Reliability: (3) invalid
Insufficient documentation: no details on origin and density of inoculum, and on tested concentrations and test conditions
12-JUL-2001 (18)

3.6 BOD5, COD or BOD5/COD Ratio

3.7 Bioaccumulation

Species: Cyprinus carpio (Fish, fresh water)
Exposure period: 56 day(s) at 25 degree C
Concentration: .025 mg/l
BCF: = 7.4 - 22.3

Method: other: Japanese Guideline by MITI of 1974; corresp. OECD 305 C Bioaccumulation (1981)
GLP: no data
Test substance: other TS: o-chloronitrobenzene (CAS-No. 88-73-3)

Method: Flow-through system;
Weight/length of exposed fish: 30g / 10cm, lipid content: 2-6 %; water analyzed twice a week, fish every two weeks
Remark: At a o-chloronitrobenzene concentration of 0.25 mg/l and the same test conditions as already described, a BCF of 7.0 - 20.8 was determined
Test condition: flow-rate of test water: 200-800 ml/min
Reliability: (1) valid without restriction

Test procedure according to national standards
Flag: Critical study for SIDS endpoint
12-JUL-2001 (64)

Species: Poecilia reticulata (Fish, fresh water)
Exposure period: 3 day(s) at 22 degree C
Concentration: 6 mg/l
BCF: 11.6 - 19.4

Method: other: comparable to OECD 305B (Bioaccumulation: Semi Static Fish Test) (1981)
Year: 1986
GLP: no data
Test substance: other TS: > 99 %

Remark: Test temperature 21-23 °C
Mean fat content of fish: 8 +/- 2 %
Difference to Guideline 305 B: only 1 test concentration at 1/5 of 14 d-LC50 tested
Result: The test result in the publication is given on fat weight basis with BCFfat = 194. The BCF values of 11.6 - 19.4 are calculated from this data to the whole fish for reason of

comparability to other test results.
Reliability: (2) valid with restrictions
Comparable to guideline study with acceptable restrictions (see remark)
27-JUL-2001 (24)

Species: Oncorhynchus mykiss (Fish, fresh water)
Exposure period: 36 day(s)

Method:	other: fish exposed to a mono- to pentachloronitrobenzene isomer mixture at the same time in a flow-through system
Year:	1989
GLP:	no
Test substance:	other TS: mono- to pentachloronitrobenzenes
Method:	30 fish exposed to 720 +/-130 mg TS/l in a flow-through system; acetone used as solvent; samples of 6 fish each analyzed at 5, 12, 20, 28 and 36 days of exposure; duplicate water samples taken every 3 or 4 days; GC analysis
Remark:	significant differences among sample intervals: BCF decreasing from 134 mg/l (day 5) to 89 mg/l (day 20) and then increasing again to 179 mg/l (day 36)
Result:	as the higher chlorinated nitrobenzenes are possibly dechlorinated by metabolism in fish a BCF for o-chloronitrobenzene cannot be derived within this test design
Reliability:	(3) invalid Unsuitable test system (more than one substance tested in the same test vessel)

27-JUL-2001 (78)

3.8 Additional Remarks

AQUATIC ORGANISMS

4.1 Acute/Prolonged Toxicity to Fish

Type:	flow through
Species:	Brachydanio rerio (Fish, fresh water)
Exposure period:	96 hour(s)
Unit:	mg/l Analytical monitoring: yes
LC50:	34.8 -
Method:	other: OECD Guide-line 203 (1984)
Year:	1990
GLP:	no data
Test substance:	other TS: no purity given
Test condition:	10 fish per concentration step; fish length: 2 cm; temperature: 23 °C; pH (dilution water) 8.15; 16 h light / 8 h dark
Reliability:	(1) valid without restriction Guideline study
Flag:	Critical study for SIDS endpoint
02-AUG-2001	(86)

Type:	other: static or semistatic, no details given
Species:	Oryzias latipes (Fish, fresh water)
Exposure period:	48 hour(s)
Unit:	mg/l Analytical monitoring: no data
LC50:	28 -
Method:	other: Japanese Industrial Standard (JIS K 0102-1986-71) "Testing methods for industrial waste water" (1986)
GLP:	no data
Test substance:	other TS: o-chloronitrobenzene (CAS-No. 88-73-3)
Test condition:	25 +/- 2 degree C
Reliability:	(2) valid with restrictions Test procedure according to national standards but only basic data given
10-AUG-2001	(64)

Type:	other: semistatic, renewal at 12 hours
Species:	Cyprinus carpio (Fish, fresh water)
Exposure period:	96 hour(s)
Unit:	mg/l Analytical monitoring: no data
LC50:	25.5 -
Method:	other: comparable to OECD 203 (Fish: Acute Toxicity Test, 1992)
Year:	1996
GLP:	no data
Test substance:	other TS: purity not given (commercial TS)
Remark:	Deviation to OECD 203: higher fish load in test vessel (about 50 g in 16 l test water)
Test condition:	60 fish used in each test; fish weight/length: 5 g/5 cm; temperature: 20°C
Reliability:	(2) valid with restrictions According to guideline study with acceptable restrictions
Flag:	Critical study for SIDS endpoint
27-JUL-2001	(114)

Type: semistatic
Species: Poecilia reticulata (Fish, fresh water)
Exposure period: 14 day(s)
Unit: mg/l Analytical monitoring: yes
LC50: 30 -

Method: other: comparable to OECD 204 (fish, prolonged toxicity test, 1984)
Year: 1987
GLP: no data
Test substance: other TS: > 99 %

Reliability: (2) valid with restrictions
Basic data given: comparable to guideline
02-AUG-2001 (24)

Type: flow through
Species: Brachydanio rerio (Fish, fresh water)
Exposure period: 14 day(s)
Unit: mg/l Analytical monitoring: yes
NOEC: 2.9 -
LOEC: 5.9 -

Method: other: OECD 204: Fish, Prolonged Toxicity Test: 14-day Study (4 April 1984)
Year: 1990
GLP: no data

Remark: The 14 d-LOEC of 5.9 mg/l corresponds to the feeding behaviour of the fish. A 14 d-LOEC concerning lethal effect was determined to be 24.8 mg/l.
Reliability: (1) valid without restriction
Guideline study
27-JUL-2001 (86)

Type: static
Species: Poecilia reticulata (Fish, fresh water)
Exposure period: 96 hour(s)
Unit: mg/l Analytical monitoring: no
LC50: = 30 -

Method: other: according to OECD Proposal (1979:) Report on the Assessment of Potential Environmental Effects of Chemicals
Year: 1984
GLP: no data
Test substance: other TS: 1-chloro-2-nitrobenzene; purity > 99.9 %

Reliability: (3) invalid
Documentation insufficent for assessment
12-JUL-2001 (18)

Type: static
Species: Leuciscus idus (Fish, fresh water)
Exposure period: 24 hour(s)
Unit: mg/l Analytical monitoring: no
LC0: 5 -
LC100: 10 -

Method: other: Bestimmung der Wirkung von Wasserinhaltsstoffen auf Fische, DIN 38412 Teil 15

Year: 1974
GLP: no

Reliability: (3) invalid
Range-finding test with two fish only
Original report not available
12-JUL-2001 (9)

4.2 Acute Toxicity to Aquatic Invertebrates

Type: static
Species: other: Daphnia carinata
Exposure period: 48 hour(s)
Unit: mg/l Analytical monitoring: no data
EC50: 21.3 -

