b	M f	b6c eat	liv hpa	24m24		1.34gm *	P<.0005c
c	M f	b6c eat	--- MXA	24m24		1.51gm *	P<.05
d	M f	b6c eat	--- lym	24m24		1.68gm *	P<.07 a
e	M f	b6c eat	TBA MXB	24m24		769.mg *	P<.02
f	M f	b6c eat	liv MXB	24m24		1.02gm *	P<.0005
g	M f	b6c eat	lun MXB	24m24		no dre	P=1.
270	M m	b6c eat	lun a/a	24m24		#2.15gm *	P<.03 -
a	M m	b6c eat	TBA MXB	24m24		17.2gm *	P<1.
b	M m	b6c eat	liv MXB	24m24		no dre	P=1.
c	M m	b6c eat	lun MXB	24m24		2.44gm *	P<.07
271	R f	f34 eat	TBA MXB	24m24		no dre	P=1. -
a	R f	f34 eat	liv MXB	24m24		46.8gm *	P<.9
272	R m	f34 eat	MXB MXB	24m24		330.mg \	P<.003
a	R m	f34 eat	liv nnd	24m24		380.mg \	P<.003 c
b	R m	f34 eat	liv MXA	24m24		833.mg *	P<.04 c
c	R m	f34 eat	sto ---	24m24		+historical *	P<.4 a
d	R m	f34 eat	TBA MXB	24m24		no dre	P=1.
e	R m	f34 eat	liv MXB	24m24		833.mg *	P<.04
FD & C YELLOW NO. 6***					100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10		
273	M f	b6c eat	TBA MXB	24m24		no dre	P=1. -
a	M f	b6c eat	liv MXB	24m24		no dre	P=1.
b	M f	b6c eat	lun MXB	24m24		66.4gm *	P<.3
274	M m	b6c eat	ski MXA	24m24		#37.5gm *	P<.05 -
a	M m	b6c eat	TBA MXB	24m24		17.8gm *	P<.7
b	M m	b6c eat	liv MXB	24m24		14.2gm *	P<.5
c	M m	b6c eat	lun MXB	24m24		no dre	P=1.
275	R f	f34 eat	TBA MXB	24m24		9.06gm *	P<.8 -
a	R f	f34 eat	liv MXB	24m24		no dre	P=1.
276	R m	f34 eat	TBA MXB	24m24		11.8gm *	P<.9 -
a	R m	f34 eat	liv MXB	24m24		2.52gm \	P<.08

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology	Brkly Code
e	c02722	1.06gm	n.s.s.	4/50	130.mg	1/50	258.mg	3/50		lun:a/c,a/a.
259	c02722	373.mg	n.s.s.	33/50	120.mg	29/50	240.mg	33/50		
a	c02722	655.mg	n.s.s.	16/50	120.mg	10/50	240.mg	15/50		liv:hpa,nnd,hpc.
b	c02722	671.mg	n.s.s.	10/50	120.mg	10/50	240.mg	10/50		lun:a/c,a/a.
260	c02722	87.0mg	n.s.s.	40/50	50.0mg	38/50	100.mg	37/50		
a	c02722	891.mg	n.s.s.	1/50	50.0mg	0/50	100.mg	1/50		liv:hpa,nnd,hpc.
261	c02722	41.4mg	628.mg	2/50	40.0mg	13/50	(80.0mg	8/50)		thy:ccr,cca. S
a	c02722	174.mg	n.s.s.	0/50	40.0mg	4/50	80.0mg	3/50		S
b	c02722	287.mg	n.s.s.	0/50	40.0mg	0/50	80.0mg	3/50		S
c	c02722	49.0mg	n.s.s.	36/50	40.0mg	37/50	80.0mg	38/50		
d	c02722	598.mg	n.s.s.	2/50	40.0mg	0/50	80.0mg	1/50		liv:hpa,nnd,hpc.
o-TOLUIDINE.HCl*** 636-21-5										
262	1487	21.8mg	74.2mg	1/27	124.mg	25/30			Hecht;clet,16,103-108;1982	
a	1487	74.0mg	372.mg	0/27	124.mg	11/30				
b	1487	81.0mg	452.mg	0/27	124.mg	10/30				
c	1487	89.2mg	571.mg	0/27	124.mg	9/30				
d	1487	164.mg	n.s.s.	0/27	124.mg	4/30				
e	1487	212.mg	n.s.s.	1/27	124.mg	3/30				
L-TRYPTOPHAN*** 73-22-3										
263	1430	4.12gm	n.s.s.	0/27	769.mg	0/26			Fukushima;canr,41,3100-3103;1981	
VINYL CHLORIDE*** 75-01-4										
264	1440	26.7mg	67.3mg	1/80	21.4mg	35/80			Radike;enhp,41,59-62;1981	
a	1440	51.7mg	177.mg	0/80	21.4mg	18/80				
b	1440	108.mg	1.09gm	0/80	21.4mg	7/80				
c	1440	120.mg	1.93gm	0/80	21.4mg	6/80				
d	1440	61.0mg	n.s.s.	8/80	21.4mg	19/80				
e	1440	11.6mg	28.1mg	16/80	21.4mg	63/80				
VINYLIDENE CHLORIDE*** 75-35-4										
265	c54262	1.54mg	n.s.s.	7/50	1.43mg	15/50	(7.14mg	7/50)		---:leu,lym. S
a	c54262	1.65mg	n.s.s.	2/50	1.43mg	9/50	(7.14mg	6/50)		S
b	c54262	.838mg	n.s.s.	23/50	1.43mg	33/50	(7.14mg	21/50)		
c	c54262	28.7mg	n.s.s.	4/50	1.43mg	3/50	7.14mg	3/50		liv:hpa,nnd,hpc.
d	c54262	19.2mg	n.s.s.	1/50	1.43mg	1/50	7.14mg	4/50		lun:a/c,a/a.
266	c54262	6.01mg	n.s.s.	30/50	1.43mg	22/50	7.14mg	33/50		
a	c54262	11.1mg	n.s.s.	15/50	1.43mg	9/50	7.14mg	15/50		liv:hpa,nnd,hpc.
b	c54262	12.8mg	n.s.s.	5/50	1.43mg	5/50	7.14mg	8/50		lun:a/c,a/a.
267	c54262	3.65mg	n.s.s.	42/50	.714mg	38/50	3.57mg	36/50		
a	c54262	31.4mg	n.s.s.	4/50	.714mg	0/50	3.57mg	0/50		liv:hpa,nnd,hpc.
268	c54262	2.81mg	n.s.s.	29/50	.714mg	25/50	3.57mg	43/50		
a	c54262	10.1mg	n.s.s.	1/50	.714mg	3/50	3.57mg	3/50		liv:hpa,nnd,hpc.
C.I. DISPERSE YELLOW 3 2832-40-8										
269	c53781	385.mg	3.96gm	12/50	319.mg	25/50	638.mg	31/50		---:lym; liv:hpa,hpc. T
a	c53781	590.mg	3.05gm	2/50	319.mg	10/50	638.mg	17/50		liv:hpa,hpc.
b	c53781	769.mg	2.96gm	0/50	319.mg	6/50	638.mg	12/50		
c	c53781	654.mg	n.s.s.	10/50	319.mg	17/50	638.mg	20/50		---:leu,lym. S
d	c53781	689.mg	n.s.s.	10/50	319.mg	16/50	638.mg	19/50		
e	c53781	362.mg	n.s.s.	20/50	319.mg	33/50	638.mg	36/50		
f	c53781	590.mg	3.05gm	2/50	319.mg	10/50	638.mg	17/50		liv:hpa,nnd,hpc.
g	c53781	3.62gm	n.s.s.	6/50	319.mg	0/50	638.mg	4/50		lun:a/c,a/a.
270	c53781	960.mg	n.s.s.	2/50	294.mg	6/50	589.mg	9/50		S
a	c53781	624.mg	n.s.s.	33/50	294.mg	26/50	589.mg	33/50		
b	c53781	1.31gm	n.s.s.	20/50	294.mg	12/50	589.mg	16/50		liv:hpa,nnd,hpc.
c	c53781	977.mg	n.s.s.	3/50	294.mg	7/50	589.mg	9/50		lun:a/c,a/a.
271	c53781	232.mg	n.s.s.	38/50	248.mg	40/50	(495.mg	25/50)		
a	c53781	2.42gm	n.s.s.	2/50	248.mg	1/50	495.mg	3/50		liv:hpa,nnd,hpc.
272	c53781	170.mg	1.87gm	2/50	198.mg	18/50	(396.mg	11/50)		liv:nnd,hpc; sto:---. T
a	c53781	196.mg	1.80gm	1/50	198.mg	15/50	(396.mg	10/50)		
b	c53781	397.mg	n.s.s.	2/50	198.mg	15/50	396.mg	11/50		liv:nnd,hpc.
c	c53781	1.41gm	n.s.s.	0/50	198.mg	3/50	396.mg	1/50		
d	c53781	569.mg	n.s.s.	37/50	198.mg	37/50	396.mg	32/50		
e	c53781	397.mg	n.s.s.	2/50	198.mg	15/50	396.mg	11/50		liv:hpa,nnd,hpc.
FD & C YELLOW NO. 6*** (sunset yellow FCF) 2783-94-0										
273	c53907	7.16gm	n.s.s.	28/50	1.61gm	20/50	3.22gm	21/50		
a	c53907	15.8gm	n.s.s.	7/50	1.61gm	3/50	3.22gm	4/50		liv:hpa,nnd,hpc.
b	c53907	16.3gm	n.s.s.	0/50	1.61gm	1/50	3.22gm	1/50		lun:a/c,a/a.
274	c53907	11.3gm	n.s.s.	0/50	1.49gm	0/49	2.97gm	3/50		ski:fbs,fib. S
a	c53907	2.42gm	n.s.s.	32/50	1.49gm	31/49	2.97gm	34/50		
b	c53907	3.04gm	n.s.s.	13/50	1.49gm	23/49	2.97gm	16/50		liv:hpa,nnd,hpc.
c	c53907	13.3gm	n.s.s.	6/50	1.49gm	4/49	2.97gm	3/50		lun:a/c,a/a.
275	c53907	1.03gm	n.s.s.	68/90	619.mg	37/50	1.24gm	42/50		
a	c53907	8.31gm	n.s.s.	3/90	619.mg	3/50	1.24gm	0/50		liv:hpa,nnd,hpc.
276	c53907	973.mg	n.s.s.	61/90	495.mg	34/50	990.mg	35/50		
a	c53907	802.mg	n.s.s.	5/90	495.mg	7/50	(990.mg	1/50)		liv:hpa,nnd,hpc.