Method: other: comparable to OECD 202 part I (Daphnia, Acute Toxicity, 1984)
Year: 1996
GLP: no data
Test substance: other TS: purity not given

Reliability: (2) valid with restrictions
Basic data given: comparable to guideline
Flag: Critical study for SIDS endpoint
12-JUL-2001 (114)

Type: static
Species: Daphnia magna (Crustacea)
Exposure period: 24 hour(s)
Unit: mg/l Analytical monitoring: no
EC0: 5 -
EC50: 12 -

Method: other: Daphnien-Schwimmunfaehigkeits-Test, UBA-Verfahrensvorschlag Mai 1984, Bestimmung der Schwimmunfaehigkeit beim Wasserfloh Daphnia magna, EC0, EC50, EC100 24h, statisches System
Year: 1987
GLP: no data

Remark: Pretest to reproduction test
Reliability: (2) valid with restrictions
Basic data given
Flag: Critical study for SIDS endpoint
27-JUL-2001 (57)

Type: static
Species: Daphnia magna (Crustacea)
Exposure period: 48 hour(s)
Unit: mg/l Analytical monitoring: no data
EC50: 23.9 -

Method: other: according to the Protocol of the Dutch Standards Organisation, NEN 6501 (1980)
Year: 1988
GLP: no data
Test substance: other TS: no purity given

Test condition: Daphnids < 24 h old; temperature: 20 °C; illumination 12 h/day; hardness: 200 mg/l as CaCO3; pH 8.4; dissolved oxygen > 7.9 mg/l
Reliability: (2) valid with restrictions
Basic data given
Flag: Critical study for SIDS endpoint
27-JUL-2001 (23)

Type: static
Species: Daphnia magna (Crustacea)
Exposure period: 48 hour(s)
Unit: mg/l Analytical monitoring: no
EC50: 3.2 -
LC50 : 49 -

Method: other: OECD Proposal (1979: Report on the assessment of Potential Environmental Effects of Chemicals I)
Year: 1979
GLP: no data
Test substance: other TS: 1-chloro-2-nitrobenzene; purity > 99.9 %

Remark: no data on test conditions
Reliability: (3) invalid
Documentation insufficent for assessment
11-JUL-2001 (18)

4.3 Toxicity to Aquatic Plants e.g. Algae

Species: Chlorella pyrenoidosa (Algae)
Endpoint: biomass
Exposure period: 96 hour(s)
Unit: mg/l Analytical monitoring: no data
EC50: 6.9 -

Method: other: According to Modified OECD 201 (Algae, growth inhibition test, 1984)
Year: 1988
GLP: no data
Test substance: other TS: purity not given

Reliability: (2) valid with restrictions
Basic data given: comparable to guideline
Flag: Critical study for SIDS endpoint
07-SEP-2001 (23)

Species: Scenedesmus subspicatus (Algae)
Endpoint: biomass

Exposure period: 48 hour(s)
Unit: mg/l Analytical monitoring: no data
EC10: 11 -
EC50: 34 -

Method: other: Scenedesmus-Zellvermehrungs-Hemmtest, DIN 38412 Teil 9, Bestimmung der Hemmwirkung von Wasserinhaltsstoffen auf Gruenalgen (1988)
Year: 1988
GLP: no data
Test substance: other TS: purity not given

Remark: modification of test procedure: bottles with ground glass stoppers were used

Result: Effect levels determined for the endpoint growth rate:
EC10: 19 mg/l
EC50: 75 mg/l
Reliability: (2) valid with restrictions
Test procedure according to national standards, but only basic data given
Flag: Critical study for SIDS endpoint
10-AUG-2001 (56)

Species: other algae: Scenedesmus obliquus
Endpoint: growth rate
Exposure period: 96 hour(s)
Unit: mg/l Analytical monitoring: no data
EC50: 18.1 -

Method: other: comparable to OECD 201 (Algae, Growth inhibition test, 1984)
Year: 1996
GLP: no data
Test substance: other TS: purity not given

Reliability: (2) valid with restrictions
Comparable to guideline study with acceptable restrictions
12-JUL-2001 (114)

Species: Scenedesmus pannonicus (Algae)
Endpoint: growth rate
Exposure period: 72 hour(s)
Unit: mg/l Analytical monitoring: yes
EC50: = 24 -

Method: other: OECD Proposal (1979: Report on the Assessement of Potential Environmental Effects of Chemicals I
Year: 1984
GLP: no data
Test substance: other TS: 1-chloro-2-nitrobenzene; > 99.9 % purity

Reliability: (3) invalid
Documentation insufficent for assessment
12-JUL-2001 (18)

4.4 Toxicity to Microorganisms e.g. Bacteria

Type: aquatic
Species: Pseudomonas putida (Bacteria)
Exposure period: 30 minute(s)
Unit: mg/l Analytical monitoring: no
EC0: 100 -

Method: other: Bewertung toxischer Wasserinhaltsstoffe aus ihrer Inhibitorwirkung auf die Substratoxydation von Pseudomonas Stamm Berlin mit Hilfe polarographischer Sauerstoffmessungen. Robra, K.H.: gwf wasser/abwasser 117 (2), 80-86 (1976)
Year: 1983
GLP: no
Test substance: other TS: no purity given

Reliability: (4) not assignable
Original reference not available
12-JUL-2001 (9)

Type: aquatic
Species: anaerobic bact. from a domestic water treatment plant
Exposure period: 24 hour(s)
Unit: mg/l Analytical monitoring: no
EC0: ca. 80 -

Method: ETAD Fermentation tube method "Determination of damage to effluent bacteria by the Fermentation Tube Method"
Year: 1982
GLP: no
Test substance: other TS: no purity given

Source: Hoechst AG Frankfurt/Main
Reliability: (4) not assignable
Publication/report not available
27-JUL-2001 (39)

Type: other: phytopathogen
Species: other fungi: Pythium ultimum
Exposure period: 88 hour(s)
Unit: mg/l Analytical monitoring: no data
ED 50 : 157.6 -

Year: 1961
GLP: no
Test substance: other TS: recrystallized

Method: Growth inhibition test: test substance incorporated in agar medium which is filled into a growth tube; inoculation after solidification of agar with 8 mm plug of an 48 h fungi culture. Evaluation of linear growth.
Reliability: (2) valid with restrictions
Acceptable, well-documented publication/study report which meets basic scientific principles
12-JUL-2001 (27)

Type: other: phytopathogen
Species: other fungi: Rhizoctonia solani
Exposure period: 88 hour(s)
Unit: mg/l Analytical monitoring: no data
ED 50 : 48.9 -

Year: 1961
GLP: no
Test substance: other TS: recrystallized

Method: Growth inhibition test: test substance incorporated in agar medium which is filled into a growth tube; inoculation after solidification of agar with 8 mm plug of an 48 h fungi culture. Evaluation of linear growth.
Reliability: (2) valid with restrictions
Acceptable, well-documented publication/study report which meets basic scientific principles
13-JUL-2001 (27)

4.5 Chronic Toxicity to Aquatic Organisms

4.5.1 Chronic Toxicity to Fish

Species: Pimephales promelas (Fish, fresh water)
Endpoint: other: weight and length of juveniles

Exposure period: 33 day(s)
Unit: mg/l Analytical monitoring: yes
NOEC: 1.02 -
LOEC: 2.04 -