	Spe Sex	Strain Route	Site Hist	Xpo+Xpt Notes	100ng..:..1ug....:..10.....:..100....:..1mg....:..10.....:..100....:..1g.....:..10	TD50	2Tailpvl DR	AuOp
ZEARALENONE								
277	M f	b6c eat	MXB	24m24	: + :	22.0mg	*	P<.003
a	M f	b6c eat	pit	MXA 24m24		32.3mg	/	P<.002 c
b	M f	b6c eat	pit	adn 24m24		37.4mg	/	P<.006 c
c	M f	b6c eat	liv	hpa 24m24		50.1mg	*	P<.002 c
d	M f	b6c eat	liv	MXA 24m24		38.8mg	*	P<.03 c
e	M f	b6c eat	TBA	MXB 24m24		17.9mg	*	P<.05
f	M f	b6c eat	liv	MXB 24m24		38.8mg	*	P<.03
g	M f	b6c eat	lun	MXB 24m24		no dre		P=1.
278	M m	b6c eat	pit	MXA 24m24	: + :	49.1mg	*	P<.005 c
a	M m	b6c eat	pit	ade 24m24		53.3mg	*	P<.005 c
b	M m	b6c eat	TBA	MXB 24m24		no dre		P=1.
c	M m	b6c eat	liv	MXB 24m24		no dre		P=1.
d	M m	b6c eat	lun	MXB 24m24		no dre		P=1.
279	R f	f34 eat	TBA	MXB 24m24	:>	80.9mg	*	P<1. -
a	R f	f34 eat	liv	MXB 24m24		33.5mg	*	P<.1
280	R m	f34 eat	TBA	MXB 24m24	:>	16.2mg	*	P<.8 -
a	R m	f34 eat	liv	MXB 24m24		950.mg	*	P<1.

	RefNum	LoConf	UpConf	Cntrl	1Dose	1Inc	2Dose	2Inc	Citation or Pathology	Brkly Code
ZEARALENONE		17924-92-4								
277	c50226	11.4mg	121.mg	6/50	6.50mg	8/50	13.0mg	20/50	liv:hpa,hpc; pit:car,adn.	C
a	c50226	16.1mg	165.mg	3/50	6.50mg	2/50	13.0mg	15/50	pit:car,adn.	
b	c50226	17.6mg	442.mg	3/50	6.50mg	2/50	13.0mg	13/50		
c	c50226	23.5mg	194.mg	0/50	6.50mg	2/50	13.0mg	7/50		
d	c50226	17.2mg	n.s.s.	3/50	6.50mg	7/50	13.0mg	10/50	liv:hpa,hpc.	
e	c50226	7.55mg	n.s.s.	28/50	6.50mg	26/50	13.0mg	40/50		
f	c50226	17.2mg	n.s.s.	3/50	6.50mg	7/50	13.0mg	10/50	liv:hpa,nnd,hpc.	
g	c50226	59.5mg	n.s.s.	3/50	6.50mg	4/50	13.0mg	1/50	lun:a/c,a/a.	
278	c50226	24.6mg	383.mg	0/50	6.00mg	5/50	12.0mg	6/50	pit:ade,car.	
a	c50226	26.0mg	417.mg	0/50	6.00mg	4/50	12.0mg	6/50		
b	c50226	10.6mg	n.s.s.	37/50	6.00mg	41/50	12.0mg	38/50		
c	c50226	25.9mg	n.s.s.	19/50	6.00mg	22/50	12.0mg	14/50	liv:hpa,nnd,hpc.	
d	c50226	28.9mg	n.s.s.	11/50	6.00mg	8/50	12.0mg	11/50	lun:a/c,a/a.	
279	c50226	2.26mg	n.s.s.	32/50	1.25mg	40/50	2.50mg	33/50		
a	c50226	10.2mg	n.s.s.	0/50	1.25mg	1/50	2.50mg	2/50	liv:hpa,nnd,hpc.	
280	c50226	1.71mg	n.s.s.	32/50	1.00mg	36/50	2.00mg	33/50		
a	c50226	11.9mg	n.s.s.	2/50	1.00mg	0/50	2.00mg	2/50	liv:hpa,nnd,hpc.	

APPENDIX 1: CHEMICAL NAMES AND SYNONYMS

CAS NUMBER	CHEMICAL NAME
16568-02-8	ACETALDEHYDE METHYLFORMYLHYDRAZONE
127-06-0	ACETOXIME
53-96-3	2-ACETYLAMINOFLUORENE
9002-18-0	AGAR
2757-90-6	AGARITINE (see beta-N-[gamma-L(+)-GLUTAMYL]-4-HYDROXYMETHYLPHENYLHYDRAZINE)
135-88-6	AGERITE POWDER (see PHENYL-beta-NAPHTHYLAMINE)
57-06-7	ALLYL ISOTHIOCYANATE
38514-71-5	2-AMINO-4-(5-NITRO-2-FURYL)THIAZOLE
2432-99-7	11-AMINOUNDECANOIC ACID
---	1-AMYL-1-NITROSOURETHAN (see NITROSOAMYLURETHAN)
369-57-3	BENZENEDIAZONIUM TETRAFLUOROBORATE
531-85-1	BENZIDINE.2HCl
50-32-8	BENZO(a)PYRENE
119-53-9	BENZOIN
50-32-8	BENZPYRENE (see BENZO(a)PYRENE)
50-32-8	3,4-BENZPYRENE (see BENZO(a)PYRENE)
2185-92-4	2-BIPHENYLAMINE.HCl
108-60-1	BIS(2-CHLORO-1-METHYLETHYL) ETHER
80-05-7	BISPHENOL A
5160-02-1	BRILLIANT RED (see D & C RED NO. 9)
85-68-7	BUTYL BENZYL PHTHALATE
25013-16-5	BUTYLATED HYDROXYANISOLE
128-37-0	BUTYLATED HYDROXYTOLUENE
58-08-2	CAFFEINE
105-60-2	CAPROLACTAM
86-74-8	CARBAZOLE
3567-69-9	CARMOISINE (see C.I. FOOD RED 3)
9000-40-2	CAROB SEED GUM (see LOCUST BEAN GUM)
---	CARRAGEENAN, ACID-DEGRADED
57-74-9	CHLORDANE
87-29-6	CINNAMYL ANTHRANILATE
55268-74-1	2-CYCLO-HEXYL-CARBONYL-1,3,4,6,7,11-b-HEXAHYDRO-2-H-PYRAZINE(2,1-a) ISOQUINOLINE-4-ONE (see PRAZIQUANTEL)
16170-75-5	CYTEMBENA
538-41-0	DAAB (see 4,4'-DIAMINOAZOBENZENE)
785-30-8	DABA (see 4,4'-DIAMINOBENZANILIDE)
---	DEXTRAN SULFATE SODIUM (DS-M-1)
---	1,2-DIALLYLHYDRAZINE.2HCl
538-41-0	4,4'-DIAMINOAZOBENZENE
785-30-8	4,4'-DIAMINOBENZANILIDE
15481-70-6	2,6-DIAMINOTOLUENE.2HCl
34522-69-5	5,7-DIBROMOQUINOLINE
23950-58-5	3,5-DICHLORO(N-1,1-DIMETHYL-2-PROPYNYL)BENZAMIDE
609-20-1	2,6-DICHLORO-p-PHENYLENEDIAMINE
123-33-1	1,2-DIHYDRO-3,6-PYRIDAZINEDIONE (see MALEIC HYDRAZIDE)
25812-30-0	2,2-DIMETHYL-5-(2,5-XYLYLOXY)VALERIC ACID (see GEMFIBROZIL)
62-75-9	DIMETHYLNITROSAMINE (see N-NITROSODIMETHYLAMINE)
62-75-9	N,N-DIMETHYLNITROSAMINE (see N-NITROSODIMETHYLAMINE)
62-75-9	DMN (see N-NITROSODIMETHYLAMINE)
---	DS-M-1 (see DEXTRAN SULFATE SODIUM (DS-M-1))
67-21-0	DL-ETHIONINE
64-17-5	ETHYL ALCOHOL
77-83-8	ETHYL METHYLPHENYLGLYCIDATE
614-95-9	1-ETHYL-1-NITROSOURETHAN (see NITROSOETHYLURETHAN)
75-21-8	ETHYLENE OXIDE
103-23-1	DI(2-ETHYLHEXYL)ADIPATE
117-81-7	DI(2-ETHYLHEXYL)PHTHALATE
24554-26-5	FANFT (see N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE)
2164-17-2	FLUOMETURON
53-96-3	FLUORENYLACETAMIDE (see 2-ACETYLAMINOFLUORENE)
53-96-3	N-2-FLUORENYLACETAMIDE (see 2-ACETYLAMINOFLUORENE)
50-00-0	FORMALDEHYDE
25812-30-0	GEMFIBROZIL
2757-90-6	beta-N-[gamma-L(+)-GLUTAMYL]-4-HYDROXYMETHYLPHENYLHYDRAZINE
9000-30-0	GUAR GUM
9000-01-5	GUM ACACIA (see GUM ARABIC)
9000-01-5	GUM ARABIC
10034-93-2	HYDRAZINE SULFATE
119-53-9	2-HYDROXY-1,2-DIPHENYLETHANONE (see BENZOIN)
148-24-3	8-HYDROXYQUINOLINE
54-85-3	INH (see ISONIAZID)