Method: other: comp. to OECD 210 (Fish, Early-life Stage Toxicity Test, 1992)
Year: 1992
GLP: no data
Test substance: other TS: 99 %

Remark: In a first step 50 embryos were tested on hatchability and development after 4 - 5 days of incubation. In a second step 15 randomly selected frys from the initial egg cups where observed on their further development for 33 days. The 33 d-NOEC was determined by the authors Call & Geiger (1992) to be 0.264 mg/l based on the endpoint 'normal larvae' related to the hatched larvae. The review of the raw data of the study shows, that at the next higher test concentration of 0.530 mg/l a statistically significant effect compared to the control could be observed, however, there is no dose-effect relation for this endpoint at higher test concentrations. The highest test concentration of 3.9 mg/l shows less normal larvae after hatch with a deviation of 7 % compared to the control. Apart from that regarding the endpoint 'normal larvae related to initial embryos' no effect at any concentration can be seen. Regarding 'weight' and 'length' of the fry, at both endpoints a deviation to the control of > 5 % can be seen at a concentration of 2.04 mg/l. Also for this endpoint there is no dose-effect relationship seen at the next higher concentration. As statistically significant effects for the endpoint "normal larvae" were seen at concentrations above 0.264 mg/l, the NOEC derived by the authors is used for the hazard assessment for reasons of precaution.
Test condition: Flow through system
Photoperiod: 16 h light / 8 h dark
Temperature, mean: 24.81 degree C
O2, mean: 6.32 mg/l
pH, mean: 7.42
Total hardness: 54.35 mg/l CaCO3
Total alkalinity, mean: 45.09 mg/l CaCO3
Reliability: (2) valid with restrictions
Well-documented study, comparable to guideline
Flag: Critical study for SIDS endpoint
07-SEP-2001 (17)

4.5.2 Chronic Toxicity to Aquatic Invertebrates

Species: Daphnia magna (Crustacea)
Endpoint: reproduction rate
Exposure period: 21 day(s)
Unit: mg/l Analytical monitoring: yes
NOEC: = 3 -

Method: other: UBA-Verfahrensvorschlag (vorlaeufiger) "Verlaengerter Toxzitaetstest bei Daphnia magna" (Bestimmung der NOEC fuer Reproduktionsrate, Mortalitaet und den Zeitpunkt des ersten Auftretens von Nachkommen; 21d) (1984)
Year: 1987
GLP: no data
Test substance: other TS: no purity given

Remark: semistatic test system
Reliability: (1) valid without restriction
Test procedure according to national standards
Flag: Critical study for SIDS endpoint
27-JUL-2001 (57)

Species: Daphnia magna (Crustacea)
Endpoint: reproduction rate
Exposure period: 21 day(s)
Unit: mg/l Analytical monitoring: no data
LOEC: 9.9 -

Method: other: According to the Protocol of the Dutch Standards Organisation, NEN 6502 (1980)
Year: 1988
GLP: no data
Test substance: other TS: no purity given

Remark: semi static test system
Reliability: (2) valid with restrictions
Basic data given
27-JUL-2001 (23)

TERRESTRIAL ORGANISMS

4.6.1 Toxicity to Sediment Dwelling Organisms

4.6.2 Toxicity to Terrestrial Plants

Species:	other terrestrial plant: Lactuca sativa Ravel R2
Endpoint:	growth
Expos. period:	14 day(s)
Unit:	mg/kg soil dw
EC50:	= 3.2 - 10
Method:	other: OECD Guide-line 208 (1984)
Year:	1991
GLP:	no data
Test substance:	other TS: purity >= 95 % (summarized information for all test substances)
Remark:	Two different natural soils at different testing facilities were used. Both soil characteristics corr. to OECD advice of an Entisol soil (organic matter content 1.4 % and 1.8 % resp., and clay content 12 % and 24 % resp., pH 7.5). Nominal concentrations given
Test condition:	10 seeds per tray, trays covered with glas plates, temperature 21 °C, photoperiod 16 h light / 8 h dark; light intensity 6,500 Lux; humidity 40-80 %
Reliability:	(2) valid with restrictions Guideline study with acceptable restrictions; only one type of soil tested
Flag:	Critical study for SIDS endpoint

10-AUG-2001 (46)

Species:	other terrestrial plant: Cucumis sativus var. National Pickling
Endpoint:	growth
Expos. period:	6 day(s)
Unit:	mg/l
Method:	other: germination and growth of seedlings in sand
Year:	1961
GLP:	no
Test substance:	other TS: recrystallized
Remark:	A definite amount of test solution was added to sand. Three concentrations were tested (20, 50, and 100 ppm) by weight in to water.
Result:	A 6 d-ED 50 of 18.1 mg/l was determined for sand.
Reliability:	(3) invalid Unsuitable test system (no soil tested)

11-JUL-2001 (27)

Species:	Phaseolus aureus (Dicotyledon)
Endpoint:	growth
Expos. period:	6 day(s)
Unit:	mg/l
Method:	other: germination and growth of seedlings in sand
Year:	1961
GLP:	no
Test substance:	other TS: recrystallized

Remark: A definite amount of test solution was added to sand. Three concentrations were tested (20, 50, and 100 ppm) by weight in to water.
Result: A 6 d-ED 50 of 29.9 mg/l was determined for sand.
Reliability: (3) invalid
Unsuitable test system (no soil tested)
11-JUL-2001 (27)

4.6.3 Toxicity to Soil Dwelling Organisms

4.6.4 Toxicity to other Non-Mamm. Terrestrial Species

4.7 Biological Effects Monitoring

4.8 Biotransformation and Kinetics

4.9 Additional Remarks

5.0 Toxicokinetics, Metabolism and Distribution

5.1 Acute Toxicity

5.1.1 Acute Oral Toxicity

Type: LD50
Species: rat
Sex: male
No. of Animals: 15
Vehicle: other: polyethylene glycol 400
Value: = 219 mg/kg bw

Method: other: 15 rats/dose group, 7 doses dissolved in polyethylenglycol 400, given by gavage, observation time: 14 d
Year: 1976
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark:

dosis mg/kg	conc. %	result m /s /n	signs of intoxication start	signs of intoxication end	time of death
50	1	0/ 0/15	-	-	-
100	2	0/15/15	49 min.	5 d	-
150	3	2/15/15	20 min	7 d	2 d
200	4	4/15/15	16 min	7 d	24 h
250	5	10/15/15	36 min	11 d	1-2 d
300	6	14/15/15	13 min	9 d	24 h
500	10	15/15/15	18 min	-	24 h

m: number of rats which died;
n: number of animals put in test
s: number of animals with signs of intoxication:
reduced general condition, cyanotic appearance

Reliability: (2) valid with restrictions
no histopathological examination performed, individual animal data and information on GLP is missing
21-MAR-2003 (6)

Type: LD50
Species: rat
Sex: female
No. of Animals: 15
Vehicle: other: polyethylene glycol 400
Value: = 457 mg/kg bw