54-85-3	ISONIAZID
54-85-3	ISONICOTINIC ACID HYDRAZIDE (see ISONIAZID)
80-05-7	4,4'-ISOPROPYLIDENEDIPHENOL (see BISPHENOL A)
9000-40-2	LOCUST BEAN GUM
632-99-5	MAGENTA I (see ROSANILINE.HCl)
569-61-9	p-MAGENTA (see p-ROSANILINE.HCl)
123-33-1	MALEIC HYDRAZIDE
24382-04-5	MALONALDEHYDE, SODIUM
69-65-8	D-MANNITOL
---	2-METHOXY-4-AMINOAZOBENZENE
3544-23-8	3-METHOXY-4-AMINOAZOBENZENE
21340-68-1	METHYL CLOFENAPATE
758-17-8	N-METHYL-N-FORMYLHYDRAZINE
27323-65-5	METHYL LINOLEATE HYDROPEROXIDE
---	METHYL LINOLEATE, NATIVE
70-25-7	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE
56-49-5	METHYLCHOLANTHRENE (see 3-METHYLCHOLANTHRENE)
56-49-5	3-METHYLCHOLANTHRENE
91-62-3	6-METHYLQUINOLINE
611-32-5	8-METHYLQUINOLINE
70-25-7	MNNG (see N-METHYL-N'-NITRO-N-NITROSOGUANIDINE)
91-59-8	2-NAPHTHYLAMINE
91-59-8	beta-NAPHTHYLAMINE (see 2-NAPHTHYLAMINE)
81-16-3	2-NAPHTHYLAMINO,1-SULFONIC ACID
81-16-3	NAS (see 2-NAPHTHYLAMINO,1-SULFONIC ACID)
636-79-3	NICOTINE.HCl
59-67-6	NICOTINIC ACID
7631-99-4	NITRATE, SODIUM
7632-00-0	NITRITE, SODIUM
53757-28-1	4-(5-NITRO-2-FURYL)THIAZOLE
24554-26-5	N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE
613-50-3	6-NITROQUINOLINE
607-35-2	8-NITROQUINOLINE
---	N-NITROSO-BIS-(4,4,4-TRIFLUORO-n-BUTYL)AMINE
61034-40-0	1-NITROSO-3,5-DIMETHYL-4-BENZOYLPIPERAZINE
55090-44-3	N-NITROSO-N-METHYL-N-DODECYLAMINE
75881-20-8	N-NITROSO-N-METHYL-N-TETRADECYLAMINE
75881-22-0	N-NITROSO-N-METHYLDECYLAMINE
---	NITROSOAMYLURETHAN
60599-38-4	N-NITROSOBIS(2-OXOPROPYL)AMINE
1116-54-7	N-NITROSODIETHANOLAMINE
62-75-9	N-NITROSODIMETHYLAMINE
614-95-9	NITROSOETHYLURETHAN
55090-44-3	NITROSOMETHYL-N-DODECYLAMINE (see N-NITROSO-N-METHYL-N-DODECYLAMINE)
930-55-2	NITROSOPYRROLIDINE (see N-NITROSOPYRROLIDINE)
930-55-2	N-NITROSOPYRROLIDINE
611-23-4	o-NITROSOTOLUENE
8015-12-1	NORLESTRIN
101-80-4	4,4'-OXYDIANILINE
62-44-2	PHENACETIN
50-06-6	PHENOBARBITAL
50-06-6	PHENOBARBITONE (see PHENOBARBITAL)
108-95-2	PHENOL
135-88-6	PHENYL-beta-NAPHTHYLAMINE
842-07-9	1-PHENYLAZO-2-NAPHTHOL
50-06-6	PHENYLETHYLBARBITURIC ACID (see PHENOBARBITAL)
55268-74-1	PRAZIQUANTEL
57-57-8	beta-PROPIOLACTONE
121-79-9	PROPYL GALLATE
75-56-9	1,2-PROPYLENE OXIDE
6151-25-3	QUERCETIN DIHYDRATE
---	QUILLAIA EXTRACT
3567-69-9	C.I. ACID RED 14, DISODIUM SALT (see C.I. FOOD RED 3)
3567-69-9	C.I. FOOD RED 3
5160-02-1	D & C RED NO. 9
632-99-5	ROSANILINE.HCl
569-61-9	p-ROSANILINE.HCl
153-18-4	RUTIN (see RUTIN TRIHYDRATE)
153-18-4	RUTIN TRIHYDRATE
128-44-9	SACCHARIN, SODIUM
94-59-7	SAFROLE
7631-99-4	SODIUM NITRATE (see NITRATE, SODIUM)
13755-29-8	SODIUM TETRAFLUOROBORATE (see TETRAFLUOROBORATE, SODIUM)
7772-99-8	STANNOUS CHLORIDE (see TIN (II) CHLORIDE)
10048-13-2	STERIGMATOCYSTIN
77-83-8	STRAWBERRY ALDEHYDE (see ETHYL METHYLPHENYLGLYCIDATE)
2783-94-0	SUNSET YELLOW FCF (see FD & C YELLOW NO. 6)