Method: other: 15 rats/dose group, 8 doses dissolved in polyethylenglycol 400, given by gavage, observation time: 14 d
Year: 1976
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark:

dosis mg/kg	conc. %	result m /s /n	signs of intoxication start	signs of intoxication end	time of death
25	0.5	0/ 0/15	-	-	-
50	1	0/15/15	24 h	3 d	-
100	2	0/15/15	24 h	7 d	-
250	5	1/15/15	90 min	7 d	8 d
350	7	2/15/15	11 min	7 d	1-2 d
500	10	10/15/15	2 h	13 d	1-2 d
650	13	12/15/15	8 min	12 d	1-2 d
850	17	15/15/15	2 h	-	1-2 d

m: number of rats which died;
n: number of animals put in test
s: number of animals with signs of intoxication:
reduced general condition, cyanotic appearance

Reliability: (2) valid with restrictions
no histopathological examination performed, individual animal data and information on GLP is missing

21-MAR-2003 (6)

Type: LD50
Species: rat
Strain: Wistar
Sex: male
No. of Animals: 10
Vehicle: other: Lutrol
Value: = 251 mg/kg bw

Method: other: 10 rats/dose, 5 doses, test subst. dissolved in lutrol, gavage: application volume: 20 ml/kg bw., observation time: 14 d, some of the rats, that died, and some of the survivors were dissected
Year: 1982
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark:

dosis mg/kg	result m /s /n	signs of intoxication start	time of death
100	0/ 0/10	-	-
200	2/10/10	1 h	8 - 24 h
250	5/10/10	1 h	4 - 24 h
300	7/10/10	1 h	8 h - 3 d
400	10/10/10	1 h	4 h - 2 d

m: number of rats which died;
n: number of animals in test
s: number of animals with signs of intoxication:
reduced general condition, cyanotic appearance, rough fur, sedation, narcosis, no macroscopic effects in dissected animals

Reliability: (2) valid with restrictions
study meets criteria of today, but information on GLP is missing
Flag: Critical study for SIDS endpoint
21-MAR-2003 (7)

Type: LD50
Species: rat
Strain: Wistar

Sex: female
No. of Animals: 10
Vehicle: other: Lutrol
Value: = 263 mg/kg bw

Method: other: 10 rats/dose, 5 doses, test subst. dissolved in lutrol, gavage: application volume: 20 ml/kg bw., observation time: 14 d, some of the animals, that died, and some of the survivors were dissected
Year: 1982
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark:

dosis mg/kg	result m /s /n	signs of intoxication start	time of death
100	0/ 0/10	-	-
200	3/10/10	2 h	8 h - 3 d
300	5/10/10	2 h	24 h - 3 d
400	9/10/10	1 h	24 h - 3 d
500	10/10/10	1 h	4 h - 3 d

m: number of rats which died;
n: number of animals in test
s: number of animals with signs of intoxication:
reduced general condition, cyanotic appearance, rough fur, sedation, narcosis, paralysis of the hind limb

no macroscopic effects in dissected animals
Reliability: (2) valid with restrictions
study meets criteria of today, but information on GLP is missing
Flag: Critical study for SIDS endpoint
21-MAR-2003 (8)

Type: LD50
Species: rat
Strain: Wistar
Sex: male
No. of Animals: 10
Vehicle: other:sesame oil
Value: = 144 mg/kg bw

Method: other: 10 rats/dose, males were more sensitive in a pre-test, starved 16 hrs prior appl. and 2 hrs post appl., 4 doses, dissolved in sesame oil, single application by gavage, observation time: 14 d
Year: 1975
GLP: no
Test substance: other TS: no data on purity

Remark: doses and mortality rate (death occurred within 3 days):
63 mg/kg: 0/10; 100 mg/kg: 2/10;
160 mg/kg: 5/10; 250 mg/kg: 10/10
signs of intoxication: imbalance, rough fur, diarrhea, slight tremor
section of survivors: no findings
section of rats, that had died, was not possible because of autolytic changes.
Reliability: (2) valid with restrictions
individual animal data of signs of intoxication and information on GLP is missing

Flag: Critical study for SIDS endpoint
25-MAR-2003 (40)

Type: LD50
Species: rat
Sex: no data
Vehicle: no data
Value: = 350 mg/kg bw

Method: other: no information
Year: 1967
GLP: no data
Test substance: other TS: no data on purity

Reliability: (4) not assignable
lack of information
16-JUN-2003 (22)

Type: LD50
Species: rat
Sex: no data
Vehicle: no data
Value: = 339 mg/kg bw

Method: other: no information given
Year: 1982
GLP: no data
Test substance: other TS: no data on purity

Remark: clinical signs: central nervous system affected, methaemoglobin former (no further information)
Reliability: (4) not assignable
lack of information
16-JUN-2003 (50)

Type: LD50
Species: rat
Strain: Sprague-Dawley
Sex: male/female
Vehicle: other: corn oil
Value: = 560 mg/kg bw

Method: other: 2 or 3 rats/dose, single oral dose as 10 % warm solution, observation time: 7 d
Year: 1983
GLP: no data
Test substance: other TS: purity: 99.71 %

Remark: doses and mortality:
398 mg/kg: males 1/2 females 0/3
501 mg/kg: males 1/3 females 1/2
631 mg/kg: males 2/2 females 2/3
794 mg7kg: males 3/3 females 2/2
signs of intoxication: reduced appetite and activity(2-3 days in survivors), increasing weakness, ocular discharge, collapse and death
time to death: 1-4 days with most deaths within 2 days
gross autopsy:
decedents: hemorrhagic lungs, jaundiced liver, darkened kidneys and spleen, and gastrointestinal inflammation
survivors: lung congestion and darkened kidneys and spleen

Reliability: (2) valid with restrictions
individual animal data and information on GLP is missing
Flag: Critical study for SIDS endpoint
21-MAR-2003 (68) (113)

Type: LD50
Species: rat
Sex: no data
Vehicle: no data
Value: = 288 mg/kg bw

Method: other: observation time: 14 d (no further information)
Year: 1972
GLP: no
Test substance: other TS: no data on purity

Reliability: (4) not assignable
lack of information
16-JUN-2003 (2)

Type: LD50
Species: rat
Value: = 510 mg/kg bw

Method: other: no details given

Reliability: (4) not assignable
lack of information
16-JUN-2003 (106)

Type: LD50
Species: rat
Sex: male
Value: = 270 mg/kg bw

Method: other: according to Smyth, Am. Ind. Hyg. Ass. J. 30, 470 (1962)
Year: 1977
GLP: no
Test substance: other TS: no data on purity

Reliability: (4) not assignable
lack of information
16-JUN-2003 (107)

Type: LD50
Species: rat
Sex: male
Value: = 300 mg/kg bw

Method: other: no further information given
Year: 1988
GLP: no data
Test substance: other TS: no data on purity

Reliability: (4) not assignable
lack of information
16-JUN-2003 (65)

Type: LD50
Species: rat
Sex: male

No. of Animals: 5
Vehicle: other: none
Value: ca. 630 mg/kg bw

Method: other: 3 rats/dose, single oral application of undiluted substance, observation time: 14 d
Year: 1975
GLP: no
Test substance: other TS: o-nitrochlorobenzene residue

Remark: dose / mortality / time of death:
50 mg/kg / 0/5 / -;
500 mg/kg / 2/5 / one day;
5000 mg/kg / 5/5 / one day
signs of intoxication: reduced appetite and activity (2-4 days in survivors, increasing weakness, collapse, and death
gross autopsy:
decedents: haemorrhagic areas of the lungs, slight liver discoloration, acute gastrointestinal inflammation
survivors: viscera appeared normal
Reliability: (4) not assignable
o-nitrochlorobenzene residue used, no information for o-nitrochlorobenzene itself
21-MAR-2003 (111)

Type: LD50
Species: mouse
Sex: no data
Vehicle: no data
Value: = 440 mg/kg bw

Method: other: no information given
Year: 1982
GLP: no data
Test substance: other TS: no data on purity

Remark: clinical signs: central nervous system affected, methaemoglobin former (no further information)
Reliability: (4) not assignable
lack of information
16-JUN-2003 (50)

Type: LD50
Species: mouse
Sex: no data
Vehicle: no data
Value: = 135 mg/kg bw

Method: other: observation time: 14 d (no further information)
Year: 1972
GLP: no
Test substance: other TS: no data on purity

Reliability: (4) not assignable
lack of information
16-JUN-2003 (2)

Type: LD50
Species: mouse
Value: = 340 mg/kg bw

Method: other: no details given

Reliability: (4) not assignable
lack of information
16-JUN-2003 (106)

Type: LD50
Species: mouse
Value: = 140 mg/kg bw

Method: other: according to Smyth, Am. Ind. Hyg. Ass. J. 30, 470 (1962)
Year: 1977
GLP: no
Test substance: other TS: no data on purity

Reliability: (4) not assignable
lack of information
16-JUN-2003 (107)

Type: LD50
Species: rabbit
Sex: no data
Vehicle: no data
Value: = 280 mg/kg bw
Method: other: no information given
Year: 1982
GLP: no data
Test substance: other TS: no data on purity
Remark: clinical signs: central nervous system affected, methaemoglobin former (no further information)
Reliability: (4) not assignable
lack of information
16-JUN-2003 (50)

5.1.2 Acute Inhalation Toxicity

Type: LC50
Species: rat
Strain: other: CD
Sex: male
No. of Animals: 10
Exposure time: 4 hour(s)
Value: ca. 3200 mg/m³
Method: other: 10 male rats/conc., head-only exposure, 6 conc., heated vapour was diluted with humidified and O2-enriched air and thus converted to a mixture of vapour and liquid aerosol, post exposure observation time: 14 d
Year: 1981
GLP: no data
Test substance: other TS: purity: 99.8 %
Remark:

Concentration (mg/l)	Mortality	Time to death 0, 1, 2, 3, 5, 7 (d)
1.56	1/10	1
1.83	3/10	2 1
2.46	2/10	1 1
2.64	10/10	1 1 7 1
3.23	1/10	1
3.33	6/10	1 2 2 1

signs of intoxication during exposure: slight to moderate cyanosis, semi-prostration, lethargy and reddish brown nasal discharge to 24 hours, slight to moderate corneal opacity, tachypnea, some rats with partial hind-leg paralysis, abnormal arched-back posture
signs of intoxication post exposure: weight loss of 8 to 16 % from 1 to 3 days with normal gains thereafter, pallor, stained perineal area, lethargy, some rats with salivation, lacrimation and corneal opacity, chromodacryorrhea
gross autopsy not reported
LD50: 495 ppm
Mortalities were not strictly dose-dependant, stat. analysis showed a non significant regression

Result: value: LD50: 495 ppm
Reliability: (2) valid with restrictions
gross autopsy not reported, no information about GLP
Flag: Critical study for SIDS endpoint
21-MAR-2003 (31)

5.1.3 Acute Dermal Toxicity

Type: LD50
Species: rat
Strain: Wistar
Sex: male
No. of Animals: 10
Vehicle: other: polyethylene glycol 400
Value: = 655 mg/kg bw

Method: other: 10 rats/dose, 6 doses, subst.(solved in polyethylene glycol 400) appl. on the shaved back for 24 hours, covered by alu and a plaster, then rinsed with water and soap, post exposure observ.-time: 14 d
Year: 1976
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark:

dosis mg/kg	conc. %	result m /s /n	signs of intoxication start	signs of intoxication end	time of death
250	25	1/10/10	18 h	14 d	4 d
350	25	1/10/10	18 h	7 d	18 h
500	50	3/10/10	18 h	9 d	1-3 d
750	50	7/10/10	24 h	13 d	1-3 d
1000	50	7/10/10	18 h	4 d	18 h - 3 d
1500	75	9/10/10	18 h	14 d	18 h - 4 d

m: number of rats which died;
n: number of animals put in test
s: number of animals with signs of intoxication:
reduced general condition, difficulties in breathing, cyanotic appearance, some animals showed lacrimation

Reliability: (2) valid with restrictions
no pathologic examination performed, individual animal data and information on GLP are missing
Flag: Critical study for SIDS endpoint
21-MAR-2003 (6)

Type: LD50
Species: rat

Strain: Wistar
Sex: female
Vehicle: other: polyethylene glycol 400
Value: ca. 1320 mg/kg bw
Method: other: 10 or 20 rats/dose, 3 doses, subst.(solved in polyethylene glycol 400) appl. on the shaved back for 24 hours, covered by alu and a plaster, then rinsed with water and soap, post exposure observ.-time: 14 d
Year: 1976
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark:

dosis mg/kg	conc. %	result m /s /n	signs of intoxication start	signs of intoxication end	time of death
750	50	0/10/10	24 h	6 d	-
1000	50	5/20/20	18 h	14 d	2 - 3 d
1500	75	6/10/10	18 h	10 d	2 - 6 d

m: number of rats which died;
n: number of animals in test
s: number of animals with signs of intoxication: reduced general condition, difficulties in breathing, cyanotic appearance, some animals showed lacrimation
Reliability: (2) valid with restrictions
no pathologic examination performed, individual animal data and information on GLP are missing
Flag: Critical study for SIDS endpoint
21-MAR-2003 (6)

Type: LD50
Species: rat
Sex: female
No. of Animals: 6
Vehicle: other: diluted in sesame oil to give a concentration of 40 %
Value: = 1796 mg/kg bw

Method: other: 6 rats/dose, single application to the clipped intact skin, covered by alu and a plaster, exposure time: 24 h, then rinsing, postexposure observation time: 14 d
Year: 1975
GLP: no
Test substance: other TS: no data on purity

Remark: doses and mortality:
500 mg/kg: 0/6 ; 1000 mg/kg: 1/6 ; 1600 mg/kg: 3/6;
2000 mg/kg: 3/6
no signs of toxicity, necropsy of the survivors: no pathological findings
Reliability: (2) valid with restrictions
no data on purity and information on GLP is missing
21-MAR-2003 (42)

Type: LD50
Species: rabbit
Value: = 450 mg/kg bw

Method: other: 5 rabbits/dose, trunks were clipped free of hair, 3 doses (warm to melting point), exposure time 24 h (rabbits immobilized during exposure), then rinsing and wiping dry, observation time: 14 d
Year: 1975

GLP: no
Test substance: other TS: no data on purity

Remark: dose / mortality / individual reactions
330 mg/kg/ 20 % / slight discoloration of the skin and eyes; normal < 48 hrs
560 mg/kg/ 80 % / death 48 to 96 hours preceded by lethargy, loss of motor coordination, sometimes coma
750 mg/kg/ 80 % / death 2 to 5 days, other reaction similar

general reaction:
manifestation of methaemoglobinaemia symptoms evident in < 20 minutes
Reliability: (2) valid with restrictions
no data on purity, no pathologic examination, information on GLP is missing
16-JUN-2003 (104)