CAS NUMBER	CHEMICAL NAME
39300-88-4	TARA GUM
13755-29-8	TETRAFLUOROBORATE, SODIUM
7772-99-8	TIN (II) CHLORIDE
15481-70-6	2,6-TOLUENEDIAMINE.2HCl (see 2,6-DIAMINOTOLUENE.2HCl)
636-21-5	o-TOLUIDINE.HCl
73-22-3	L-TRYPTOPHAN
75-01-4	VINYL CHLORIDE
75-35-4	VINYLIDENE CHLORIDE
2832-40-8	C.I. DISPERSE YELLOW 3
842-07-9	C.I. SOLVENT YELLOW 14 (see 1-PHENYLAZO-2-NAPHTHOL)
2783-94-0	FD & C YELLOW NO. 6
17924-92-4	ZEARALENONE

CAS NUMBER = Chemical Abstracts Service registry number

APPENDIX 2: CHEMICAL NAMES LISTED BY CAS NUMBER

CAS NUMBER	CHEMICAL NAME
50-00-0	FORMALDEHYDE
50-06-6	PHENOBARBITAL (phenobarbitone)
50-32-8	BENZO(a)PYRENE
53-96-3	2-ACETYLAMINOFLUORENE (N-2-fluorenylacetamide)
54-85-3	ISONIAZID (INH)
56-49-5	3-METHYLCHOLANTHRENE
57-06-7	ALLYL ISOTHIOCYANATE
57-57-8	beta-PROPIOLACTONE
57-74-9	CHLORDANE
58-08-2	CAFFEINE
59-67-6	NICOTINIC ACID
62-44-2	PHENACETIN
62-75-9	N-NITROSODIMETHYLAMINE (DMN)
64-17-5	ETHYL ALCOHOL
67-21-0	DL-ETHIONINE
69-65-8	D-MANNITOL
70-25-7	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE (MNNG)
73-22-3	L-TRYPTOPHAN
75-01-4	VINYL CHLORIDE
75-21-8	ETHYLENE OXIDE
75-35-4	VINYLIDENE CHLORIDE
75-56-9	1,2-PROPYLENE OXIDE
77-83-8	ETHYL METHYLPHENYLGLYCIDATE
80-05-7	BISPHENOL A (4,4'-isopropylidenediphenol)
81-16-3	2-NAPHTHYLAMINO,1-SULFONIC ACID
85-68-7	BUTYL BENZYL PHTHALATE
86-74-8	CARBAZOLE (9H-carbazole)
87-29-6	CINNAMYL ANTHRANILATE
91-59-8	2-NAPHTHYLAMINE
91-62-3	6-METHYLQUINOLINE
94-59-7	SAFROLE
101-80-4	4,4'-OXYDIANILINE
103-23-1	DI(2-ETHYLHEXYL)ADIPATE
105-60-2	CAPROLACTAM
108-60-1	BIS(2-CHLORO-1-METHYLETHYL) ETHER
108-95-2	PHENOL
117-81-7	DI(2-ETHYLHEXYL)PHTHALATE
119-53-9	BENZOIN (2-hydroxy-1,2-diphenylethanone)
121-79-9	PROPYL GALLATE
123-33-1	MALEIC HYDRAZIDE (1,2-dihydro-3,6-pyridazinedione)
127-06-0	ACETOXIME
128-37-0	BUTYLATED HYDROXYTOLUENE (BHT)
128-44-9	SACCHARIN, SODIUM
135-88-6	PHENYL-beta-NAPHTHYLAMINE (Agerite powder)
148-24-3	8-HYDROXYQUINOLINE
153-18-4	RUTIN TRIHYDRATE
369-57-3	BENZENEDIAZONIUM TETRAFLUOROBORATE
531-85-1	BENZIDINE.2HCl
538-41-0	4,4'-DIAMINOAZOBENZENE (DAAB)
569-61-9	p-ROSANILINE.HCl (p-magenta)
607-35-2	8-NITROQUINOLINE
609-20-1	2,6-DICHLORO-p-PHENYLENEDIAMINE
611-23-4	o-NITROSOTOLUENE
611-32-5	8-METHYLQUINOLINE
613-50-3	6-NITROQUINOLINE
614-95-9	NITROSOETHYLURETHAN (1-ethyl-1-nitrosourethan)
632-99-5	ROSANILINE.HCl (magenta I)
636-21-5	o-TOLUIDINE.HCl
636-79-3	NICOTINE.HCl
758-17-8	N-METHYL-N-FORMYLHYDRAZINE
785-30-8	4,4'-DIAMINOBENZANILIDE (DABA)
842-07-9	1-PHENYLAZO-2-NAPHTHOL (C.I. Solvent Yellow 14)
930-55-2	N-NITROSOPYRROLIDINE
1116-54-7	N-NITROSODIETHANOLAMINE
2164-17-2	FLUOMETURON
2185-92-4	2-BIPHENYLAMINE.HCl
2432-99-7	11-AMINOUNDECANOIC ACID
2757-90-6	beta-N-[gamma-L(+)-GLUTAMYL]-4-HYDROXYMETHYLPHENYLHYDRAZINE (agaritine)
2783-94-0	FD & C YELLOW NO. 6 (sunset yellow FCF)
2832-40-8	C.I. DISPERSE YELLOW 3
3544-23-8	3-METHOXY-4-AMINOAZOBENZENE
3567-69-9	C.I. FOOD RED 3 (carmoisine, C.I. Acid Red 14, disodium salt)
6151-25-3	QUERCETIN DIHYDRATE
5160-02-1	D & C RED NO. 9 (brilliant red)
7631-99-4	NITRATE, SODIUM
7632-00-0	NITRITE, SODIUM
7772-99-8	TIN (II) CHLORIDE (stannous chloride)
8015-12-1	NORLESTRIN
9000-01-5	GUM ARABIC (gum acacia)
9000-30-0	GUAR GUM
9000-40-2	LOCUST BEAN GUM (carob seed gum)
9002-18-0	AGAR
10034-93-2	HYDRAZINE SULFATE
10048-13-2	STERIGMATOCYSTIN
13755-29-8	TETRAFLUOROBORATE, SODIUM
15481-70-6	2,6-DIAMINOTOLUENE.2HCl (2,6-toluenediamine.2HCl)
16170-75-5	CYTEMBENA (NCI uses CAS NUMBER 21739-91-3)
16568-02-8	ACETALDEHYDE METHYLFORMYLHYDRAZONE
17924-92-4	ZEARALENONE
21340-68-1	METHYL CLOFENAPATE
23950-58-5	3,5-DICHLORO(N-1,1-DIMETHYL-2-PROPYNYL)BENZAMIDE
24382-04-5	MALONALDEHYDE, SODIUM
24554-26-5	N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE (FANFT)
25013-16-5	BUTYLATED HYDROXYANISOLE (BHA)
25812-30-0	GEMFIBROZIL
27323-65-5	METHYL LINOLEATE HYDROPEROXIDE
34522-69-5	5,7-DIBROMOQUINOLINE
38514-71-5	2-AMINO-4-(5-NITRO-2-FURYL)THIAZOLE
39300-88-4	TARA GUM
53757-28-1	4-(5-NITRO-2-FURYL)THIAZOLE
55090-44-3	N-NITROSO-N-METHYL-N-DODECYLAMINE
55268-74-1	PRAZIQUANTEL (Embay 8440, Droncit)
60599-38-4	N-NITROSOBIS(2-OXOPROPYL)AMINE
61034-40-0	1-NITROSO-3,5-DIMETHYL-4-BENZOYLPIPERAZINE
75881-20-8	N-NITROSO-N-METHYL-N-TETRADECYLAMINE
75881-22-0	N-NITROSO-N-METHYLDECYLAMINE
---	1,2-DIALLYLHYDRAZINE.2HCl
---	2-METHOXY-4-AMINOAZOBENZENE
---	CARRAGEENAN, ACID-DEGRADED
---	DEXTRAN SULFATE SODIUM (DS-M-1) (DS-M-1, MW=54,000)
---	METHYL LINOLEATE, NATIVE
---	N-NITROSO-BIS-(4,4,4-TRIFLUORO-n-BUTYL)AMINE
---	NITROSOAMYLURETHAN (1-amyl-1-nitrosourethan)
---	QUILLAIA EXTRACT (spray-dried aqueous extract of quillaia bark)

CAS NUMBER = Chemical Abstracts Service registry number

APPENDIX 3: STRAIN CODES AND DEFINITIONS

Code	Strain
aci	ACI
asd	Sprague-Dawley albino
b6c	B6C3F1
bal	BALB/c
bd1	BDF1
bld	BALB/cLacDp
c5n	C57BL/6N

Code	Strain
cb6	C57BL/6
cbl	C57BL
cbn	C57BL/6JfC3Hf/Nctr X BALB/cStCrlfC3Hf/Nctr inter se
cd1	Charles River CD1
cdr	Charles River CD
cen	C3H/HeN
cff	C57BL/6JfC3Hf/Nctr X BALB/cStCrlfC3Hf/Nctr
don	Donryu
f34	Fischer 344
fis	Fischer
lee	Leeds albino
mrw	MRC-Wistar
rhe	Rhesus [Macaca mulatta]
sda	Sprague-Dawley
swa	Swiss albino
swi	Swiss
syg	Syrian Golden
wis	Wistar

APPENDIX 4: ROUTE OF ADMINISTRATION CODES AND DEFINITIONS

Code	Route of Administration
eat	diet
gav	gavage
inh	inhalation
wat	water

APPENDIX 5: SITE CODES AND DEFINITIONS

Code	Site
---	all target sites
abc	abdominal cavity
adr	adrenal gland
brf	brown fat, dorsal
cli	clitoral gland
clr	colorectum
duo	duodenum
eso	esophagus
for	forestomach
frb	forebrain
git	gastrointestinal tract
hag	Harderian gland
ilm	ileum
itn	intestine
k/c	kidney/cortex
kid	kidney
liv	liver
lun	lung
mam	mammary tissue (other than or including more than mammary gland)
mgl	mammary gland
mix	more than one site; sites specified in published paper
mul	multiple organs
MXA	more than one site, combined by NCI/NTP
MXB	more than one site, combined by Berkeley
nas	nasal cavity
pan	pancreas
pdu	pancreatic duct
pec	peritoneal cavity
per	peritoneum
pit	pituitary gland
pni	pancreatic islets
pre	preputial gland
pro	prostate
res	respiratory system
ski	skin
spl	spleen
stg	stomach, glandular
sto	stomach
sub	subcutaneous tissue
tba	all tumor bearing animals
tes	testis
thy	thyroid gland
tnv	tunica vaginalis
ubl	urinary bladder
urt	urethra
ute	uterus

APPENDIX 6: HISTOPATHOLOGY CODES AND DEFINITIONS

Code	Histopathology
---	all tumors
a/a	alveolar/bronchiolar adenoma
a/c	alveolar/bronchiolar carcinoma
acc	acinar-cell carcinoma
acn	adenocarcinoma, NOS[a]
adc	adenocarcinoma
ade	adenoma
adf	adenofibroma
adn	adenoma, NOS
agm	angioma
ana	acinar-cell adenoma
ang	angiosarcoma
bcc	basal-cell carcinoma
ben	benign tumor
can	carcinoma, NOS
car	carcinoma
cca	c-cell adenoma
ccr	c-cell carcinoma
cgd	cholangiocarcinoma, ductular
cho	cholangioma
clc	cholangiocarcinoma
cma	c-cell medullary adenoma
coa	cortical adenoma
crc	chromophobe carcinoma
esp	endometrial stromal polyp
fba	fibroadenoma
fbs	fibrosarcoma
fca	follicular-cell adenoma
fcc	follicular-cell carcinoma
fib	fibroma
foa	follicular adenoma
hae	hemangioendothelioma
hct	hepatocellular tumor
hem	hemangioma
hes	hemangiosarcoma
hnd	hyperplastic nodules
hpa	hepatocellular adenoma
hpc	hepatocellular carcinoma
hpd	hepatocellular adenocarcinoma
hpt	hepatoma
ict	interstitial-cell tumor
isa	islet-cell adenoma

Code	Histopathology
isc	islet-cell carcinoma
kcs	Kupffer-cell sarcoma
lei	leiomyosarcoma
leu	leukemia
ley	leiomyoma
lhc	lymphoma, histiocytic type
lle	lymphocytic leukemia
lym	lymphoma
mal	malignant tumor
men	mesothelioma, NOS
mix	more than one tumor type; tumor types specified in published paper
mle	monocytic leukemia
mly	malignant lymphoma
msm	mesothelioma, malignant
mso	mesothelioma
MXA	more than one tumor type, combined by NCI/NTP
MXB	more than one tumor type, combined by Berkeley
nen	neoplasm, NOS
nnd	neoplastic nodule
olp	olfactory neuroepithelioma
ost	osteosarcoma
pam	papilloma
phe	pheochromocytoma
phm	pheochromocytoma, malignant
pla	polypoid adenoma
rca	renal-cell adenoma
rcc	renal-cell carcinoma
scs	spindle-cell sarcoma
sea	sebaceous adenoma
sqc	squamous-cell carcinoma
sqk	squamous-cell carcinoma, keratinized
sqp	squamous-cell papilloma
srn	sarcoma, NOS
tcc	transitional-cell carcinoma
tpp	transitional-cell papilloma
tum	tumor or more than one tumor type; tumor types not specified in published paper
ule	undifferentiated leukemia

*NOS = not otherwise specified

APPENDIX 7: NOTECODES AND DEFINITIONS

Code	Definition
a	The exposure time reported on the plot is an average of the different exposure times of the individual dose groups in the experiment. In addition, for NCI/NTP bioassays an "a" may indicate that all animals in one group were dead long before those in another group, and therefore the experiment time on the plot is an average of experiment times for the different dose groups. (In the TD50 calculation for the NCI/NTP bioassays, full lifetable data have been used.)
e	For the general literature we have used an effective number of animals in a group whenever possible. This effective number is either: (1) the number of animals examined, or (2) the number of animals alive at the time of appearance of the first tumor. For some NCI/NTP bioassays the Technical Report includes both time-adjusted and unadjusted statistical analyses. Effective number indicates that some sites in these experiments have been included in the plot on the basis of the time-adjusted analysis.
k	For interim and serial sacrifice experiments, we have reported each sacrifice time as a separate experiment. The k notecode identifies these sacrificed groups. Unscheduled deaths have been included with the terminal sacrifice data, wherever possible and do not receive a notecode.
r	Authors either examined or chose to report data for only a few selected tissues. Therefore, this is a restricted site analysis.
s	Authors noted that survival was decreased due to toxicity or disease.
v	Variable or irregular dosing schedules have been used, e.g., dose level changed during the experiment.

APPENDIX 8: DOSE-RESPONSE CURVE SYMBOLS AND DEFINITIONS

Symbol	Dose-Response Curve
*	consistent with linearity
/	significant departure from linearity, upward curvature
\	significant departure from linearity, downward curvature
Z	significant departure from linearity, more than three dose groups including controls
blank	either no dose related effect, or only two dose groups including controls, so not enough information to determine a curve shape

APPENDIX 9: REFERENCE CODES AND DEFINITIONS

Code	Reference
acnr	Anticancer Research
bjca	British Journal of Cancer
canr	Cancer Research
carc	Carcinogenesis
clet	Cancer Letters
enhp	Environmental Health Perspectives
fctx	Food and Chemical Toxicology (Food and Cosmetics Toxicology prior to 1982)
gann	Gann
ijcn	International Journal of Cancer (formerly International Union Against Cancer. Acta. Vols 1-20, 1936-64)
jnci	Journal of the National Cancer Institute (U.S. National Cancer Institute. Journal)
jtxe	Journal of Toxicology and Environmental Health
myco	Mycopathologia
nctr	National Center for Toxicological Research Final Report
onco	Oncology

Code	Research
txcy	Toxicology
zkko	Journal of Cancer Research and Clinical Oncology (formerly Zeitschrift fur Krebsforschung und Klinische Onkologie prior to Vol 92, 1979)

APPENDIX 10: NCI/NTP BIOASSAYS EVALUATED AS INADEQUATE IN TECHNICAL REPORTS

Chemical Name	Experiments Evaluated as Inadequate
BUTYL BENZYL PHTHALATE	male rats

APPENDIX 11: SPECIES CODES AND DEFINITIONS

Code	Species
H	hamster
M	mouse
P	monkey
R	rat

APPENDIX 12 Bibliography: General Literature

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APPENDIX 13
BIBLIOGRAPHY
National Cancer Institute/National Toxicology Program Technical Reports

Technical Reports are entitled "Carcinogenesis Bioassay of [Chemical Name] in F344 Rats and B6C3F1 Mice"

CHEMICAL NAME	TECHNICAL REPORT NUMBER	PUBLICATION DATE
AGAR	230	1982
ALLYL ISOTHIOCYANATE	234	1982
11-AMINOUNDECANOIC ACID	216	1982
BENZOIN	204	1980
2-BIPHENYLAMINE HYDROCHLORIDE	233	1982
BIS(2-CHLORO-1-METHYLETHYL) ETHER	239	1982
BISPHENOL A	215	1982
BUTYL BENZYL PHTHALATE	213	1982
CAPROLACTAM	214	1982
CINNAMYL ANTHRANILATE	196	1980
CYTEMBENA	207	1981
2,6-DICHLORO-P-PHENYLENEDIAMINE	219	1982
DI(2-ETHYLHEXYL)ADIPATE	212	1982
DI(2-ETHYLHEXYL)PHTHALATE	217	1982
FLUOMETURON	195	1980
GUAR GUM	229	1982
GUM ARABIC	227	1982
LOCUST BEAN GUM	221	1982
D-MANNITOL	236	1982
4,4′-OXYDIANILINE	205	1980
PHENOL	203	1980
PROPYL GALLATE	240	1982
C.I. ACID RED 14, DISODIUM SALT	220	1982
D&C RED NO.9	225	1982
STANNOUS CHLORIDE	231	1982
TARA GUM	224	1982
2,6-TOLUENEDIAMINE DIHYDROCHLORIDE	200	1980
VINYLIDENE CHLORIDE	228	1982
C.I. DISPERSE YELLOW 3	222	1982
C.I. SOLVENT YELLOW 14	226	1982
FD & C YELLOW NO. 6	208	1981
ZEARALENONE	235	1982