Type: LD50
Species: rabbit
Sex: male/female
No. of Animals: 2
Vehicle: other: undissolved
Value: = 400 mg/kg bw
Method: other: 2 rabbits/sex/dose, 5 doses, single dermal application (intact skin), undiluted (warmed to make suitable for dosing), no further information, exposure time: 24 hrs, post exp.observation time: 14 d
Year: 1983
GLP: yes
Test substance: other TS: purity: no data
Remark: Dose and mortality: 251 mg/kg: Males: 0/2; Females: 0/2
316 mg/kg: 0/2 1/2
398 mg/kg: 0/2 2/2
501 mg/kg: 2/2 1/2
631 mg/kg: 2/2 2/2

observations: toxic signs: lethargy (lasting up to 3 days); increasing weakness; collapse; death
Gross necropsy:
decedents: haemorrhagic areas of the lungs;
liver, kidney, spleen discoloration; enlarged gall bladder, gastrointestinal inflammation
survivors(14 d): viscera appeared normal
LD50 (male): 445 mg/kg bw
LD50 (female): 355 mg/kg bw
Reliability: (2) valid with restrictions
no data on purity, no individual pathologic data
Flag: Critical study for SIDS endpoint
21-MAR-2003 (69) (112)

Type: LD50
Species: rabbit
Sex: male/female
No. of Animals: 1
Vehicle: other: none
Value: > 79.4 mg/kg bw
Method: other:1 rabbit/dose, 6 doses, single application of undiluted, warmed substance, exposure time. 24 hrs, postexposure observation time: 14 d (no further information)
Year: 1975
GLP: no

Test substance: other TS: no data on purity

Remark: dose, sex, mortality, time to death:
31.6 mg/kg, male, 0/1, -; 50.0 mg/kg, female, 0/1, -;
79.4 mg/kg, male, 0/1, -; 126.0 mg/kg, female, 1/1, 2 d;
200.0 mg7kg, male, 1/1, 1 d; 398.0 mg/kg, female, 1/1, 1 d

signs of intoxication: slight lethargy (1-2 d in survivors), increasing weakness, collapse, death

gross autopsy: decedents: haemorrhagic areas of the lungs, slight liver discoloration, enlarged gall bladder, gastrointestinal inflammation;
survivors: viscera appeared normal

Reliability: (2) valid with restrictions
no data on purity, information on GLP is missing, only 1 animal/dose, no individual pathologic data

16-JUN-2003 (113)

Type: LDLo
Species: rabbit
Sex: male/female
No. of Animals: 1
Vehicle: other: none
Value: 316 mg/kg bw

Method: other: 1 rat /dose, single application of undiluted substance, exposure time: 24 hrs, post exposure observation time: 14 d
Year: 1975
GLP: no
Test substance: other TS: orthonitrobenzene residue

Remark: dose, sex, mortality, time to death:
126 mg/kg, male, 0/1, -; 200 mg/kg, female, 0/1, -;
316 mg/kg, male, 1/1, 2 days; 794 mg/kg, 1/1, 3 days
signs of intoxication: reduced appetite and activity (2-4 days in survivors), increasing weakness, collapse, death
gross autopsy: decedents: haemorrhagic areas of the lungs, mottled liver, slight enlarged gall bladder, blackened spleen, gastrointestinal inflammation
survivors: viscera appeared normal

Reliability: (4) not assignable
o-chloronitrobenzene residue used, no information of o-chloronitrobenzene itself

21-MAR-2003 (111)

5.1.4 Acute Toxicity, other Routes

5.2 Corrosiveness and Irritation

5.2.1 Skin Irritation

Species: rabbit
Concentration: 500 other: mg
Exposure Time: 24 hour(s)
No. of Animals: 2
Result: not irritating

Method: other: ear, dose: 500 mg/animal, undissolved TS, covered by cellulose pads and plaster, a rolled gauze pad was put on it, all together was bandaged, exposure time: 24 h, semi-occlusive, observation time 7 d
Year: 1976
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Reliability: (2) valid with restrictions
only a few animals used, no information on GLP
Flag: Critical study for SIDS endpoint
21-MAR-2003 (6)

Species: rabbit
Concentration: 10 %
Exposure: Semiocclusive
Exposure Time: 24 hour(s)
No. of Animals: 6
Result: not irritating

Method: other: appl. to intact and abraded skin, flank, test substance diluted in sesame oil, dose: 0.5 ml/animal, observation time: 72 hrs, reading: 24, 48 and 72 hours, evaluated according Fed.Reg.38, No.187, p.27019, 1973, § 1500.41
Year: 1975
GLP: no
Test substance: other TS: no data on purity

Remark: intakt skin (score 0-4):
24 hrs: 4/6 erythema: score: 1; 0/6 oedema
48 hrs: 0/6 erythema: score: ; 0/6 oedema
72 hrs: 0/6 erythema: score: ; 0/6 oedema
abraded skin:
24 hrs: 4/6 erythema: score: 1; 0/6 oedema
48 hrs: 0/6 erythema: score: ; 0/6 oedema
72 hrs: 0/6 erythema: score: ; 0/6 oed
Reliability: (2) valid with restrictions
sesame oil as vehicle, no data on purity
16-JUN-2003 (41)

Species: rabbit
Concentration: undiluted
Exposure: no data
Exposure Time: 24 hour(s)
No. of Animals: 3
Result: corrosive

Method: other: 0.5 ml undiluted, exposure: 24 hrs
Year: 1974
GLP: no
Test substance: other TS: o-nitrochlorobenzene residue (not the original substance, no further information on chemical characteristics)

Reliability: (4) not assignable
o-chloronitrobenzene residue used, no information of o-chloronitrobenzene itself
21-MAR-2003 (111)

Species: rabbit
Concentration: other: undissolved
Exposure: no data

Exposure Time: 24 hour(s)
No. of Animals: 6
Result: not irritating

Method: other: 0.5 ml/rabbit, warmed, observation time: 168 hours (no further information)
Year: 1973
GLP: no
Test substance: other TS: purity: 99.71 %

Remark: time of reading up to 168 hours: no erythema or oedema
Reliability: (2) valid with restrictions
no GLP, no information on exposure
Flag: Critical study for SIDS endpoint
21-MAR-2003 (113)

5.2.2 Eye Irritation

Species: rabbit
Dose: 50 other: mg
No. of Animals: 2
Result: not irritating

Method: other: undissolved test substance, dose: 50 mg/animal,observation period: 7 d
Year: 1976
GLP: no
Test substance: as prescribed by 1.1 - 1.4

Remark: Slight redness (score 1/3) observed in 1/2 animals, disappeared within 24 hours, the other animal was without effects
Reliability: (2) valid with restrictions
no GLP, only a few animals used
Flag: Critical study for SIDS endpoint

21-MAR-2003 (6)

Species: rabbit
Concentration: other: undissolved
Dose: 100 other: mg
Exposure Time: 24 hour(s)
Comment: no data
No. of Animals: 6
Result: slightly irritating

Method: other: according Fed.Reg.38, No.187, 1973: undissolved test substance, dose: 100 mg/animal, observation time: 24 hrs
Year: 1975
GLP: no
Test substance: other TS: no data on purity

Remark: 1 hr post appl: 4/6 with conjunctival injections, score: 1/0-3; and 2/6 with conjunctival injections, score: 2/0-3; 7 hr post appl: 2/6 with conjunctival injections, score: 1/0-3; 24 hr post appl: no findin
Reliability: (2) valid with restrictions
no data on purity, no GLP
Flag: Critical study for SIDS endpoint
16-JUN-2003 (41)

Species: rabbit

Concentration: undiluted
Dose: .1 ml
Exposure Time: 24 hour(s)
No. of Animals: 3
Result: corrosive

Method: other: 0.1 ml, undiluted, 24 hrs exposure
Year: 1974
GLP: no
Test substance: other TS: o-nitrochlorobenzene residue (not the original substance, no further information on chemical characteristics)

Reliability: (4) not assignable
o-chloronitrobenzene residue used, no information of o-chloronitrobenzene itself
21-MAR-2003 (111)

Species: rabbit
Concentration: undiluted
Dose: .1 ml
Exposure Time: 24 hour(s)
No. of Animals: 6
Result: not irritating

Method: other: 0.1 ml/rabbit, warmed, observation time: 168 hours
Year: 1973
GLP: no
Test substance: other TS: purity: 99.71 %

Remark: Time of reading:
24 hrs: 6/6 slight erythema, Score 9.6/110
48 hrs: 5/6 slight erythema, Score 2.3/110
72 hrs: 1/6 slight erythema, Score 0.3/110
168 hrs: no findings
Reliability: (2) valid with restrictions
no GLP
21-MAR-2003 (113)

Species: rabbit
Concentration: 10 %
Dose: .1 ml
No. of Animals: 6
Result: slightly irritating
Method: other: according Fed.Reg.38, No.187, 1973: observation time: 24 hrs
Year: 1975
GLP: no
Test substance: other TS
Remark: 1 hr post appl: 3/6 conjunctival injection, score: 1/0-3; 7 and 24 hrs post appl: no findings
Reliability: (2) valid with restrictions
no data on purity, no GLP
21-MAR-2003 (41)

5.3 Sensitization

Type: no data
Species: human

Remark: experience with human exposure: o-chloronitrobenzene

has been used for decades, but there have been no indications of an allergenic potential in man

(16)

Type: other: modified Draize test
Species: guinea pig
Concentration 1st: Induction 1 %
2nd: Challenge 1 %
No. of Animals: 10
Vehicle: other: Aceton
Result: not sensitizing

Method: other: 3 drops of a 1 % solution to the clipped area of the skin for 5 d; on the 7th d 3 drops of the 1 % solution to an untreated area of the skin; reading time not mentioned
Year: 1973
GLP: no
Test substance: other TS: no data on purity

Remark: The study documentation is incomplete and the methology employed is no longer in use.
Reliability: (3) invalid
no data on purity, study documentation incomplete, no data on GLP
16-JUN-2003

(88)

Type: other: modified Freunds complete adjuvant test
Species: guinea pig
Concentration 1st: Induction 10 %
2nd: Challenge 10 %
No. of Animals: 10
Vehicle: other: aceton
Result: sensitizing

Method: other: 3 drops(10% sol.) to the clipped area of the skin;22nd inj.of Freund-adjuvans and TS into the hind paw (0.5 mg/kg bw), 28th d 3 drops(10 % sol.) to an untreated clipped area of the skin; reading time not mentioned
Year: 1973
GLP: no
Test substance: other TS: no data on purity

Remark: The allergenic activity of o-chloronitrobenzene is less marked than that of p-chloronitrobenzene; 2,4-dinitro-chlorobenzene provokes even stronger sensitization effects than p-chloronitrobenzene
The study documentation is incomplete and the methology employed is no longer in use.
Reliability: (3) invalid
no data on purity, study documentation incomplete, no data on GLP
16-JUN-2003

(88)

Type: other: the rats were exposed via inhalation to o-chloronitrobenzene for 5 months
Species: rat
Result: sensitizing
Year: 1973
GLP: no
Test substance: other TS: no data on purity

Reliability: (3) invalid
no data on purity, study documentation incomplete, no data

on GLP
16-JUN-2003 (88)

5.4 Repeated Dose Toxicity

Species:	rat	Sex: male/female
Strain:	other: F344/N	
Route of administration:	inhalation	
Exposure period:	13 w	
Frequency of treatment:	6 h/d, 5 d/w	
Post exposure period:	no	
Doses:	0, 1.1, 2.3, 4.5, 9 or 18 ppm (approx. 0, 7, 14.7, 28.8, 57.6, 115.2 mg/m3)	
Control Group:	yes	
LOAEL:	ca. 1.1 ppm	

Method: other: see freetext: method
Year: 1993
GLP: yes
Test substance: other TS: purity: 99 %

Method: 10 rats/sex/group, whole body expos., clin.chem., hematol., bw., org.weight, compl. histopathol. in all control rats and 18ppm gr. and rats that died, gross lesions and selec. organs of rats < 18-ppm-groups, add. 10 rats/sex/conc: clin. pathol. at d1, d4, d23

histopathol. evaluations on reproductive organs: see chapter 5.8

Remark: although a no-observed-effect level (NOEL) for histopathological findings was not found in this study, observations among rats exposed to 4.5 ppm or less were limited to minimal effects on nasal tissues

Result: clinical signs:
no clear signs of toxicity (no other information), no deaths, no differences in body weight gain or terminal body weight compared to controls;
haematology, male and female:
concentration-related increase in methaemoglobinaemia (m sign: from 1.1 ppm at d23; from 2.3 ppm at all time points with max of 1.14 g/dl at 18 ppm; f sign.: from 1.1 ppm at week 13 and from 2.3 ppm at all time points with max of 1.04 g/dl at 18 ppm), reticulocyte count (sign. at all dose groups at week 13), nucleated erythrocytes, leucocyte count (predominantly at the highest dose groups of male and females); concentration-related decrease in haematocrit, haematoglobin, RBC (m. sign.: 1.1 ppm(d23), 4.4 ppm (week13), 9 ppm (d4,week13),18 ppm (at all time points); f. sign.: at every dose group at week13), MCH and MCHC (only in females)
clinical chemistry, male and female:
increase in serum activities of sorbitol dehydrogenase and alanine aminotransferase in different male and female exposure groups at various time points, decrease in alkaline phosphatase
pathology: dark spleen (1 female, 2 males, 18 ppm)
concentration-related increases in liver, spleen and right kidney weight
Histopathologic changes:
liver: basophilia of centrilobular hepatocytes, kidney: pigmentation and regeneration of the proximal convoluted

tubules, spleenic congestion was observed in all exposed and control rats: in males with dose-dependent increase in severity and in females with dose-dependent increase in incidences; nose: hyperplasia of the nasal cavity respiratory epithelium
Reliability: (1) valid without restriction
Flag: Critical study for SIDS endpoint
21-MAR-2003 (45) (80) (102)

Species: rat Sex: male/female
Strain: Sprague-Dawley
Route of administration: inhalation
Exposure period: 4 w
Frequency of treatment: 6 h/d, 5 d/w
Post exposure period: no
Doses: 0, 10, 30 or 60 mg/m3
Control Group: yes, concurrent no treatment
LOAEL: ca. .01 mg/l

Method: other: 15 rats/sex/group, whole body exposure, haematology, clinical chemistry, gross and microscopic examination, statistical analysis
Year: 1986
GLP: no data
Test substance: other TS: purity: 99.71%
Result: all concentration groups:
no deaths, mean body weights comparable to controls, microscopic changes of the spleen: increased degree of haemosiderosis
0.01 mg/l: slight, but statistically significant increase in relative liver weights in male rats
0.03 and 0.06 mg/l: increases in liver, kidneys and spleen weight, significant increase in blood methaemoglobin levels and decrease in haemoglobin, haematocrit and red blood cell count values; increases in liver, kidney, and spleen weights, microscopic changes of the spleen:
slight increase in degree of extramedullary haematopoiesis
Reliability: (2) valid with restrictions
Histopathologic evaluation not performed from all animals, no information on GLP
21-MAR-2003 (73) (74)

Species: rat Sex: male/female
Strain: other: F344/N
Route of administration: inhalation
Exposure period: 2 weeks
Frequency of treatment: 6 h/d, 5 d/w
Post exposure period: no
Doses: 0, 1.1, 2.3, 4.5, 9, 18 ppm (approx. 0, 7, 14.7, 28.8, 57.6, 115.2 mg/m3)
Control Group: yes
LOAEL: ca. 1.1 ppm

Method: other: 5 rats/sex/group, whole body exposure, complete necropsies on all rats, histopatholologic evaluation of all rats in the controls and the highest exposure group
Year: 1993
GLP: yes
Test substance: other TS: purity: 99 %

Result: clinical signs:
18 ppm, males: hypoactivity, ataxia, pallor
18 ppm, males, females: dehydration, nasal discharge, decreased urination and defecation
all concentration groups:
no deaths, body weight gain was not affected
pathology:
males and females: exposure-related increases in liver weights,
18 ppm, males, females: increased spleen weights
18 ppm-group, males: slight increased relative kidney weights
histopathologic findings:
18 ppm, all rats:
hemosiderin deposition in liver (minimal) and spleen (mild severity)
Reliability: (2) valid with restrictions
dose-finding study
21-MAR-2003 (80)

Species: rat Sex: male/female
Strain: Sprague-Dawley
Route of administration: inhalation
Exposure period: 3 days
Frequency of treatment: 6 hours/day, daily
Post exposure period: none
Doses: 0.045 mg/l
Control Group: yes
NOAEL: < .045 mg/l
LOAEL: = .045 mg/l

Method: other: no information
Year: 1982
GLP: yes
Test substance: other TS: as prescribed in 1.1-1.4 of the Monsanto datasheet

Result: 0.045 mg/l blood, methaemoglobin (3%), incr.; m.f.
Source: Monsanto
Reliability: (3) invalid
information on method and no. of animals is missing
21-MAR-2003 (70)

Species: rat Sex: male
Strain: other: Crl:CD
Route of administration: inhalation
Exposure period: 2 weeks
Frequency of treatment: 6 hrs/d, 5 d/week
Post exposure period: 13 d
Doses: 0, 0.03, 0.15, 0.53 mg/l
Control Group: yes, concurrent no treatment
NOAEL: ca. .03 mg/l

Method: other
Year: 1984
GLP: no data
Test substance: other TS: purity: 99.8 %

Result: haemolytic anemia, methaemoglobinemia
Reliability: (2) valid with restrictions
no information of GLP
21-MAR-2003 (32)

Species: rat Sex: no data
Strain: no data
Route of administration: oral unspecified
Exposure period: 20 d
Frequency of treatment: daily
Post exposure period: no data
Doses: 70 mg/kg bw/d
Control Group: other: no data

Method: other: 20 rats, no further information
Year: 1967
GLP: no
Test substance: other TS: no data on purity

Result: no deaths (thus, the test substance may be regarded as lacking any marked cumulative properties)
Reliability: (3) invalid
only one dose used, lack of information (e.g. unspecified route of oral administration)
16-JUN-2003 (22)

Species: rat Sex: no data
Strain: no data
Route of administration: oral unspecified
Exposure period: 7 months
Frequency of treatment: daily
Post exposure period: no data
Doses: 0.0025, 0.005, 0.025. 0.25 or 5 mg/kg bw/d
Control Group: yes
NOAEL: ca. .25 mg/kg bw

Method: other: CNS function evaluated according Cherkinskii, 1949: method of conditioned reflexes (time required for appearance, establishment,latent period,magnitude, frequency of occurrence), no further information
Year: 1967
GLP: no
Test substance: other TS: no data on purity
Remark: o-, m-, and p-chloronitrobenzene were tested: the para-isomer was found to be most toxic
Result: 0.0025, 0.005, 0.025, 0.25 mg/kg bw/d: no toxic effects

5 mg/kg bw/d:
hemapoetic system, last month of the experiment:
increase in the methaemoglobin content in the blood,
decrease of the haemoglobin content,
increase in the reticulocyte count (up to 78 %) and presence of Heinz bodies in the erythrocytes(up to 47 %);

liver function test: slight increase in blood alkaline phosphatase (no detail given)
effects on CNS function: some slowing down of fixation of the positive conditioned reaction and of the development of the differentiation reaction; liver function tests: increase in the blood alkaline phosphatase activity; rise in the level of bilirubin in the urine

urine: slight increase in bilirubin level
Reliability: (4) not assignable
lack of relevant information
16-JUN-2003 (22)

Species: mouse Sex: male/female
Strain: B6C3F1
Route of administration: inhalation
Exposure period: 13 w
Frequency of treatment: 6 h/d, 5 d/w
Post exposure period: no
Doses: 0, 1.1, 2.3, 4.5, 9 or 18 ppm (0, 7, 14.7, 28.8, 57.6,115.2 mg/m3)
Control Group: yes

Method: other: 10 mice/sex/group, whole body exposure, body/organ weight, gross and microscopic pathology , statistical analysis; histopathological evaluations on reproductive organs: see chapter 5.8
Year: 1993
GLP: yes
Test substance: other TS: purity: 99 %

Result: No clinical signs related to 2-chloronitrobenzene exposure
Mortality: 18 ppm, week 12, 2/10 males (livers darkly discoloured, defuse, severe sinusoidal congestion with hepatocellular degeneration and necrosis);
males: no significant different in body weight gain between control and treated mice; females: from 2.3 ppm body weight greater than in control mice
pathology:
2.3, 4.5, 9 and 18 ppm: increases in right kidney weight and liver weight (all groups, females)
9 and 18 ppm: increase in liver weights(males), hepatocytomegaly in all males; spleen enlargement among females due to hematopoietic cell proliferation
18 ppm: incidence of mild hepatic mineralization and/or necrosis, pale discoloration of the liver (1/10 females, 6/10 males), chronic inflammation in the liver (especially males), incidence of hematopoietic cell proliferation in the spleens of the males; histopathologic changes in the liver, notably hepatocytomegaly observed among females
NOAEL: 4.5 ppm (histopathological injury)
Reliability: (1) valid without restriction
Flag: Critical study for SIDS endpoint
30-AUG-2001 (44) (80) (102)

Species: mouse Sex: male/female
Strain: B6C3F1
Route of administration: inhalation
Exposure period: 2 weeks
Frequency of treatment: 6 h/d, 5 d/w
Post exposure period: no
Doses: 0, 1.1, 2.3, 4.5, 9, 18 ppm (approx. 0, 7, 14.7, 28.8, 57.6, 115.2 mg/m3)
Control Group: yes
NOAEL: ca. 2.3 ppm

Method: other: 5 mice/sex/group, whole body exposure, complete necropsy on all mice, histopathological evaluation on all mice
Year: 1993
GLP: yes
Test substance: other TS: purity: 99 %

Result: clinical signs: