201-16407A

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IUCLID

Data Set

Existing Chemical	:	ID: 105-39-5
CAS No.	:	105-39-5
EINECS Name	:	ethyl chloroacetate
EINECS No.	:	203-294-0
TSCA Name	:	Acetic acid, chloro-, ethyl ester
Molecular Formula	:	C4H7ClO2

Producer Related Part

Company	:	The Dow Chemical Company
Creation date	:	03.11.2000

Substance Related Part

Company	:	The Dow Chemical Company
Creation date	:	03.11.2000
Memo	:	
Printing date	:	10.12.2002
Revision date	:	
Date of last Update	:	10.12.2002
Number of Pages	:	49
Chapter (profile)	:	
Reliability (profile)	:	
Flags (profile)	:	???

1.0.1 OECD AND COMPANY INFORMATION

Type :
Name : The Dow Chemical Company
Partner :
Date :
Street : 2020 Building
Town : 48674 Midland, MI
Country : United States
Phone : 989-636-1000
Telefax :
Telex :
Cedex :
17.12.2001

Type :
Name : Rhone-Poulenc Chimie
Partner :
Date :
Street : 25, Quai Paul Doumer
Town : 92408 Courbevoie Cedex
Country : France
Phone :
Telefax :
Telex :
Cedex :
Source : EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.02.2000

Type :
Name : The Dow Chemical Company
Partner :
Date :
Street :
Town : 65926 Frankfurt am Main
Country : Germany
Phone :
Telefax :
Telex :
Cedex :
17.12.2001

1.0.2 LOCATION OF PRODUCTION SITE

Name of Plant : Michigan Operations Site, The Dow Chemical Company
Street :
Town : 48674 Midland, MI
Country : United States
Phone : 989-636-1000
Telefax :
Telex :
Cedex :
Remark : Ethyl Monochloroacetate (EMCA) is produced in a single facility within The Dow Chemical Company's Michigan Operations Site located in Midland, Michigan. EMCA is manufactured from chloroacetyl chloride in a completed closed system. The sole use of EMCA is as an on-site intermediate in the production of another chlorinated derivative,

manufactured within several blocks of the production of EMCA. Upon completion of production, the EMCA is placed in a storage tank, which is vented to a caustic scrubber. EMCA is transferred to the downstream plant via pipeline. There is no offsite transfer of this material.

17.12.2001

1.0.3 IDENTITY OF RECIPIENTS

1.1 GENERAL SUBSTANCE INFORMATION

Substance type : organic
Physical status : liquid
Purity : % w/w
Source : EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.02.2000

1.1.0 DETAILS ON TEMPLATE

1.1.1 SPECTRA

1.2 SYNONYMS

Acetic acid, chloro-, ethyl ester
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.09.1994

Acetic acid, chloro-, ethyl ester (6Cl, 8Cl, 9Cl)
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Chloressigsaeureethylester
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Chloressigsaureethylester
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
23.09.1994

CHLOROACETATE D'ETHYLE
Source : Rhone-Poulenc Chimie Courbevoie Cedex
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
25.05.1994

Chloroacetic acid ethyl ester
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main

Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Essigsaeure, chlor-, ethyl-ester
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Essigsaure, chlor-, ethyl-ester
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
23.09.1994

Ethyl .alpha.-chloroacetate
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Ethyl 2-chloroacetate
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Ethyl chloroacetate
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997

Ethyl chloroethanoate
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Ethyl monochloracetate
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Ethyl monochloroacetate
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Ethylchloracetat
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

MONOCHLORACETATE D'ETHYLE
Source : Rhone-Poulenc Chimie Courbevoie Cedex
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
25.05.1994

Monochloressigsaeureethylester
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.08.1993

Monochloressigsaureethylester
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
23.09.1994

1.3 IMPURITIES

1.4 ADDITIVES

1.5 QUANTITY

1.6.1 LABELLING

Labelling : as in Directive 67/548/EEC
Symbols : TN
Nota : D
Specific limits : no data
R-Phrases : (23/24/25) Toxic by inhalation, in contact with skin and if swallowed
(50) Very toxic to aquatic organisms
S-Phrases : (1/2) Keep locked up and out of reach of children
(7/9) Keep container tightly closed and in a well-ventilated place
(45) In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
(61) Avoid release to the environment. Refer to special instructions/Safety data sets
Source : EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.02.2000

1.6.2 CLASSIFICATION

Classification : as in Directive 67/548/EEC
Class of danger : dangerous for the environment
R-Phrases : (50) Very toxic to aquatic organisms
Source : EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

10.02.2000

Classification : as in Directive 67/548/EEC
Class of danger : toxic
R-Phrases : (23/24/25) Toxic by inhalation, in contact with skin and if swallowed
Source : EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.02.2000

1.7 USE PATTERN

1.7.1 TECHNOLOGY PRODUCTION/USE

1.8 OCCUPATIONAL EXPOSURE LIMIT VALUES

Type of limit : MAK (DE)
Limit value : 1 ml/m3
Remark : Spitzenbegrenzung: Kategorie 1; Gefahr der Hautresorption
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (1)

1.9 SOURCE OF EXPOSURE

Remark :
- Pas de rejets de produit en tant que tel.
- Les rejets lors de la fabrication sont localis?s et traites en station biologique industrielle.
- Procede : Principe reactionnel.
  Esterification de l'AMCA par l'ethanol puis distillation.

Source : Rhone-Poulenc Chimie Courbevoie Cedex
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
27.05.1994

1.10.1 RECOMMENDATIONS/PRECAUTIONARY MEASURES

1.10.2 EMERGENCY MEASURES

1.11 PACKAGING

1.12 POSSIB. OF RENDERING SUBST. HARMLESS

1.13 STATEMENTS CONCERNING WASTE

1.14.1 WATER POLLUTION

Classified by	:	KBwS (DE)
Labelled by	:	
Class of danger	:	2 (water polluting)
Remark	:	Kenn-Nr. 1129 (Wassergefahrdungsklasse - WGK)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Test substance	:	Chloressigsaureethylester

31.01.1997 (2)

Classified by	:	other: Boehringer Ingelheim
Labelled by	:	other: Boehringer Ingelheim
Class of danger	:	2 (water polluting)
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

26.08.1993 (3) (4) (5)

1.14.2 MAJOR ACCIDENT HAZARDS

Legislation	:	Stoerfallverordnung (DE)
Substance listed	:	yes
No. in directive	:	
Remark	:	Kenn-Nr. 3 (entzundliche Flussigkeit); Kenn-Nr. 4c (Stoffe und Zubereitungen, die als "giftig" eingestuft sind)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

31.01.1997 (6)

1.14.3 AIR POLLUTION

Classified by	:	TA-Luft (DE)
Labelled by	:	
Number	:	3.1.7 (organic substances)
Class of danger	:	II
Remark	:	Selbsteinstufung
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

21.01.1997 (7) (8) (1)

Classified by	:	other: Hoechst AG
Labelled by	:	other: Hoechst AG
Number	:	3.1.7 (organic substances)
Class of danger	:	II
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

26.08.1993 (9)

1.15 ADDITIONAL REMARKS

Remark : - Reglemente au titre du transport:
classe : 6
N? ONU : 1181
Etiquetage : 6 POISON + 3 LIQUIDE INFLAMMABLE
Groupe d'emballage : II

- Conditionnement : vrac : citerne routiere
fut metal a outre interne polyethy_
lene.

- Pollution de l'eau.
Classification et etiquetage KBwS (DE).
Categorie de danger WGK : 2
Directive 67/548/CEE : non classe pour l'environnement aquatique.

Source : Rhone-Poulenc Chimie Courbevoie Cedex
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

25.05.1994

1.16 LAST LITERATURE SEARCH

1.17 REVIEWS

1.18 LISTINGS E.G. CHEMICAL INVENTORIES

2.1 MELTING POINT

Value : = -26.6 ° C
Remark : Data are measured.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.2002 (10)

Value : ca. -26 ° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (3) (4)

Value : ca. -26 ° C
Remark : Erstarrungspunkt
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

2.2 BOILING POINT

Value : 142 - 145 ° C at 1013 hPa
Decomposition :
Method : other: DIN 53171, ISO 918-1983
Year :
GLP :
Test substance :
Remark : min. 95 % V/V
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (3) (4)

Value : 142 - 145 ° C at 1013 hPa
Decomposition :
Method : other: DIN 53171, ISO 918-1983
Year :
GLP :
Test substance :
Remark : min. 95 % V/V
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

Value : = 144.2 ° C at

Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (11)

2.3 DENSITY

Type : density
Value : 1.15 - 1.155 g/cm3 at 20° C
Method : other: DIN 51751, ASTM D 1298-90
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (3) (4)

Type : density
Value : 1.15 - 1.155 g/cm3 at 20° C
Method : other: DIN 51751, ASTM D 1298-90
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

Type : density
Value : = 1.1585 g/cm3 at 20° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (11)

Type : density
Value : = 1.159 g/cm3 at 20° C
Remark : Data are measured.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.2002 (10)

2.3.1 GRANULOMETRY

2.4 VAPOUR PRESSURE

Value : = 6.49 hPa at 25° C
Decomposition :
Method
Year : 1999
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Source : The Dow Chemical Company.
10.12.2002 (12)

Value : = 4.5 hPa at 20° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (3) (4)

Value : = 4.5 hPa at 20° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

Value : = 4.8 hPa at 20° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (11)

Value : = 8.8 hPa at 30° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (11)

Value : = 13.3 hPa at 37.5° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (10)

2.5 PARTITION COEFFICIENT

Log pow : = .94 at 25° C
Method
Year : 1995
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Source : The Dow Chemical Company.
10.12.2002 (13)

Log pow : = 1.12 at ° C
Method other (calculated): EPIWIN V1.0, Syracuse Research Corporation, N.Y. 1994
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
14.12.1995 (14)

Log pow : = 1.13 at ° C
Method other (calculated): Leo, Hansch: CLOGP3, Release 3.42, Pomona College, Clermont CA
Year : 1986
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (15)

Log pow : = 1.13 at ° C
Method other (calculated): Leo, Hansch: CLOGP3, Release 3.42, Pomona College, Clermont CA
Year : 1986
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
26.09.1994 (16)

2.6.1 WATER SOLUBILITY

Value : = 20 g/l at 19.8 ° C
Qualitative :
Pka : at 25 ° C
PH : at and ° C
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (3) (17)

Value : = 20 g/l at 19.8 ° C

Qualitative :
Pka : at 25 ° C
PH : at and ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1) (17)

2.6.2 SURFACE TENSION

2.7 FLASH POINT

Value : = 53 ° C
Type : closed cup
Method : other: DIN 51758
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (3) (4)

Value : = 53 ° C
Type : closed cup
Method : other: DIN 51758
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

2.8 AUTO FLAMMABILITY

Value : = 452 ° C at
Method : other: DIN 51794, ASTM E 659-89
Year :
GLP :
Test substance :
Remark : Zundtemperatur
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

2.9 FLAMMABILITY

Result : flammable
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

21.01.1997 (1)

2.10 EXPLOSIVE PROPERTIES

Result : other
Remark : Untere Explosionsgrenze (in Luft bei 1013mbar): 2,6 Vol.-%
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

2.11 OXIDIZING PROPERTIES

2.12 ADDITIONAL REMARKS

Remark : Dynamische Viskositaet bei 20 Grad C: 1.27 mPas (Methode: DIN 51562, ASTM D 445-88)
Zuendtemperatur: 452 Grad C (Methode: DIN 51794, ASTM E 659-89)
Untere Explosionsgrenze (in Luft bei 1013 mbar): 2.6 Vol-%
Gefaehrliche Zersetzungsprodukte: Chlorwasserstoff, Monochloressigsaeure
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
10.12.1993 (18) (3)

Remark : Viskositat (dynamisch) bei 20 ?C: 1.27 mPa*s (Methode: DIN 51562, ASTM D 445-88)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

Remark : Gefahrliche Zersetzungsprodukte: Chlorwasserstoff (HCl), Monochloressigsaure
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
21.01.1997 (8) (1)

3.1.1 PHOTODEGRADATION

Type : air
Light source :
Light spect. : nm
Rel. intensity : based on Intensity of Sunlight
Indirect photolysis
Sensitizer : OH
Conc. of sens. : 500000 molecule/cm3
Rate constant : = .0000000000010238 cm3/(molecule*sec)
Degradation : = 50 % after 15.7 day
Deg. Product :
Method : other (calculated): EPIWIN V1.0, Syracuse Research Corporation, N.Y. 1994
Year :
GLP :
Test substance : as prescribed by 1.1 - 1.4
Remark : No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (14)

Type : air
Light source :
Light spect. : nm
Rel. intensity : based on Intensity of Sunlight
Indirect photolysis
Sensitizer : OH
Conc. of sens. : 500000 molecule/cm3
Rate constant : = .00000000000144 cm3/(molecule*sec)
Degradation : = 50 % after 11.1 day
Deg. Product :
Method : other (calculated): Atkinson
Year : 1988
GLP :
Test substance : as prescribed by 1.1 - 1.4
Remark : No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (19)

3.1.2 STABILITY IN WATER

Type : abiotic
t1/2 pH4 : at degree C
t1/2 pH7 : = 9.1 day at 25 degree C
t1/2 pH9 : at degree C
t1/2 pH 8 : = 21.8 hour(s) at 25 degree C
Deg. Product :
Method : other: EPIWIN V1.0, Syracuse Research Corporation, N.Y. 1994
Year :

GLP :
Test substance :
Remark : No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (14)

3.1.3 STABILITY IN SOIL

3.2 MONITORING DATA

3.3.1 TRANSPORT BETWEEN ENVIRONMENTAL COMPARTMENTS

Type : fugacity model level III
Media : other: mathematical modeling
Air (level I) : 45.1
Water (level I) : 54.5
Soil (level I) : .42
Biota (level II / III) : 0
Soil (level II / III) : 2.2
Method : other: Mackay Level I/III fugacity modeling
Year : 2001
Source : The Dow Chemical Company
Test condition : Required Input Values for Level I/III Modeling of Ethyl Chloroacetate

Property	Value
Chemical Type	1
Molecular Mass (g/mol)	122.55
Water Solubility (g/m3)	19400
Vapor Pressure (Pa)	649
Melting Point (0C)	-23
Estimated Henry's Law Constant (H) (Pa m3/mol) = (J/mol)	4.1
Kaw Air-Water Partition Coefficient	1.66E-3
Log Kow Octanol-Water Partition Coefficient	0.94
Temperature (0C)	25
Amount of Chemical input to the System (kg)	100,000

Reliability : (1) valid without restriction
17.12.2001 (20)

Type : adsorption
Media : water - soil
Air (level I) :
Water (level I) :
Soil (level I) :
Biota (level II / III) :
Soil (level II / III) :
Method : other: EPIWIN V1.0, Syracuse Research Corporation, N.Y. 1994
Year :
Result : Koc (berechnet): 11.8
Source : Hoechst AG Frankfurt/Main

Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (1) valid without restriction

17.12.2001 (14)

Type : volatility
Media : water - air
Air (level I) :
Water (level I) :
Soil (level I) :
Biota (level II / III) :
Soil (level II / III) :
Method : other: EPIWIN V1.0, Syracuse Research Corporation, N.Y. 1994
Year :
Result : Henry Programm Results:

Bond Estimation Method: 8.20E-005 atm-m3/mole
Group Estimation Method: 4.77E-005 atm-m3/mole

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (1) valid without restriction

30.08.2001 (14)

17.12.2001

3.3.2 DISTRIBUTION

3.4 MODE OF DEGRADATION IN ACTUAL USE

3.5 BIODEGRADATION

Type : aerobic
Inoculum : activated sludge, domestic, non-adapted
Concentration : 83.3mg/l related to Test substance
related to
Contact time :
Degradation : = 75 % after 28 day
Result : readily biodegradable
Kinetic of test substance : 3 day = 22 %

8 day = 60 %
14 day = 70 %
21 day = 73 %
%

Deg. Product :
Method : OECD Guide-line 301 F "Ready Biodegradability: Manometric Respirometry Test"
Year : 1996
GLP : yes
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (1) valid without restriction
Guideline-Studie

17.11.2000 (21)

Type : aerobic
Inoculum : activated sludge, industrial, non-adapted
Concentration : 1040mg/l related to Test substance
related to
Contact time :
Degradation : = 93 % after 13 day
Result :
Kinetic of test substance : 3 hour(s) < 10 **%**
%
3 day < 10 **%**
6 day = 40 **%**
8 day = 61 **%**
Deg. Product :
Method : OECD Guide-line 302 B "Inherent biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Abbau durch nichtbiologische Vorgaenge: ca. 30 %
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (22)

Type : aerobic
Inoculum : activated sludge, industrial, non-adapted
Concentration : 520mg/l related to Test substance
related to
Contact time :
Degradation : = 93 % after 8 day
Result :
Kinetic of test substance : 3 hour(s) < 10 **%**
%
3 day = 11 **%**
6 day = 83 **%**
%
Deg. Product :
Method : OECD Guide-line 302 B "Inherent biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Abbau durch nichtbiologische Vorgaenge: ca. 30 %
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (22)

Type : aerobic
Inoculum : activated sludge, industrial, non-adapted
Concentration : 1040mg/l related to Test substance
related to
Contact time :

Degradation : = 93 % after 13 day
Result :
Kinetic of test substance : 3 hour(s) < 10 **%**
%
3 day < 10 **%**
6 day = 40 **%**
8 day = 61 **%**
Deg. Product :
Method : OECD Guide-line 302 B "Inherent biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Abbau durch nichtbiologische Vorgange: ca. 30 %
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (23)

Type : aerobic
Inoculum : activated sludge, industrial, non-adapted
Concentration : 520mg/l related to Test substance
related to
Contact time :
Degradation : = 93 % after 8 day
Result :
Kinetic of test substance : 3 hour(s) < 10 **%**
%
3 day = 11 **%**
6 day = 83 **%**
%
Deg. Product :
Method : OECD Guide-line 302 B "Inherent biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Abbau durch nichtbiologische Vorgange: ca. 30 %
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (23)

Type : aerobic
Inoculum : activated sludge, industrial, non-adapted
Contact time :
Degradation : > 95 % after 15 day
Result :
Kinetic of test substance : 5 day = 15 **%**
10 day = 82 **%**
%
%
%
Deg. Product :
Method : OECD Guide-line 302 B "Inherent biodegradability: Modified Zahn-Wellens Test"
Year : 1979

GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Abbau durch nichtbiologische Vorgaenge: <10 %
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (24)

Type : aerobic
Inoculum : activated sludge, industrial, non-adapted
Contact time :
Degradation : > 95 % after 15 day
Result :
Kinetic of test substance : 5 day = 15 **%**
10 day = 82 **%**
%
%
%
Deg. Product :
Method : OECD Guide-line 302 B "Inherent biodegradability: Modified Zahn-Wellens Test"
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Abbau durch nichtbiologische Vorgange: <10 %
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (25)

3.6 BOD5, COD OR BOD5/COD RATIO

3.7 BIOACCUMULATION

3.8 ADDITIONAL REMARKS

4.1 ACUTE/PROLONGED TOXICITY TO FISH

Type	:	static
Species	:	Brachydanio rerio (Fish, fresh water)
Exposure period	:	96 hour(s)
Unit	:	mg/l
Analytical monitoring	:	no
LC0	:	= 1
LC50	:	= 1.48
LC100	:	= 2.2
Method	:	OECD Guide-line 203 "Fish, Acute Toxicity Test"
Year	:	1989
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	No further information available.
Source	:	Hoechst AG Frankfurt 80 Rhone-Poulenc Chimie Courbevoie Cedex Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability	:	(2) valid with restrictions

30.08.2001 (26)

Type	:	static
Species	:	Brachydanio rerio (Fish, fresh water)
Exposure period	:	96 hour(s)
Unit	:	mg/l
Analytical monitoring	:	no
LC0	:	= 1
LC50	:	= 1.48
LC100	:	= 2.2
Method	:	OECD Guide-line 203 "Fish, Acute Toxicity Test"
Year	:	1989
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	No further information available.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability	:	(2) valid with restrictions

30.08.2001 (27)

4.2 ACUTE TOXICITY TO AQUATIC INVERTEBRATES

Type	:	
Species	:	Daphnia magna (Crustacea)
Exposure period	:	24 hour(s)
Unit	:	mg/l
Analytical monitoring	:	no data
EC0	:	= 1.9
EC50	:	= 3.3
EC100	:	= 7.4
Method	:	other: DIN 38412 Teil 11
Year	:	
GLP	:	no data
Test substance	:	no data
Source	:	Hoechst AG Frankfurt 80

Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (2) valid with restrictions
30.08.2001 (28)

4.3 TOXICITY TO AQUATIC PLANTS E.G. ALGAE

4.4 TOXICITY TO MICROORGANISMS E.G. BACTERIA

Type : aquatic
Species : anaerobic bact. from a domestic water treatment plant
Exposure period : 24 hour(s)
Unit : mg/l
Analytical monitoring : no
SG : 100 - 1000
Method : ETAD Fermentation tube method "Determination of damage to effluent bacteria by the Fermentation Tube Method"
Year : 1984
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : No further information available.
SG = Schaedlichkeitsgrenze
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (24) (29)

Type : aquatic
Species : anaerobic bact. from a domestic water treatment plant
Exposure period : 24 hour(s)
Unit : mg/l
Analytical monitoring : no
SG : 100 - 1000
Method : ETAD Fermentation tube method "Determination of damage to effluent bacteria by the Fermentation Tube Method"
Year : 1984
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : No further information available.
SG = Schadlichkeitsgrenze
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (25) (30)

4.5.1 CHRONIC TOXICITY TO FISH

4.5.2 CHRONIC TOXICITY TO AQUATIC INVERTEBRATES

4.6.1 TOXICITY TO SOIL DWELLING ORGANISMS

4.6.2 TOXICITY TO TERRESTRIAL PLANTS

Species : other terrestrial plant
Endpoint : growth
Exposure period : 14 day
Unit :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : No further information available.
Wirkung: Gegenueber verschiedenen Pflanzenarten nach
Bespruehung des Pflanzsubstrates mit Testloesung:
Sprossfrischgewicht (in % der Kontrolle) nach 14taegiger
Inkubation bei 23 +/- Grad C; FID-Analyse:

Konzentration (mg/m2)	500	1000
Weisser Senf (Sinapis alba)	125 %	120 %
Raygras (Lolium multiflorum)	83 %	96 %
Klebkraut (Galium aparine)	100 %	70 %
Mais (Zea mays)	112 %	104 %
Hafer (vermutlich Avena sativa)	104 %	90 %

Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (3) invalid
30.08.2001 (31)

Species : other terrestrial plant
Endpoint : growth
Exposure period : 14 day
Unit :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : Wirkung: Gegenuber verschiedenen Pflanzenarten nach
Bespruhung des Pflanzsubstrates mit Testlosung:
Sprossfrischgewicht (in % der Kontrolle) nach 14tagiger
Inkubation bei 23 +/- Grad C; FID-Analyse:
Inkubation bei 23 +/- Grad C; FID-Analyse:

Konzentration (mg/m2)	500	1000
Weisser Senf (Sinapis alba)	125 %	120 %
Raygras (Lolium multiflorum)	83 %	96 %
Klebkraut (Galium aparine)	100 %	70 %
Mais (Zea mays)	112 %	104 %
Hafer (vermutlich Avena sativa)	104 %	90 %

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (3) invalid

30.08.2001 (31)

4.6.3 TOXICITY TO OTHER NON-MAMM. TERRESTRIAL SPECIES

4.7 BIOLOGICAL EFFECTS MONITORING

4.8 BIOTRANSFORMATION AND KINETICS

4.9 ADDITIONAL REMARKS

5.1.1 ACUTE ORAL TOXICITY

Type : LD50
Species : rat
Strain : no data
Sex : male
Number of animals : 3
Vehicle : other: corn oil
Value : ca. 250 mg/kg bw
Method : other
Year : 1974
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Method : Young adult male rats were fasted overnight. They were administered the material as a solution in corn oil at a dose volume of 5 ml/kg bw at dose levels of 15.8, 31.6, 63, 126, 252, 500, and 1000 mg/kg bw. Animals were observed closely for two weeks, then submitted for pathological examination. All animals which died prior to scheduled necropsy were also submitted for pathological examination. Body weights were recorded on the day of treatment (Study Day 0), and Study Days 1, 8, and 15.
Study conducted in accordance with generally accepted scientific principles.
GLP not compulsory at time study was performed.
Source : The Dow Chemical Company.
Reliability : (2) valid with restrictions
30.08.2001 (32)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 180 mg/kg bw
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : female
No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (33)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 50 mg/kg bw
Method : other: keine Daten
Year :

GLP : no data
Test substance : no data
Remark : No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (34)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 180 mg/kg bw
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : no data
Remark : Female
No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (35)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 235 mg/kg bw
Method : other: keine Angaben
Year : 1986
GLP : no data
Test substance : no data
Remark : No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (36)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 350 mg/kg bw
Method : other: keine Angaben
Year : 1986
GLP : no data
Test substance : no data
Remark : No further information available.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (3) invalid
30.08.2001 (36)

5.1.2 ACUTE INHALATION TOXICITY

Type : LC50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time : 4 hour(s)
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : No further information available.
Wert: ca. 3.33 ml/m3
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (37)

Type : LC50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time : 4 hour(s)
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : no data
Remark : No further information available.
Result : LC50 inh. = 2 mL/h/0.6 m? (Letalitat: 6/12 Ratten)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (38)

5.1.3 ACUTE DERMAL TOXICITY

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 161 mg/kg bw
Method : other: Interne Richtlinie der Hoechst AG

Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Female
No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (39)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 161 mg/kg bw
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : no data
Remark : Female
No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (40)

Type : LD50
Species : rabbit
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 230 mg/kg bw
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (41)

Type : LD50
Species : rabbit
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 335 mg/kg bw
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979

GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (42)

Type : LD50
Species : rabbit
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 335 mg/kg bw
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : no data
Remark : No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (43)

Type : LD50
Species : rabbit
Strain : New Zealand white
Sex : female
Number of animals :
Vehicle : other: none used
Value : = 255 mg/kg bw
Method : other
Year : 1973
GLP : no data
Test substance : other TS
Method : Female albino New Zealand White rabbits weighing approximately 5 pounds were used as the experimental animal. All rabbits were clipped as closely as possible with an Oster clipper having surgical blades and a vacuum attachment. The back of the rabbits and the sides down to about half way to the stomach area were clipped from the saddle area of the shoulders to the top of the rear leg area.
The animals were individually weighed to determine the proper dose volume. The measured volume of the liquid material was then applied undiluted to the back of the rabbit and was divided as equally as possible between the two sides of the back. If the volume was sufficiently great, the dose was kept in place by applying 8-ply gauze patches over the liquid on each side of the back. A patch of latex rubber dental dam or vinyl plastic, whichever was most compatible with the compound being tested, was then applied over the entire back are where clipped, and elastoplast tape was used to wrap the entire midsection of the rabbit to keep the gauze in place. Specially designed rabbit restraining harnesses wree fitted to each rabbit at the time of treatment. These harnesses restricted

undesirable movement of the rabbits, i.e., prevented them from chewing on the taped area. The harnesses did, however, allow the rabbits complete freedom to eat and drink during the 24-hour restraining period.
The test compound remained in contact with the rabbit's skin for 24 hours. AFter this period of time, the gauze tape and harness were removed. The rabbits were observed for signs of toxicity or death during the 14 days immediately following dosing.

Because seven different materials were tested in this study, no data was given for the dose levels used to test each material.

Test substance : Lot No. 5635, from Matheson, Coleman, & Bell. Boiling point tested to be 142-144 degrees C.

Reliability : (2) valid with restrictions

30.08.2001 (44)

5.1.4 ACUTE TOXICITY, OTHER ROUTES

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 250 mg/kg bw
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (2) valid with restrictions

30.08.2001 (45)

5.2.1 SKIN IRRITATION

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : moderately irritating
EC classification :
Method : other: Patch-Test, okklusiv
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Einwirkzeit: 24 h; 2 von 6 Tieren gestorben

No further information available.

Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (2) valid with restrictions
30.08.2001 (46)

Species : rabbit
Concentration : 100 %
Exposure : Occlusive
Exposure time : 24 hour(s)
Number of animals : 1
PDII :
Result : moderately irritating
EC classification :
Method : other
Year :
GLP : no data
Test substance : no data
Method : A male rabbit was prepared by shaving the hair from the entire abdomen with a straight razor and barber soap. The animal was then rested for several days to allow any abrasions to heal completely and to be sure skin was suitable for use. Ten applications (unoccluded) were made to the ear over a period of 14 days. Two sites on the abdomen were used for applications: one intact, the other cross-hatched with a sharp hypodermic needle to penetrate the stratum corneum but not to produce more than a trace of bleeding. Ten applications were made to the intact abdominal site over a period of 14 days. Three consecutive daily applications were made to the abraded site. Both abdominal sites were covered with 1X1 cotton pads and held place with a single cotton cloth taped to remaining body hair. Applications were discontinued upon production of a substantial skin burn, or if the animal died.
Result : The test was discontinued after 6 applications to the ear and intact abdomen, when it was found dead. Three applications to the abraded abdomen had also been completed.
Reliability : (2) valid with restrictions
30.08.2001 (32)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : irritating
EC classification : irritating
Method : OECD Guide-line 404 "Acute Dermal Irritation/Corrosion"
Year : 1988
GLP : yes
Test substance : as prescribed by 1.1 - 1.4
Remark : Einwirkzeit: 4 h
No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (2) valid with restrictions
30.08.2001 (47)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : moderately irritating
EC classification :
Method : other: Patch-Test, okklusiv
Year : 1979
GLP : no
Test substance : no data
Remark : Einwirkzeit: 24 h
No further information available.
Result : Letalitat: 2/6 Kaninchen
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (48)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : irritating
EC classification : irritating
Method : OECD Guide-line 404 "Acute Dermal Irritation/Corrosion"
Year : 1988
GLP : yes
Test substance : as prescribed by 1.1 - 1.4
Remark : Einwirkzeit: 4 h
No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (49)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : moderately irritating
EC classification :
Method : other: keine Angaben
Year : 1979
GLP : no
Test substance : no data
Remark : No further information available.
Patch-Test, Einwirkzeit 24 Stunden, 100 mg/kg KG
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions

30.08.2001 (50)

Species : rabbit
Concentration : 100 %
Exposure : Occlusive
Exposure time : 4 hour(s)
Number of animals : 6
PDII :
Result : moderately irritating
EC classification :
Method : other
Year : 1972
GLP : no data
Test substance : no data
Method : Six New Zealand White female rabbits were prepared by clipping the hair from an area approximately 4 x 4 in. in size on the back with electric clippers 24 hours before application of the material to be evaluated. The rabbits were restrained in a stock, and the material was applied under a 1 x 1 in. gauze pad held in place with adhesive tape to two sites, one abraded and one intact. For the abraded site, the skin was cross-hatched with a hypodermic needle so as to pentrate the stratum corneum but not to produce more than a trace of bleeding. Each rabbit was loosely covered with a plastic cuff. AT the end of four hours, the gauze patches were removed and the application sites graded for erythema, edema, and necrosis. The application sites were washed with soap and water and held for additional readings at 24 and 48 hours, if necessary.
Source : The Dow Chemical Company
Reliability : (2) valid with restrictions
30.08.2001 (51)

Species : human
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result :
EC classification :
Method : other: Patch-Test
Year :
GLP : no data
Test substance : no data
Remark : Positive Reaktion bei einem Patienten
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (52)

5.2.2 EYE IRRITATION

Species : rabbit
Concentration : undiluted
Dose : 2 other: drops
Exposure Time : unspecified

Comment :
Number of animals : 1
Result : highly irritating
EC classification :
Method : other
Year : 1973
GLP : no data
Test substance : no data
Method : Both eyes of a male New Zealand White rabbit were stained with 5% fluorescein dye and examined for evidence of injury or alterations. The rabbit was then allowed to rest for 24 hours before test.

Two drops of the material were introduced into the right eye. The eye was washed within 30 seconds for 2 minutes in a flowing stream of tepid water. Two drops of material were introduced in a similar fashion to the left eye, but this eye was left unwashed.

Immmediately after instillation into each eye, the rabbit was examined for signs of discomfort. Within 2-3 minutes after the unwashed eye was treated, each eye was observed for conjunctival and corneal response. Similar observations were made on both eyes at 1 hour, 24 hours, 48 hours, and 6-8 days post-treatment. Examinations were conducted both with and without fluorescein dye.
Result : Rabbit had very severe conjunctival irritation and moderate corneal and iridal effects in the unwashed eye after 48 hours, while the washed eye appeared normal. The test was terminated after 7 days, when the unwashed eye still had significant conjunctival irritation and moderate corneal and slight iridal effects.
Reliability : (2) valid with restrictions
30.08.2001 (32)

Species : rabbit
Concentration :
Dose :
Exposure Time :
Comment :
Number of animals :
Result : highly irritating
EC classification : risk of serious damage to eyes
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Einwirkzeit: 24 h
No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (46)

Species : rabbit
Concentration :
Dose :
Exposure Time :
Comment :

Number of animals :
Result : highly corrosive
EC classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (53)

Species : rabbit
Concentration :
Dose :
Exposure Time :
Comment :
Number of animals :
Result : highly irritating
EC classification : risk of serious damage to eyes
Method : other: Interne Richtlinie der Hoechst AG
Year : 1979
GLP : no
Test substance : no data
Remark : Einwirkzeit: 24 h
No further information available.
Result : R41
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (48)

Species : rabbit
Concentration :
Dose :
Exposure Time :
Comment :
Number of animals :
Result : highly irritating
EC classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (53)

Species : human
Concentration :
Dose :
Exposure Time :
Comment :
Number of animals :
Result : highly corrosive
EC classification :

Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (53)

5.3 SENSITIZATION

Type : Guinea pig maximization test
Species : guinea pig
Number of animals :
Vehicle :
Result : not sensitizing
Classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 5/20 Tiere = 25 % zeigten eine positive Reaktion
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (52)

Type : Guinea pig maximization test
Species : guinea pig
Number of animals :
Vehicle :
Result : sensitizing
Classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 20/20 Tiere zeigten eine positive Reaktion
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (54)

Type : Guinea pig maximization test
Species : guinea pig
Number of animals :
Vehicle :
Result : sensitizing
Classification :
Method : other: keine Daten
Year :

GLP : no data
Test substance : no data
Remark : 15/19 Tiere zeigten eine positive Reaktion
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (55)

Type : Guinea pig maximization test
Species : guinea pig
Number of animals :
Vehicle :
Result : sensitizing
Classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 15/19 Tiere zeigten eine positive Reaktion
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (55)

Type : Guinea pig maximization test
Species : guinea pig
Number of animals :
Vehicle :
Result : not sensitizing
Classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 5/20 Tiere = 25 % zeigten eine positive Reaktion
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Test substance : 5 % Chloressigsaureethylester in 50 % Ethanol
Reliability : (2) valid with restrictions
30.08.2001 (52)

Type : Guinea pig maximization test
Species : guinea pig
Number of animals :
Vehicle :
Result : sensitizing
Classification :
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 20/20 Tiere zeigten eine positive Reaktion
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Test substance : 80% Monochloressigsaure in 50 % Ethanol
Reliability : (1) valid without restriction
30.08.2001 (54)

Type	:	Guinea pig maximization test
Species	:	guinea pig
Number of animals	:	
Vehicle	:	
Result	:	sensitizing
Classification	:	
Method	:	other: keine Daten
Year	:	
GLP	:	no data
Test substance	:	no data
Remark	:	15/19 Tiere zeigten eine positive Reaktion
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Test substance	:	5 % Chloressigsaureethylester in 50 % Ethanol
Reliability	:	(1) valid without restriction

30.08.2001 (55)

5.4 REPEATED DOSE TOXICITY

5.5 GENETIC TOXICITY 'IN VITRO'

Type	:	Ames test
System of testing	:	Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537, TA 1538
Concentration	:	
Cycotoxic conc.	:	
Metabolic activation	:	with and without
Result	:	negative
Method	:	OECD Guide-line 471 "Genetic Toxicology: Salmonella thyphimurium Reverse Mutation Assay"
Year	:	1983
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	No further information available.
Source	:	Hoechst AG Frankfurt 80 Rhone-Poulenc Chimie Courbevoie Cedex Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability	:	(1) valid without restriction

30.08.2001 (56)

Type	:	Ames test
System of testing	:	Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537, TA 1538
Concentration	:	
Cycotoxic conc.	:	
Metabolic activation	:	with and without
Result	:	negative
Method	:	OECD Guide-line 471 "Genetic Toxicology: Salmonella thyphimurium Reverse Mutation Assay"
Year	:	1992
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	No further information available.
Source	:	Hoechst AG Frankfurt 80 Rhone-Poulenc Chimie Courbevoie Cedex Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main

EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (57)

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537, TA 1538
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 471 "Genetic Toxicology: Salmonella thyphimurium Reverse Mutation Assay"
Year : 1983
GLP : no
Test substance : no data
Remark : No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (58)

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537, TA 1538
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 471 "Genetic Toxicology: Salmonella thyphimurium Reverse Mutation Assay"
Year : 1992
GLP : yes
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (57)

Type : Ames test
System of testing : Escherichia coli WP2uvrA
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 472 "Genetic Toxicology: Escherichia coli Reverse Mutation Assay"
Year : 1983
GLP : yes
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (1) valid without restriction
30.08.2001 (56)

Type : Ames test
System of testing : Escherichia coli WP2uvrA
Concentration :
Cycotoxic conc. :

Metabolic activation : with and without
Result : negative
Method : OECD Guide-line 472 "Genetic Toxicology: Escherichia coli Reverse Mutation Assay"
Year : 1983
GLP : no
Test substance : no data
Remark : No further information available.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (58)

Type : Ames test
System of testing : Salmonella typh. TA102, TA2638, E. coli WP2/pKM101 und WP2uvrA/pK101
Concentration : 0, 78, 156, 313, 500, 625, 1000, 1250, 1500, 2000, 2500, 5000 ug/plate
Cycotoxic conc. : TA102: 1500; TA2638: 1500; none noted for others
Metabolic activation : with and without
Result : negative
Method : other: keine Angaben
Year : 1996
GLP : no data
Test substance : no data
Method : Plate incorporation method with or without metabolic activation, essentially as described by Maron and Ames, 1983 (Mutation Research 113: 173-215). Positive controls were included in each experiment. The results were analyzed for statistical significance using a linear regression test recommended by UKEMS and carried out at the 1% significance level. Doses with observed cytotoxicity, which was judged by a toxicity to the background lawn and/or a reduction in the number of revertent colonies, were excluded from the statistical analysis.
Remark : No further information available.
Result : in der Publikation wird von einem von zwei Prufinstituten mit E. coli WP2uvrA/pKM101 ein positives Ergebnis angegeben, die Revertantenzahl ist jedoch nicht um das doppelte erhoht.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (59)

Type : Ames test
System of testing : Salmonella typhimurium TA 100
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

Reliability : (2) valid with restrictions
30.08.2001 (60)

Type : other: Genmutationstest
System of testing : Saccharomyces cerevisiae D7 bzw. XV185-14C
Concentration : Not specified
Cycotoxic conc. : Not specified
Metabolic activation : with and without
Result : negative
Method : other: keine Daten
Year : 1985
GLP : no data
Test substance : other TS
Method : Yeast strains D7 and XV185-14C were used for testing according to the method described by Von Borstel et al. (1981; Short-Term Tests for Chemical Carcinogens, Springer, NY, pp. 171-174) using exponential phase cultures for Trp+ gene convertants or for reversion of the histidine, homoserine, and tryptophan markers, respectively.
Remark : No further information available.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Test substance : Research grade material from Pfaltz and Bauer.
Reliability : (2) valid with restrictions
30.08.2001 (61)

5.6 GENETIC TOXICITY 'IN VIVO'

5.7 CARCINOGENITY

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : dermal
Exposure period : 580 Day
Frequency of treatment : 3 applications/week
Post. obs. period :
Doses : 0.2 mg/0.1 ml Acetone
Result : negative
Control group : yes, concurrent vehicle
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 50 mice/test group
Result : Nach der Applikation (durchschnittliche Ueberlebensdauer 552 Tage) keine Tumoren.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
The Dow Chemical Company

Reliability : (2) valid with restrictions
30.08.2001 (62)

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : dermal
Exposure period : 580 Tage
Frequency of treatment : 3mal/Woche
Post. obs. period :
Doses : 0, 2 mg/0.1 ml Aceton
Result :
Control group : yes, concurrent vehicle
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 50 Tiere/Gruppe
Result : Nach der Applikation (durchschnittliche Uberlebensdauer 552 Tage) keine Tumoren.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (62)

Species : mouse
Sex : male/female
Strain : other: A/St
Route of admin. : i.p.
Exposure period : 8 Wochen
Frequency of treatment : 3mal/Woche
Post. obs. period : 24 Wochen nach der ersten Applikation
Doses : 0, 0.25, 0.5, 1.0 mM/kg Kgw.
Result :
Control group : yes
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 10 Tiere/Geschlecht/Gruppe
Result : In der hoechsten Dosisgruppe in einem von zwei statistischen Tests signifikant erhoehte Inzidenz an Lungentumoren (0.6 Tumoren/Tier; Kontrolle: 0.19 Tumoren/Tier); Relevanz der Befunde aufgrund methodischer Maengel fraglich.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (63)

Species : mouse
Sex : male/female
Strain : other: A/St
Route of admin. : i.p.
Exposure period : 8 Wochen

Frequency of treatment : 3mal/Woche
Post. obs. period : 24 Wochen nach der ersten Applikation
Doses : 0, 0.25, 0.5, 1.0 mM/kg Kgw.
Result :
Control group : yes
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 10 Tiere/Geschlecht/Gruppe
No further information available.
Result : In der hochsten Dosisgruppe in einem von zwei statistischen Tests signifikant erhohte Inzidenz an Lungentumoren (0.6 Tumoren/Tier; Kontrolle: 0.19 Tumoren/Tier); Relevanz der Befunde aufgrund methodischer Mangel fraglich.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (63)

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : s.c.
Exposure period : 580 Tage
Frequency of treatment : 1mal/Woche
Post. obs. period :
Doses : 1 mg/0.05 ml Tricaprylin
Result :
Control group : yes, concurrent vehicle
Method : other: keine Daten
Year :
GLP : no data
Test substance : no data
Remark : 50 Tiere/Gruppe
Result : Nach der Applikation (durchschnittliche Ueberlebensdauer 471 Tage) trat bei einem Tier ein lokales Sarkom auf.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (62)

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : s.c.
Exposure period : 580 Tage
Frequency of treatment : 1mal/Woche
Post. obs. period :
Doses : 1 mg/0.05 ml Tricaprylin
Result :
Control group : yes, concurrent vehicle
Method : other: keine Daten
Year :
GLP : no data

Test substance : no data
Remark : 50 Tiere/Gruppe
Result : Nach der Applikation (durchschnittliche Uberlebensdauer 471 Tage) trat bei einem Tier ein lokales Sarkom auf.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (62)

5.8 TOXICITY TO REPRODUCTION

5.9 DEVELOPMENTAL TOXICITY/TERATOGENICITY

5.10 OTHER RELEVANT INFORMATION

Type : other
Remark : Durch Hydrolyse von Chloressigsaeureethylester entsteht Monochloressigsaeure. Auch bei dieser Verbindung haben sich in Kanzerogenitaetsstudien nach dermaler und subkutaner Applikation an der Maus sowie nach oraler Applikation (Schlundsondierung) an Maus und Ratte keine Hinweise auf eine kanzerogene Wirkung ergeben.
Source : Hoechst AG Frankfurt 80
Rhone-Poulenc Chimie Courbevoie Cedex
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (4) not assignable
30.08.2001

Type : other
Remark : Durch Hydrolyse von Chloressigsaureethylester entsteht Monochloressigsaure. Auch bei dieser Verbindung haben sich in Kanzerogenitatsstudien nach dermaler und subkutaner Applikation an der Maus sowie nach oraler Applikation (Schlundsondierung) an Maus und Ratte keine Hinweise auf eine kanzerogene Wirkung ergeben.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (4) not assignable
30.08.2001

Type : other
Remark : Tierversuche haben ergeben, da? Benetzung von nur 3 % der Hautoberflache todlich wirken kann.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (4) not assignable
30.08.2001 (64)

5.11 EXPERIENCE WITH HUMAN EXPOSURE

Memo : Patch-Test
Result : Positive Reaktion im Patch-Test bei einem Patienten.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (52)

Memo : Reizwirkung
Result : Starke Augenreizwirkung fur den Menschen.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)
Reliability : (2) valid with restrictions
30.08.2001 (53)

(1) Hoechst AG (1996): EG-Sicherheitsdatenblatt Monochloressigsaureethylester (24.07.1996)

(2) Bundesminister des Innern (1996): Gemeinsames Ministerialblatt Nr. 16, 47. Jahrgang, 332, Kenn-Nr. 1129 (29.04.1996)

(3) Hoechst AG (1992): Produktinformation Monochloressigsaure-ethylester der Abt. Marketing Chemikalien (22.12.1992)

(4) Hoechst AG (1992): Sicherheitsdatenblatt Monochloressigsaureethylester (16.12.1992)

(5) VCI (1991): WGK-Liste (13.02.1991)

(6) Storfallverordnung (1991): Bundesgesetzblatt, Teil 1, Nr. 54, Anhang II, 1897 (20.09.1991)

(7) Hoechst AG (1990): Einstufungsbegrundung TA-Luft der Abt. UCV (09.04.1990)

(8) Hoechst AG (1994): Produktinformation Monochloressigsaure-ethylester der Abt. Marketing Chemikalien (27.07.1994)

(9) Hoechst AG (1990): Einstufungsbegruendung TA-Luft der Abt. UCV (09.04.1990)

(10) Sax et al. (1979): Dangerous properties of industrial materials, 5th ed., Van Nostrand Reinhold Company, New York, 654

(11) Auer Technikum (1990): Ausgabe 12, Auergesellschaft mbH, Berlin, 320-325

(12) EPIWIN V3.04 Computer Program. William Meylan, 1996-1999.

(13) Hansch, et al., 1995, as referenced in EPIWIN V3.04 computer program. William Meylan, 1996-1999.

(14) Hoechst AG (1995): Berechnung der SU Umwelt/ Produktsicherheit (07.12.95)

(15) Hoechst AG (1991): Interne Mitteilung der Abt. Produktentwicklung Oekologie (07.05.1991)

(16) Hoechst AG (1991): Interne Mitteilung der Abt. Produktentwicklung Okologie (07.05.1991)

(17) Stephenson, Stuart (1986): J. Chem. Eng. Data 31, 56-70

(18) Gefahrstoffverordnung (1991): Anhang VI, 258 (25.09.1991)

(19) Hoechst AG (1990): Berechnung der Abt. UCV (09.04.1990)

(20) Use of Multimedia Environmental Fate Models to Evaluate the Persistence and Transport of Ethyl Chloroacetate. Unpublished data, The Dow Chemical Compnay.

(21) Hoechst AG (1996): Unveroffentlichte Untersuchung (95-0089-45)

(22) Hoechst AG (1986): Unveroeffentlichte Untersuchung (W 86-442)

(23) Hoechst AG (1986): Unveroffentlichte Untersuchung (W 86-442)

(24) Hoechst AG (1979): Unveroeffentlichte Untersuchung (15.11.1979)

(25) Hoechst AG (1979): Unveroffentlichte Untersuchung (15.11.1979)

(26) Hoechst AG (1989): Unveroeffentlichte Untersuchung (89.0300)

(27) Hoechst AG (1989): Unveroffentlichte Untersuchung (89.0300)

(28) Kuehn et al. (1989): Water Res. 23, 495-499

(29) Hoechst AG (1984): Unveroeffentlichte Untersuchung (W 84-442)

(30) Hoechst AG (1984): Unveroffentlichte Untersuchung (W 84-442)

(31) Jablonkai, Dutka (1989): Brighton Crop Protection Conference - Weeds, 455-462

(32) Unpublished data, The Dow Chemical Company

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7.1 END POINT SUMMARY

7.2 HAZARD SUMMARY

7.3 RISK ASSESSMENT

Remark : Es liegt eine Studie zur "Bewertung der Gefahrdung von Mensch und Umwelt" zu dieser Substanz vor (Herausgeber: Umweltbundesamt, UBA-Reihe Texte 38/95 (1995)).
Diese wurde nach dem Bewertungskonzept "Alte Stoffe" des Umweltbundesamtes (UBA-Reihe Texte 19/92 (1992)) erstellt und gegebenenfalls, wenn grundsatzlich Unterschiede bei der Bewertung bestanden, entsprechend TGD (Stand 1994) uberarbeitet.

Literatur:
Umweltbundesamt (1995): Texte 38/95, Bewertung der Gefahrdung von Mensch und Umwelt durch ausgewahlte Altstoffe, ISSN 0722-186X

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
EUROPEAN COMMISSION - European Chemicals Bureau Ispra (VA)

08.04.1997

201-16407B

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IUCLID

Data Set

Existing Chemical	:	ID: 79-11-8
CAS No.	:	79-11-8
Generic name	:	Chloroacetic acid

Producer Related Part

Company	:	The Dow Chemical Company
Creation date	:	24.01.2002

Substance Related Part

Company	:	The Dow Chemical Company
Creation date	:	12.10.2002
Memo	:	
Printing date	:	12.10.2002
Revision date	:	
Date of last Update	:	12.10.2002
Number of Pages	:	3
Chapter (profile)	:	
Reliability (profile)	:	
Flags (profile)	:	???

1.0.1 OECD AND COMPANY INFORMATION

Type	:	cooperating company
Name	:	The Dow Chemical Company
Partner	:	
Date	:	
Street	:	2020 Dow Center
Town	:	48674 Midland, Michigan
Country	:	United States
Phone	:	
Telefax	:	
Telex	:	
Cedex	:	

25.01.2002

1.0.2 LOCATION OF PRODUCTION SITE

1.0.3 IDENTITY OF RECIPIENTS

1.1 GENERAL SUBSTANCE INFORMATION

1.1.0 DETAILS ON TEMPLATE

1.1.1 SPECTRA

1.2 SYNONYMS

1.3 IMPURITIES

1.4 ADDITIVES

1.5 QUANTITY

1.6.1 LABELLING

1.6.2 CLASSIFICATION

1.7 USE PATTERN

1.7.1 TECHNOLOGY PRODUCTION/USE

1.8 OCCUPATIONAL EXPOSURE LIMIT VALUES

1.9 SOURCE OF EXPOSURE

Remark : Akzo manufactures MCA at its site in Hengelo (NL) by chlorination of acetic acid.
Exposure could occur at the workplace during transport, or during discharge at the customer's site. Worker exposure measured in Hengelo is below 1 mg/m^3 (8 hr-TWA, Weel guide/USA)

Source : Akzo Nobel Chemicals b.v. Amersfoort

Remark : Substitution reaction of acetic acid by chlorine.
Catalyst : acetic anhydride
HCl obtained as by-product is used for production of 1,2-dichloroethane.
Continuous process. One production site.
Effluents to water treatment plants.

Source : Atochem Paris la Defense

Remark : Reduce exposure to an absolute minimum by use of a closed circuit. If necessary, use localized aspiration. The substance is sold exclusively for industrial uses. The substance is handled only by trained operators and the handling is reduced to a minimum.

Source : LAMBERTI S.p.A ALBIZZATE (VA)

Source : Metsa-Serla Chemicals Oy Aanekoski

1.10.1 RECOMMENDATIONS/PRECAUTIONARY MEASURES

1.10.2 EMERGENCY MEASURES

1.11 PACKAGING

1.12 POSSIB. OF RENDERING SUBST. HARMLESS

1.13 STATEMENTS CONCERNING WASTE

1.14.1 WATER POLLUTION

Classified by : KBwS (DE)
Labelled by : KBwS (DE)
Class of danger : 2 (water polluting)
Country : Germany
Remark : Identification No. 227

Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main (2) (3)

Classified by	:	KBwS (DE)
Labelled by	:	
Class of danger	:	2 (water polluting)
Country	:	Germany
Remark	:	Identification No. 227 (Water Hazard Class - WGK)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main (4) (5)

1.14.2 MAJOR ACCIDENT HAZARDS

Legislation	:	Stoerfallverordnung [Major Accident Regulation] (DE)
Substance listed	:	yes
No. in directive	:	
Country	:	Germany
Remark	:	Identification No.. 4c (materials and preparations classified as „toxic“)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main (6)

Legislation	:	other: Stoerfallverordnung (DE)
Substance listed	:	no
No. in directive	:	
Country	:	Germany
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main (7)

1.14.3 AIR POLLUTION

Classified by	:	TA-Luft [TA Air] (DE)
Labelled by	:	TA-Luft (DE)
Number	:	3.1.7 (organic substances)
Class of danger	:	I
Country	:	Germany
Remark	:	Appendix E
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main (3) (8)

Classified by	:	TA-Luft (DE)
Labelled by	:	
Number	:	3.1.7 (organic substances)
Class of danger	:	I
Country	:	Germany
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main (9) (5)

1.15 ADDITIONAL REMARKS

Remark	:	Classified by German KBwS (Commission for Assessing Water-Polluting Materials) (Identification No. 227): WGK

(water pollution class) = 2 (water polluting)

Source : Akzo Nobel Chemicals b.v. Amersfoort

Remark : FDA: Monochloric acid is an indirect food additive for use

only as a component of adhesives
[21 CRF 175.105 (4/1/90)]

Source : Akzo Nobel Chemicals b.v. Amersfoort

Remark : The substance must be disposed of in accordance with current rules.

Hazardous merchandise from a transport standpoint, Class 6.1 - Un 1751

Source : LAMBERTI S.p.A ALBIZZATE (VA)

Source : EKA Nobel Skoghall AB Skoghall

Remark : Water pollution class 2

Source : BUNA GMBH Schkopau

Source : Metsa-Serla Chemicals Oy Aanekoski

1.16 LAST LITERATURE SEARCH

1.17 REVIEWS

1.18 LISTINGS E.G. CHEMICAL INVENTORIES

2.1 MELTING POINT

Value : < 18 ° C
Remark : Start
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Aqueous solution

(3)

Value : < 18 ° C
Remark : Start
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Aqueous solution
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Value : 61.5 - 62.3 ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Melt and flakes

(3)

Value : 61.5 - 62.3 ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Melt and flakes
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Value : = 62 ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(10)

Value : = 62 ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(11)

2.2 BOILING POINT

Value : < 18 ° C at 1013 hPa
Decomposition :
Method : other: DIN 53171 [DIN = German Industry Standard]
Year :
GLP :
Test substance :
Remark : Start
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Aqueous solution

(3)

Value : < 18 ° C at 1013 hPa
Decomposition :
Method : other: DIN 53171
Year :
GLP :
Test substance :
Remark : Start
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Aqueous solution
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Value : = 189 ° C at 1013 hPa
Decomposition :
Method : other: DIN 53171
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Melt and flakes

(3) (10)

Value : = 189 ° C at 1013 hPa
Decomposition :
Method : other: DIN 53171
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Melt and flakes
Reliability : (2) valid with restrictions
[Outline of data is available

(5) (11)

2.3 DENSITY

Type : density
Value : = 1.32 g/cm3 at 40° C
Method : other: DIN 51757
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Aqueous solution

(3)

Type : density
Value : = 1.32 g/cm3 at 40° C
Method : other: DIN 51757
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : Aqueous solution
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Type : relative density
Value : = 1.37 kg/m3 at 65° C
Method : other: DIN 51757
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Melt

(3)

Type : relative density
Value : = 1.37 kg/m3 at 65° C
Method : other: DIN 51757
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Melt
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Type : relative density
Value : = 1.58 g/cm3 at ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(12)

Type : relative density
Value : = 1.58 g/cm3 at ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(12)

Type : bulk density
Value : 750 - 850 kg/m3 at ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Flakes

(3) (10)

Type : bulk density
Value : 750 - 850 kg/m3 at ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Flakes
Reliability : (2) valid with restrictions
Outline of data is available

(5) (11)

2.3.1 GRANULOMETRY

2.4 VAPOUR PRESSURE

Value : ca. .2 hPa at 20° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Flakes

(3) (10)

Value : ca. .2 hPa at 20° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Flakes
Reliability : (2) valid with restrictions
Outline of data is available

(5) (11)

Value : = 1 hPa at 20° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(13)

Value : = 1 hPa at 20° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(13)

Value : = 10 hPa at 20° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Aqueous solution

(3)

Value : = 10 hPa at 20° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Aqueous solution
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Value : .087 hPa at 25° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(14)

Value : .087 hPa at 25° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(14)

Value : ca. 2 hPa at 50° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(10)

Value : ca. 2 hPa at 50° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(11)

Value : ca. 4.4 hPa at 65° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Melt

(3)

Value : ca. 4.4 hPa at 65° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Melt
Reliability : (2) valid with restrictions
Outline of data is available

(5)

Value : 43 hPa at 100° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(15)

Value : = 43 hPa at 100° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(15)

Value : 190 hPa at 140° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(15)

Value : 190 hPa at 140° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is availbale

(15)

Value : 400 hPa at 160° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(15)

Value : 400 hPa at 160° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(15)

2.5 PARTITION COEFFICIENT

Log pow : = -.51 at ° C
Method other (calculated): by Leo's fragment constant method
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(16)

Log pow : = -.51 at ° C
Method other (calculated): by Leo's fragment constant method
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Calculation method recognized

(16)

Log pow : = .2 at ° C
Method other (measured): method not stated
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(17)

Log pow : = .2 at ° C
Method other (measured): method not stated
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Study by a recognized institute in accordance with standard laboratory procedures

(17)

2.6.1 WATER SOLUBILITY

Value : = 3170 g/lLat 10 °C
Qualitative :
Pka : at 25 ° C
PH : at and ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(15)

Value : = 3170 g/L at 10 °C
Qualitative :
Pka : at 25 ° C
PH : at and ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Reliability : (2) valid with restrictions
Outline of data is available

(15)

Value : = 4210 g/l at 20 ° C
Qualitative :
Pka : at 25 ° C
PH : < 1 at 800 g/l and 20 ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Melt and flakes

(3) (10)

Value : = 4210 g/l at 20 ° C
Qualitative :
Pka : at 25 ° C
PH : < 1 at 800 g/l and 20 ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Melt and flakes
Reliability : (2) valid with restrictions
Outline of data is available

(5) (11)

Value : = 19000 g/l at 50 ° C
Qualitative :
Pka : at 25 ° C
PH : at and ° C
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(15)

Value : = 19000 g/l at 50 ° C
Qualitative :
Pka : at 25 ° C
PH : at and ° C
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(15)

2.6.2 SURFACE TENSION

2.7 FLASH POINT

Value : = 126 ° C
Type : closed cup
Method : other: DIN 51758
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(3) (10)

Value : = 126 ° C
Type : closed cup

Method : other: DIN 51758
Year :
GLP :
Test substance :
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Study in accordance with national standard procedure /standard method
(5) (11)

2.8 AUTO FLAMMABILITY

Value : = 460 ° C at
Method : other: DIN 51794
Year : 1982
GLP : no
Test substance :
Remark : Ignition temperature
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Study in accordance with national standard procedure/standard method
(18)

2.9 FLAMMABILITY

2.10 EXPLOSIVE PROPERTIES

Result : other: ability to undergo dust explosion
Method :
Year : 1997
GLP : no
Test substance :
Result : Monochloroacetic acid in the flake form delivered does not undergo dust explosion. Handling can generate a fine dust which when mixed with air at a high concentration is flammable. A dust explosion hazard during use does not exist even if a fine dust could accumulate in the filter unit. Because of the required high ignition energy, electric discharges do not cause ignition. It is also assumed that fine dust will interact with the moisture in the air to form a melt.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : The flakes are larger than 1 mm and in the form delivered do not undergo dust explosion. To assess the dust explosion hazard, the flakes were ground, and the powder was tested with the modified Harmann apparatus. Only when an energy-rich ignition source (incandescent spiral-wound filament) was used, flame formation was observed at high dust concentration.
Reliability : (1) valid without restriction
Study in accordance with national standard procedure/standard method
(19)

2.11 OXIDIZING PROPERTIES

Result : no oxidizing properties
Method : other: combustion test
Year : 1989
GLP : no
Test substance :
Result : Combustion test on material as delivered: combustion rating 1 (no combustion)
50 : 50 mix with diatomaceous earth: combustion rating 2 (short-lived flash, no spread)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(20)

2.12 ADDITIONAL REMARKS

Remark : Action on non-noble metals generates hydrogen.
Hazardous decomposition products: hydrogen chloride (HCl)
Hazardous reactions: with amines and alkalies (caustic solutions)
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(10)

Remark : pKa = 2.86
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(21)

Remark : Ignition temperature: 470 °C (method: DIN 51794)
Lower ignition limit: 8 vol. % at 1013 mbar
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(3) (10)

Remark : Action on non-noble metals generates hydrogen.
Hazardous decomposition products: hydrogen chloride (HCl)
Hazardous reactions: with amines and alkalies (caustic solutions)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Outline of data is available

(11)

Remark : pKa: 2.86
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Evaluation understandable and acceptable

(21)

Remark : Ignition temperature: 470 °C (method: DIN 51794)
Lower ignition limit: 8 vol-% at 1013 mbar
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Study in accordance with national standard procedure/standard method

(5) (11)

3.1.1 PHOTODEGRADATION

Type : air
Light source :
Light spect. : nm
Rel. intensity : based on itensity of sunlight
Indirect photolysis
Sensitizer : OH
Conc. of sens. : 500000 molecules/cm^3
Rate constant : = .000000000000278 cm^3/(molecule*sec)
Degradation : = 50% after 58 days
Deg. Product :
Method : other (calculated): Atkinson (1988)
Year :
GLP :
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(22)

Type : air
Light source :
Light spect. : nm
Rel. intensity : based on intensity of sunlight
Indirect photolysis
Sensitizer : OH
Conc. of sens. : 500000 molecules/cm^3
Rate constant : = .000000000000278 cm^3/(molecule*sec)
Degradation : = 50 % after 58 days
Deg. Product :
Method : other (calculated): Atkinson (1988)
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Calculation method recognized

(22)

Type : water
Light source : other: mercury vapor lamp
Light spect. : = 254 nm
Rel. intensity : based on intensity of sunlight
Deg. Product :
Method :
Year :
GLP :
Test substance : other TS
Remark : Photolysis of 1M monochloroacetic acid in aqueous solution resulted in the formation of chloride, CO_2, CO and methyl chloride.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Initial pH: 7; temperature: 26 °C
Test substance : monochloroacetic acid

(23)

Type : water
Light source : other: mercury vapor lamp
Light spect. : = 254 nm
Rel. intensity : based on intensity of sunlight
Deg. Product :
Method :
Year :
GLP :
Test substance : other TS
Remark : Photolysis of 0.5M monochloroacetic acid in aqueous solution resulted in the formation of chloride, CO_2, glycolic acid, acetic acid (not when O_2-saturated), formaldehyde and methane (not when when O_2-saturated).
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Temperature: 30 °C; pH-Wert: not given
Test substance : Monochloroacetic acid

(24) (25)

Type : water
Light source : other: mercury vapor lamp
Light spect. : = 254 nm
Rel. intensity : based on intensity of sunlight
Deg. Product :
Method :
Year :
GLP : no data
Test substance : other TS
Remark : Photolysis of 1M monochloroacetic acid in aqueous solution resulted in the formation of chloride, CO_2, CO and methyl chloride
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Initial pH: 7; temperature: 26 °C
Test substance : Monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(23)

Type : water
Light source : other: mercury vapor lamp
Light spect. : = 254 nm
Rel. intensity : based on intensity of sunlight
Deg. Product :
Method :
Year :
GLP : no data
Test substance : other TS
Remark : Photolysis of 0.5M monochloroacetic acid in aqueous solution resulted in the formation of chloride, CO_2, glycolic acid, acetic acid (not when O_2-saturated), formaldehyde and methane (not when when O_2-saturated)..
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Temperature: 30 °C; pH: not given
Test substance : Monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(26) (25)

3.1.2 STABILITY IN WATER

Type	:	abiotic
t1/2 pH4	:	at °C
t1/2 pH7	:	at °C
t1/2 pH9	:	at °C
Deg. Product	:	
Method	:	
Year	:	
GLP	:	
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	Aqueous solutions of monochloroacetic acid undergo very slow hydrolysis with formation of glycolic acid, depending on the temperature. After 30 days, the degree of hydrolysis at 20 °C is 0.01%, at 50 °C it is 0.15% and at 70 ° it is 1%.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main

(27)

Type	:	abiotic
t1/2 pH4	:	at °C
t1/2 pH7	:	at °C
t1/2 pH9	:	at °C
Deg. Product	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	Aqueous solutions of monochloroacetic acid undergo very slow hydrolysis with formation of glycolic acid, depending on the temperature. After 30 days, the degree of hydrolysis at 20 °C is 0.01%, at 50 °C it is 0.15% and at 70 ° it is 1%.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(2) valid with restrictions Evaluation is comprehensible and acceptable

(28)

3.1.3 STABILITY IN SOIL

3.2 MONITORING DATA

Type of measurement	:	background concentration
Medium	:	drinking water
Method	:	
Concentration	:	
Remark	:	In the USA, in 1988 und 1989, monochloroacetic acid was found in drinking water at a concentrations of up to 1.2 µg/L (quarterly median values) after disinfection (chlorination, ozonation). The studies of water samples (n = 140) from 35 water-treatment plants were carried out in 1988 on a quarterly basis and in winter 1989.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	Monochloroacetic acid

(29) (30)

Type of measurement	:	background concentration
Medium	:	drinking water
Method	:	
Concentration	:	
Remark	:	In the USA, in 1988 und 1989, monocholoracetic acid was found in drinking water at a concentrations of up to 1.2 µg/L (quarterly median values) after disinfection (chlorination, ozonation). The studies of water samples (n = 140) from 35 water-treatment plants were carried out in 1988 on a quarterly basis and in winter 1989.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	Monochloressigsaure

(29) (30)

3.3.1 TRANSPORT BETWEEN ENVIRONMENTAL COMPARTMENTS

Type	:	adsorption
Media	:	other: soil water - soil organic matter
Air (level I)	:	
Water (level I)	:	
Soil (level I)	:	
Biota (level II / III)	:	
Soil (level II / III)	:	
Method	:	other: calculated by the method of Kenaga und Goring (1980)
Year	:	
Remark	:	According to Blume (1990), only very slight to slight soil sorption is to be expected.
Result	:	Soil sorption constant Koc: 30.6 (for the undissociated acid)
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main

(31) (32)

Type	:	adsorption
Media	:	other: soil water - soil organic matter
Air (level I)	:	
Water (level I)	:	
Soil (level I)	:	
Biota (level II / III)	:	
Soil (level II / III)	:	
Method	:	other: calculated by the method of Kenaga und Goring (1980)
Year	:	.
Remark	:	According to Blume (1990), only very slight to slight soil sorption is to be expected
Result	:	Soil sorption constant Koc: 30.6 (for the undissociated acid)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(2) valid with restrictions Calculation method is recognized

(33) (32)

Type	:	volatility
Media	:	water – air
Air (level I)	:	
Water (level I)	:	
Soil (level I)	:	

Biota (level II / III) :
Soil (level II / III) :
Method : other: calculated
Year :
Remark : According to Thomas (1982): monochloroacetic acid is to be viewed as a substance that does not volatilize from aqueous solution
Result : Henry constant: 4.2 x 10E-4 Pa x m^3 x mol E-1
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(34)

Type : volatility
Media : water - air
Air (level I) :
Water (level I) :
Soil (level I) :
Biota (level II / III) :
Soil (level II / III) :
Method : other: calculated
Year :
Remark : According to Thomas (1982): monochloroacetic acid is to be viewed as a substance that does not volatilize from aqueous solution.
Result : Henry constant: 4.2 x 10E-4 Pa x m^3 x mol E-1
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Method of calulation recognized

(34)

3.3.2 DISTRIBUTION

3.4 MODE OF DEGRADATION IN ACTUAL USE

3.5 BIODEGRADATION

Type : aerobic
Inoculum : activated sludge, non-adapted
Concentration : 100 mg/L related to test substance
related to
Contact time :
Degradation : = 65 % after 21 day
Result :
Deg. Product :
Method : OECD Guide-line 301 C "Ready Biodegradability: Modified MITI Test (I)"
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(35)

Type : aerobic
Inoculum : activated sludge, non-adapted
Concentration : 100 mg/L related to test substance
related to
Contact time :

Degradation : = 65 % after 21 day
Result :
Deg. Product :
Method : OECD Guideline 301 C "Ready Biodegradability: Modified MITI Test (I)"
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline study

(35)

Type : aerobic
Inoculum : activated sludge, adapted
Concentration : 5 mg/L related to test substance
related to
Contact time :
Degradation : 100 % after 28 days
Result :
Deg. Product :
Method : OECD Guideline 301 D "Ready Biodegradability: Closed Bottle Test"
Year :
GLP : no data
Test substance : other TS
Remark : Degree of degradation = % THOD
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(36)

Type : aerobic
Inoculum : activated sludge, adapted
Concentration : 5 mg/L related to test substance
related to
Contact time :
Degradation : 100 % after 28 days
Result :
Deg. Product :
Method : OECD Guideline 301 D "Ready Biodegradability: Closed Bottle Test"
Year :
GLP : no data
Test substance : other TS
Remark : Degree of degradation = % THOD
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction

(36)

Type : aerobic
Inoculum : activated sludge
Contact time :
Degradation : ca. 53 % after 28 days
Result :
Kinetic of test substance : 7 days ca. 13 **%**

14 days = 26 **%**
21 days = 41 **%**
%
%

Deg. Product :
Method : OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : Monochloroacetic acid

(37)

Type : aerobic
Inoculum : activated sludge
Contact time :
Degradation : ca. 53 % after 28 days
Result :
Kinetic of test substance : 7 days ca. 13 **%**

14 days = 26 **%**
21 days = 41 **%**
%
%

Deg. Product :
Method : OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Monochloroacetic acid
Reliability : (1) valid without restriction
Guideline study

(37)

Type : aerobic
Inoculum : activated sludge
Concentration : 5 mg/L related to DOC (Dissolved Organic Carbon)
related to
Contact time :
Degradation : = 100 % after 28 days
Result :
Deg. Product :
Method : OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : other TS
Remark : Degree of degradation = % chloride release
In an analogous test with chloride-free nutrient solution, the degree of chloride release was also 100%.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(36)

Type : aerobic
Inoculum : activated sludge
Concentration : 5 mg/L related to DOC (Dissolved Organic Carbon)
related to
Contact time :
Degradation : = 100 % after 28 days

Result :
Deg. Product :
Method : OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : other TS
Remark : Degree of degradation = % chloride release
In an analogous test with chloride-free nutrient solution, the degree of chloride release was also 100 %.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : Monochlorpacetic acid
Reliability : (1) valid without restriction
Guideline study

(36)

Type : aerobic
Inoculum : activated sludge
Concentration : 1000 mg/L related to test substance
related to
Contact time :
Degradation : = 100 % after 28 days
Result :
Deg. Product :
Method : OECD Guideline 302 B "Inherent Biodegradability: Modified Zahn-Wellens Test"
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(36)

Type : aerobic
Inoculum : activated sludge
Concentration : 1000 mg/L related to test substance
related to
Contact time :
Degradation : = 100 % after 28 days
Result :
Deg. Product :
Method : OECD Guideline 302 B "Inherent Biodegradability: Modified Zahn-Wellens Test"
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline study

(36)

Type : aerobic
Inoculum : activated sludge, industrial
Concentration : 1140 mg/L related to test substance
related to
Contact time :
Degradation : = 99 % after 10 days
Result :

Kinetic of test substance : 3 hour(s) = 0 **%**

3 days = 9 **%**
6 days = 63 **%**
8 days = 85 **%**
%

Deg. Product :
Method : OECD Guide-line 302 B "Inherent Biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Adsorption on activated sludge within 3 hours from the start of the test was 21 %. After 10 days, a chloride ion analysis was performed. The amount found was 438 mg/L, whereas the theoretical value was 428.5 mg/L. The chloride ion analysis thus confirmed complete mineralization, including the portion initially adsorbed within 3 hours.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(38)

Type : aerobic
Inoculum : activated sludge, industrial
Concentration : 1140 mg/L related to test substance
related to
Contact time :
Degradation : = 99 % after 10 days
Result :
Kinetic of test substance : 3 hour(s) = 0 **%**

3 days = 9 **%**
6 days = 63 **%**
8 days = 85 **%**
%

Deg. Product :
Method : OECD Guideline 302 B "Inherent Biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : Adsorption on activated sludge within 3 hours from the start of the test was 21 %. After 10 days, a chloride ion analysis was performed. The amount found was 438 mg/L, whereas the theoretical value was 428.5 mg/L.. The chloride ion analysis thus confirmed complete mineralization, including the portion initially adsorbed within 3 hours..
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Guideline study

(39)

Type : aerobic
Inoculum : activated sludge, industrial
Concentration : 570 mg/L: related to test substance
related to
Contact time :
Degradation : = 100 % after 8 days
Result :

Kinetic of test substance : 3 hour(s) = 0 **%**

1 day = 11 **%**
3 days = 36 **%**
6 days = 86 **%**
%

Deg. Product :
Method : OECD Guideline 302 B "Inherent Biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(38)

Type : aerobic
Inoculum : activated sludge, industrial
Concentration : 570 mg/L related to test substance
related to
Contact time :
Degradation : = 100 % after 8 days
Result :
Kinetic of test substance : 3 hour(s) = 0 **%**

1 day = 11 **%**
3 days = 36 **%**
6 days = 86 **%**
%

Deg. Product :
Method : OECD Guideline 302 B "Inherent Biodegradability: Modified Zahn-Wellens Test"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Guideline study

(39)

Type : aerobic
Inoculum : Pseudomonas putida (Bacteria)
Deg. Product :
Method : other: determination of dehalogenase activity in static and continuous culture (chemostat)
Year :
GLP : no data
Test substance : other TS
Remark : Pseudomonas putida PP3012 and PP3013 can utilize monochloroacetic acid as the only source of energy and carbon double mutants, adapted
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(40)

Type : aerobic
Inoculum : Pseudomonas putida (bacteria)
Deg. Product :
Method : other: determination of dehalogenase activity in static and continuous culture (chemostat)
Year :

GLP : no data
Test substance : other TS
Remark : Pseudomonas putida PP3012 and PP3013 can utilize monochloroacetic acid as the only source of energy and carbon, double mutants, adapted
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(40)

Type : aerobic
Inoculum : activated sludge, non-adapted
Concentration : 9 mg/L related to DOC (Dissolved Organic Carbon)
related to
Contact time :
Degradation : 14 - 24 % after 7 days
Result :
Deg. Product :
Method : other: OECD Guideline 301 B "Ready Biodegradability: Modified Sturm-Test“ or OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : Degree of degradatioin calculated from $ThCO_2$ (theoretical CO_2 content of the test substance); the 9 mg/L concentration used had an inhibiting effect on the microflora
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Inoculum 8.3 mg of dry substance/mL

(41)

Type : aerobic
Inoculum : activated sludge, non-adapted
Concentration : 4.5 mg/L related to DOC (Dissolved Organic Carbon)
related to
Contact time :
Degradation : 73 % after 7 days
Result :
Deg. Product :
Method : other: OECD Guideline 301 B "Ready Biodegradability: Modified Sturm-Test" oder OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : Degree of degradation calculated from $ThCO_2$ (theoretical CO_2 content of the test substance)
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Inoculum: 4.2 mg of dry substance/mL

(41)

Type : aerobic
Inoculum : activated sludge, non-adapted
Concentration : 9 mg/L related to DOC (Dissolved Organic Carbon)
related to
Contact time :
Degradation : 14 - 24 % after 7 days

Result :
Deg. Product :
Method : other: OECD Guideline 301 B "Ready Biodegradability: Modified Sturm-Test" or OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : as prescribed by 1.1 – 1.4
Remark : Degree of degradatioin calculated from $ThCO_2$ (theoretical CO_2 content of the test substance); the 9 mg/L concentration used had an inhibiting effect on the microflora
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum: 8.3 mg of dry substance/mL
Reliability : (1) valid without restriction
Guideline study

(41)

Type : aerobic
Inoculum : activated sludge, non-adapted
Concentration : 4.5 mg/L related to DOC (Dissolved Organic Carbon)
related to
Contact time :
Degradation : 73 % after 7 days
Result :
Deg. Product :
Method : other: OECD Guideline 301 B "Ready Biodegradability: Modified Sturm-Test" oder OECD Guideline 301 E "Ready Biodegradability: Modified OECD Screening Test"
Year :
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : Degree of degradatioin calculated from $ThCO_2$ (theoretical CO_2 content of the test substance
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum: 4.2 mg of dry substance/mL
Reliability : (1) valid without restriction
Guideline study

(41)

Type : aerobic
Inoculum : activated sludge, industrial
Contact time :
Degradation : > 90 % after 5.5 days
Result :
Deg. Product :
Method : other: stationary test by Zahn-Wellens method
Year :
GLP : no data
Test substance : other TS
Remark : <1000 mg/L related to COD (Chemical Oxygen Demand)
In an analogous test with chloride-free nutrient solution, the degree of chloride release was also 100 %.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : The test was carried out by procedures in use at the time of testing
Test substance : monochloroacetic acid

(42)

Type : aerobic
Inoculum : activated sludge, industrial
Contact time :
Degradation : > 90 % after 5.5 days
Result :
Deg. Product :
Method : other: Zahn-Wellens test
Year :
GLP : no data
Test substance : other TS
Remark : <1000 mg/L related to COD (Chemical Oxygen Demand)
Degree of degradation = % chloride release
In an analogous test with chloride-free nutrient solution, the degree of chloride release was also 100 %.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test condition : The test was carried out by procedures in use at the time of testing
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study by a recognized institute in accordance with standard laboratory procedures

(42)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 5 mg/L related to test substance
related to
Contact time :
Degradation : 86 % after 2 days
Result :
Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation products: methane 11 %, CO_2 60 %, chloride ions
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum immobilized on activated carbon carriers; the test was performed in a Hungate container
Test substance : [2-14C] monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 11mg/L related to test substance
related to
Contact time :
Degradation : 90 % after 2 days
Result :
Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation products: methane 12 %, CO_2 74 %, chloride

ions
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum immobilized on activated carbon carriers; the test was carried out in a Hungate container
Test substance : [2-14C] monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable
(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 280 mg/L related to test substance
related to
Contact time :
Degradation : = 100 % after 2 days
Result :
Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation product: glycolate
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum immobilized on activated carbon carriers; degree of degradation 100 %, based on chloride ions, 84 % based on methane; the test was carried out in a Hungate container
Test substance : monochloroacetic acid GC analysis
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable
(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 850 mg/L related to test substance
related to
Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation products: glycolate, HCO_3, methane
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum immobilized on activated carbon carriers; test duration: 22 hours; the test was performed in an NMR container
Test substance : [2-13C] monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable
(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 5 mg/L related to test substance
related to
Contact time :
Degradation : 86 % after 2 days

Result :

Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation products: methane 11%, CO_2 60%, chloride ions
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Inoculum immobilized on activated carbon carriers; the test was carried out in a Hungate container
Test substance : [2-14C] monochloroacetic acid

(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 11 mg/L related to test substance
related to
Contact time :
Degradation : 90 % after 2 days
Result :
Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation products: methane 12%, CO_2 74%, chloride ions
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Inoculum immobilized on activated carbon carriers; the test was performed in a Hungate container
Test substance : [2-14C] monochloroacetic acid

(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted
Concentration : 280 mg/L related to test substance
related to
Contact time :
Degradation : = 100 % after 2 days
Result :
Deg. Product :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation product: glycolate
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : Inoculum immobilized on activated carbon carriers; degree of degradation 100 % based on chloride ions, 84 % based on methane; the test was carried out in a Hungate container
Test substance : monochloroacetic acid; GC analysis

(43)

Type : anaerobic
Inoculum : other bacteria: methanogenic bacteria, adapted

Concentration : 850 mg/L related to test substance

related to

Deg. Product :

Method : other: no data

Year :

GLP : no data

Test substance : other TS

Remark : Confirmation of degradation under anaerobic conditions by detection of metabolites; degradation products: glycolate, HCO_3, methane, CO_2

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test condition : Inoculum immobilized on activated carbon carriers; test duration 22 hours; the test was carried out in an NMR container

Test substance : [2-13C] monochloroacetic acid

(43)

3.6 BOD5, COD OR BOD5/COD RATIO

3.7 BIOACCUMULATION

3.8 ADDITIONAL REMARKS

Remark : Because of its antimicrobial action, monochloroacetic acid is used as an additive to wine and other beverages. In German and foreign red and white wines, monochloroacetic acid was not detected by thin-layer chromatography (detection limit: 1 mg/L).

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(44)

Remark : In the Federal Republic of Germany (as of 1992) monochloroacetic acid is not allowed as an additive to either food or wine.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(45) (46)

Remark : Because of its antimicrobial action, monochloroacetic acid is used as an additive to wine and other beverages. In German and foreign red and white wines, monochloroacetic acid was not detected by thin-layer chromatography (detection limit: 1 mg/L).

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid

(44)

Remark : In the Federal Republic of Germany (as of 1992) monochloroacetic acid is not allowed as an additive to either food or wine

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

(47) (48)

4.1 ACUTE/PROLONGED TOXICITY TO FISH

Type : semistatic
Species : Pimephales promelas (fish, fresh water)
Exposure period : 96 hour(s)
Unit : mg/L
Analytical monitoring : no data
LC50 : = 145
Method : other: no data
Year :
GLP : no
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
Documentation insufficient for evaluation

(49)

Type : static
Species : Brachydanio rerio (fish, fresh water)
Exposure period : 12 days
Unit : mg/L
Analytical monitoring : no
NOEC : = 320
Method : other: Internal Sop CRL-T37: Test with embryonal disorder development
Year : 1985
GLP : no data
Test substance : other TS
Remark : At a concentration of 560 mg/L, the following effects were noted:
- hatching difficulties
- spine deformities
- kidney function problems and blood circulation disturbances
- elevated mortality rate at the end of the test.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : pH: 8.0 - 8.2; temperature: 23 - 27 °C;
test parameter: survival rate (eggs + fish), disorders of embryonal development, floating {?} ability of hatched fish
Test substance : monochloroacetic acid

(50)

Type : static
Species : Brachydanio rerio (fish, fresh water)
Exposure period : 12 days
Unit : mg/l
Analytical monitoring : no
NOEC : = 320
Method : other: Internal Sop CRL-T37: Test with embryonal disorder development
Year : 1985
GLP : no data
Test substance : other TS
Remark : At a concentration of 560 mg/L , the following effects were noted:
- hatching difficulties
- spinal deformities
- kidney function disorders and blood circulation disordres
- elevated mortality rate at the end of the test.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test condition : pH: 8.0 - 8.2; temperature: 23 – 27 °C;
Test parameters: survival rate (eggs + fish), disorders of embryonal development, floating perfomance of hatched fish
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Study in accordance with national standard procedure/standard method
(51)

Type : static
Species : Leuciscus idus melanotus (fish, fresh water)
Exposure period : 96 hour(s)
Unit : mg/L
Analytical monitoring : no
LC0 : = 100
LC50 : 100 - 500
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : In the 1 - 100 mg/L test groups (pH 8.3 - 8.7) 0 %
lethality. Ati 500 mg/L (pH 3.8) 100 % of the fish died 78 - 173 min after addition of the preparation. Based on macroscopic findings (burning of the gills and skin; behavior: gasping breathing, elevated breathing rate, equilibrium disorders, floating on the water surface etc.), death is attributable to the low pH.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
(52)

Type : static
Species : Leuciscus idus melanotus (fish, fresh water)
Exposure period : 96 hour(s)
Unit : mg/L
Analytical monitoring : no
LC0 : = 100
LC50 : 100 - 500
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : In the 1 - 100 mg/L test groups (pH 8.3 - 8.7) 0 % lethality. At 500 mg/L (pH 3.8) 100 % of the fish died 78 - 173 min after addition of the preparation. Based on macroscopic findings (burning of the gills and skin; behavior: gasping breathing, elevated breathing rate, equilibrium disorders, floating on the water surface etc.), death is attributable to the low pH.

.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Study in accordance with standard laboratory procedures by a recognized institute
(53)

Type : static
Species : Poecilia reticulata (fish, fresh water)

Exposure period : 96 hour(s)
Unit : mg/L
Analytical monitoring : no data
LC50 : = 369

Method	:	other: NEN 6504. Water. Determination of toxicity with the aid of Poecilia reticulata
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test condition	:	pH: 8.0 - 8.3; temperature: 24 – 26 °C
Test substance	:	monochloroacetic acid

(50)

Type	:	static
Species	:	Poecilia reticulata (fish, fresh water)
Exposure period	:	96 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no data
LC50	:	= 369
Method	:	other: NEN 6504. Water. Determination of toxicity with the aid of Poecilia reticulata
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH: 8.0 - 8.3; temperature: 24 – 26 °C
Test substance	:	monochloroacetic acid
Reliability	:	(1) valid without restriction Study in accordance with national standard laboratory procedure/standard method

(51)

4.2 ACUTE TOXICITY TO AQUATIC INVERTEBRATES

Type	:	
Species	:	Daphnia magna (Crustacea)
Exposure period	:	24 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no
EC50	:	= 79
Method	:	other: determination of biological damage to small crayfish caused by water-polluting substances
Year	:	
GLP	:	no
Test substance	:	other TS
Remark	:	Not neutralized; nominal concentration
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(2) valid with restrictions Study according to standard laboratory procedures by recognized institute

(37)

Type :
Species : Daphnia magna (Crustacea)

Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no
EC50 : = 427
Method : other: determination of biological damage to small crayfish caused by water-polluting substances
Year :
GLP : no
Test substance : other TS
Remark : determined in neutralized condition; nominal concentration
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study according to standard laboratory procedures by recognized institute

(37)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no
EC50 : = 79
Method : other: determination of biological damage to small crayfish caused by water-polluting substances
Year :
GLP : no
Test substance : other TS
Remark : not neutralized; nominal concentration
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(37)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no
EC50 : = 427
Method : other: determination of biological damage to small crayfish caused by water-polluting substances
Year :
GLP : no
Test substance : other TS
Remark : determined in neutralized condition; nominal concentration
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(37)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/L
Analytical monitoring : no data
EC0 : = 55
EC50 : = 77

EC100 : = 107

Method : other: Daphniae short-term test, DIN 38412 Part 11, Determination of the Action of Substances Present in Water on Small Crayfish
Year :
GLP : no data
Test substance : other TS
Remark : 95 % confidence limits: EC50: 71 - 85 mg/L
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : pH: ≥ 7
Test substance : monochloroacetic acid
Reliability : (1) valid with restrictions
Study according to standard laboratory procedures by recognized institute

(54)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/L
Analytical monitoring :
EC0 : = 55
EC50 : = 77
EC100 : = 107
Method : other: Daphniae short-term test, DIN 38412 Part 11, Determination of the Action of Substances Present in Water on Small Crayfish
Year :
GLP : no data
Test substance : other TS
Remark : 95 % confidence limits: EC50: 71 - 85 mg/L
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : pH: ≥ 7
Test substance : monochloroacetic acid

(54)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no data
EC50 : = 180
Method : other: ISO 6341
Year :
GLP : no data
Test substance : no data
Remark : It is unclear whether and how the test medium was neutralized
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (3) invalid
Documentation insufficient for evaluation

(55)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/L
Analytical monitoring : no
EC50 : = 88

Method : other: NEN 6501. Water. Determination of acute toxicity with the aid of Daphnia magna
Year : 1985
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : pH. 8.1 - 8.2; temperature: 20 °C
Test substance : monochloroacetic acid

(50)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/L
Analytical monitoring : no
EC50 : = 88
Method : other: NEN 6501. Water. Determination of acute toxicity with the aid of Daphnia magna
Year : 1985
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : pH: 8.1 - 8.2; temperature: 20 °C
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Study in accordance with national standard procedure/standard method

(51)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 21 day
Unit : mg/L
Analytical monitoring : no data
NOEC : = 32
Method : other: [German] Federal Office for the Environment (1984): preliminary test proposal: "Extended Toxicity Test for Daphnia magna"
Year :
GLP : no data
Test substance : other TS
Remark : Parameters studied: reproduction rate, mortality and time of appearance of first offspring
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : pH: not less than 7; deviation of concentration measured at the end of the test from the nominal concentration is less than 20 %
Test substance : monochloroacetic acid

(56)

Type :
Species : Daphnia magna (Crustacea)
Exposure period : 48 hour(s)
Unit : mg/L
Analytical monitoring : no data
EC50 : = 75
Method : other: no data
Year :
GLP : no
Test substance : no data
Remark : It is unclear whether and how the test medium was neutralized
Source : Hoechst AG Frankfurt/Main

		Clariant GmbH Frankfurt am Main
Reliability	:	(3) invalid Documentation insufficient for evaluation

(49)

4.3 TOXICITY TO AQUATIC PLANTS E.G. ALGAE

Species	:	Scenedesmus quadricauda (Algae)
Endpoint	:	growth rate
Exposure period	:	8 day
Unit	:	mg/L
Analytical monitoring	:	no
EC3	:	= .13
Method	:	other: determination of biological damage to green algae caused by water-polluting substances
Year	:	
GLP	:	no
Test substance	:	other TS
Remark	:	EC3 = toxic limiting concentration 3 %; no further data
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	neutralized
Test substance	:	monochloroacetic acid
Reliability	:	(1) valid without restriction Study in accordance with national standard procedure/standard method

(37)

Species	:	Scenedesmus quadricauda (Algae)
Endpoint	:	growth rate
Exposure period	:	8 day
Unit	:	mg/L
Analytical monitoring	:	no
EC3	:	= .13
Method	:	other: determination of biological damage to green algae caused by water-polluting substances
Year	:	
GLP	:	no
Test substance	:	other TS
Remark	:	EC3 = toxic limiting concentration 3 %; no further data
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test condition	:	neutralized
Test substance	:	monochloroacetic acid

(37)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	biomass
Exposure period	:	72 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no
NOEC	:	= .0058
EC10	:	= .006
EC50	:	= .025
Method	:	OECD Guideline 201 "Algae, Growth Inhibition Test"
Year	:	1992
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	The indicated concentrations are nominal concentrations.
Source	:	Hoechst AG Frankfurt 80

		Hoechst AG Frankfurt/Main
Test condition	:	pH: 7.7 - 8.1

(57)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	biomass
Exposure period	:	72 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no
NOEC	:	= .0058
EC10	:	= .006
EC50	:	= .025
Method	:	OECD Guideline 201 "Algae, Growth Inhibition Test"
Year	:	1992
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	The indicated concentrations are nominal concentrations.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH: 7.7 - 8.1
Reliability	:	(1) valid without restriction Guideline study

(58)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	biomass
Exposure period	:	48 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no data
EC10	:	= .007
EC50	:	= .028
Method	:	other: Scenedesmus cell growth inhibition test, DIN 38412 Part 9, Determination of the Inhibiting Action of Substances Contained in Water on Green Algae, modified method
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test condition	:	pH: 8.1 - 9.6
Test substance	:	monochloroacetic acid

(59)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	biomass
Exposure period	:	48 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no data
EC10	:	= .007
EC50	:	= .028
Method	:	other: Scenedesmus cell growth inhibition test, DIN 38412 Part 9, Determination of the Inhibiting Action of Substances Contained in Water on Green Algae, modified method
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH: 8.1 - 9.6
Test substance	:	monochloroacetic acid
Reliability	:	(1) valid without restriction Study in accordance with national standard procedure/standard method.

(59)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	growth rate
Exposure period	:	72 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no
NOEC	:	= .0058
EC10	:	= .007
EC50	:	= .033
Method	:	OECD Guideline 201 "Algae, Growth Inhibition Test"
Year	:	1992
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	The indicated concentrations are nominal concentrations.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test condition	:	pH: 7.7 - 8.1

(57)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	growth rate
Exposure period	:	72 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no
NOEC	:	= .0058
EC10	:	= .007
EC50	:	= .033
Method	:	OECD Guideline 201 "Algae, Growth Inhibition Test"
Year	:	1992
GLP	:	yes
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	The indicated concentrations are nominal concentrations.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH-Wert: 7.7 - 8.1
Reliability	:	(1) valid without restriction Guideline study

(58)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	growth rate
Exposure period	:	48 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no data
EC10	:	= .014
EC50	:	= .07
Method	:	other: Scenedesmus cell growth inhibition test, DIN 38412 Part 9, Determination of the Inhibiting Action of Substances Contained in Water on Green Algae, modified method
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test condition	:	pH: 8.1 - 9.6
Test substance	:	monochloroacetic acid

(59)

Species	:	Scenedesmus subspicatus (Algae)
Endpoint	:	growth rate
Exposure period	:	48 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no data
EC10	:	= .014
EC50	:	= .07
Method	:	other: Scenedesmus cell growth inhibition test, DIN 38412 Part 9, Determination of the Inhibiting Action of Substances Contained in Water on Green Algae, modified method
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH: 8.1 - 9.6
Test substance	:	monochloroacetic acid
Reliability	:	(1) valid without restriction Study in accordance with national standard procedure/standard method

(59)

Species	:	Selenastrum capricornutum (Algae)
Endpoint	:	growth rate
Exposure period	:	72 hour(s)
Unit	:	mg/L
Analytical monitoring	:	no data
NOEC	:	< .005
LOEC	:	= .005
EC10	:	= .06
EC50	:	= 1.8
EC20	:	= .13
Method	:	other: ISO 8692
Year	:	1993
GLP	:	no data
Test substance	:	no data
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH: 7.42 - 7.5
Reliability	:	(1) valid without restriction Study in accordance with national standard procedure/standard method

(60)

4.4 TOXICITY TO MICROORGANISMS E.G. BACTERIA

Type	:	aquatic
Species	:	activated sludge
Exposure period	:	
Unit	:	mg/L
Analytical monitoring	:	
SG	:	= 750
Method	:	other: OECD Confirmatory Test
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	SG = toxicity limit ; pH not indicated
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(36)

Type : aquatic
Species : activated sludge
Exposure period :
Unit : mg/L
Analytical monitoring : no data
SG : = 750
Method : other: OECD Confirmatory Test
Year :
GLP : no data
Test substance : other TS
Remark : SG = toxicity limit; pH not indicated
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study according to standard laboratory procedures by recognized institute

(36)

Type : aquatic
Species : activated sludge of a predominantly domestic sewage
Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no
EC0 : = 80
EC50 : = 160
Method : ETAD fermentation tube method "Determination of damage to effluent bacteria by the Fermentation Tube Method"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : pH not indicated

(61)

Type : aquatic
Species : activated sludge of a predominantly domestic sewage
Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no
EC0 : = 80
EC50 : = 160
Method : ETAD frmentation tube method "Determination of damage to effluent bacteria by the Fermentation Tube Method"
Year : 1986
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : pH not indicated
Reliability : (3) invalid
Inappropriate test system

(62)

Type : aquatic
Species : Pseudomonas putida (Bacteria)
Exposure period : 18 hour(s)
Unit : mg/L
Analytical monitoring : no
EC10 : = 4630

Method : other: Determination of the biological action of substances contained in water on bacteria by the cell growth inhibition test
Year :
GLP : no
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : neutralized; temperature: 25 °C
Test substance : monochloroacetic acid

(37)

Type : aquatic
Species : Pseudomonas putida (Bacteria)
Exposure period : 18 hour(s)
Unit : mg/L
Analytical monitoring : no
EC10 : = 4630
Method : other: Determination of the biological action of substances contained in water on bacteria by the cell growth inhibition test
Year :
GLP : no
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : neutralized; temperature: 25 °C
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Study in accordance with national standard procedure/standard method

(37)

Type : aquatic
Species : Pseudomonas putida (Bacteria)
Exposure period : 3 hour(s)
Unit : mg/L
Analytical monitoring : no data
SG : > 1000
Method : other: OECD Guideline 209 "Activated Sludge, Respiration Inhibition Test" but with Pseudomonas putida instead of activated sludge
Year :
GLP : no data
Test substance : other TS
Remark : SG = toxicity limit
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : pH not indicated
Test substance : monochloroacetic acid

(36)

Type : aquatic
Species : Pseudomonas putida (Bacteria)
Exposure period : 3 hour(s)
Unit : mg/L
Analytical monitoring : no data
SG : > 1000
Method : other: OECD Guideline 209 "Activated Sludge, Respiration InhibitionTest" but with Pseudomonas putida instead of activated sludge
Year :
GLP : no data
Test substance : other TS
Remark : SG = toxicity limit
Source : Hoechst AG Frankfurt/Main

Clariant GmbH Frankfurt am Main
Test condition : pH not indicated
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline study

(36)

Type : aquatic
Species : Pseudomonas putida (Bacteria)
Exposure period : 10 hour(s)
Unit :
Analytical monitoring : no data
Method : other: static culture
Year :
GLP : no data
Test substance : other TS
Remark : 20 mM (= 1.89 g/L) monochloroacetic acid caused irreversible growth inhibition of Pseudomonas putida PP3
(medium: succinate).
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(40)

Type : aquatic
Species : Pseudomonas putida (Bacteria)
Exposure period : 10 hour(s)
Unit :
Analytical monitoring : no data
Method : other: static culture
Year :
GLP : no data
Test substance : other TS
Remark : 20 mM (= 1.89 g/L) monochloroacetic acid caused irreversible growth inhibition of Pseudomonas putida PP3
(medium: succinate).
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(40)

Type : aquatic
Species : Tetrahymena pyriformis (Protozoa)
Exposure period : 9 hour(s)
Unit : mg/L
Analytical monitoring : no data
IC50 : = 83
Method : other: bottle test
Year :
GLP : no data
Test substance : no data
Remark : IC50: 50 % growth inhibition compared to the control.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(63)

Type : aquatic

Species : Tetrahymena pyriformis (Protozoa)
Exposure period : 36 hour(s)
Unit : mg/L
Analytical monitoring : no data
IC50 : = 16
Method : other: microplate technique
Year :
GLP : no data
Test substance : no data
Remark : IC50: 50 % growth concentration compared to the control.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(63)

Type : aquatic
Species : Tetrahymena pyriformis (Protozoa)
Exposure period : 9 hour(s)
Unit : mg/L
Analytical monitoring : no data
IC50 : = 106
Method : other: test for acute toxicity
Year :
GLP : no data
Test substance : no data
Remark : IC50: 626 mg/L (3 h)
IC50: 510 mg/L (6 h)
IC50: 50 % growth inhibition compared to the control
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(64)

Type : aquatic
Species : other bacteria: methanogenic bacteria, adapted
Exposure period : 24 hour(s)
Unit : mg/L
Analytical monitoring : no data
EC100 : = 945
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : At a substance concentration of 94 mg/L, the lag phase lasted 1 week and at 376 mg/L it lasted 7 weeks; here, methane production after this time amounted to the tenfold of that of the control.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : Inoculum immobilized on activated carbon carriers
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Evaluation is comprehensible and acceptable

(43)

Type : aquatic
Species : other bacteria: methanogenic bacteria, adapted
Exposure period : 24 hour(s)

Unit	:	mg/L
Analytical monitoring	:	no data
EC100	:	= 945
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	At a substance concentration of 94 mg/L, the lag phase lasted 1 week and at 376 mg/l it lasted 7 weeks; here, methane production after this time amounted to the tenfold of that of the control.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test condition	:	Inoculum immobilized on active carbon carriers
Test substance	:	monochloroacetic acid

(43)

Type	:	aquatic
Species	:	
Exposure period	:	24 hour(s)
Unit	:	mg/L
Analytical monitoring	:	
IC50	:	= 480
Method	:	other: test for acute toxicity
Year	:	
GLP	:	
Test substance	:	
Remark	:	IC50: 50 % growth inhibition compared to the control. Test organism: L-929 murine fibroblasts (ECACC no85011425) The cell line was tested in comparison with Tetrahymena pyriformis and evaluated as an alternative.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(2) valid with restrictions Evaluation is comprehensible and acceptable

(64)

4.5.1 CHRONIC TOXICITY TO FISH

4.5.2 CHRONIC TOXICITY TO AQUATIC INVERTEBRATES

Species	:	Daphnia magna (Crustacea)
Endpoint	:	
Exposure period	:	21 day
Unit	:	mg/L
Analytical monitoring	:	no data
NOEC	:	= 32
Method	:	other: [German] Federal Office for the Envirionment (1984): "Preliminary Toxicity Test for Daphnia magna"
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	Parameters studied: reproduction rate, mortality and the time of first appearance of offspring.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test condition	:	pH not less than 7; deviation between the concentration measured at the

end of the test and the nominal concentration is less than 20 %

Test substance : monochloroacetic acid

Reliability : (1) valid without restriction
Study by national standard procedure/standard method

(56)

4.6.1 TOXICITY TO SOIL DWELLING ORGANISMS

4.6.2 TOXICITY TO TERRESTRIAL PLANTS

4.6.3 TOXICITY TO OTHER NON-MAMM. TERRESTRIAL SPECIES

4.7 BIOLOGICAL EFFECTS MONITORING

4.8 BIOTRANSFORMATION AND KINETICS

4.9 ADDITIONAL REMARKS

Remark : Microbial degradation of 1,1,2-trichlorethane by Pseudomonas putida gives rise to monochloroacetic acid as a metabolite.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(65)

5.1.1 ACUTE ORAL TOXICITY

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 90.4 mg/kg body weight [bw]
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : female
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(66)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 277.5 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(67)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 90.4 mg/kg bw
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no
Test substance : as prescribed by 1.1 - 1.4
Remark : sex: female
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Guideline similar study

(68)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 277.5 mg/kg bw

Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Original report in Russian

(67)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 55 mg/kg bw
Method : other: no data
Year : 1974
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (4) not assignable
Original report in Russian

(69)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 165 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(70)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 260 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(71)

Type : LD50
Species : mouse

Strain :
Sex :
Number of animals :
Vehicle :
Value : = 300 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : male
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(72)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 165 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(70)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 260 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(71)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 300 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS

Remark : Sex: male
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Abstract

(72)

5.1.2 ACUTE INHALATION TOXICITY

Type : LC0
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time :
Value : = .005 mg/L
Method : other: time saturation test
Year :
GLP : no data
Test substance : other TS
Remark : Not lethal; no data about length of exposure
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : monochloroacetic acid

(69)

Type : LC0
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time :
Value : = .005 mg/L
Method : other: time saturation test
Year :
GLP : no data
Test substance : other TS
Remark : Not lethal; no data about length of exposure
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : monochloroacetic acid
Reliability : (4) not assignable
Original report in Russian

(69)

Type : LC50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time :
Value : = .18 mg/L
Method : other: no data
Year :
GLP : no data
Test substance : other TS

Remark : No data about length of exposure
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test condition : monochloroacetic acid

(69)

Type : LC50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time :
Value : = .18 mg/L
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : No data about length of exposure
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test condition : monochloroacetic acid
Reliability : (4) not assignable
Original report in Russian

(69)

Type : LC50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Exposure time : 1 hour(s)
Value : > .25 mg/L
Method : other: no data
Year :
GLP : no data
Test substance : no data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (4) not assignable
Secondary literature

(73)

5.1.3 ACUTE DERMAL TOXICITY

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Value : = 305 mg/kg bw
Method : other: internal guideline of AG
Year : 1979
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : female
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(74)

Type	:	LD50
Species	:	rat
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Value	:	= 305 mg/kg bw
Method	:	other: internal guideline of Hoechst AG
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	Sex: female
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(1) valid without restriction Guideline similar study

(75)

Type	:	LD50
Species	:	rabbit
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Value	:	= 250 mg/kg bw
Method	:	other: internal guideline of Hoechst AG
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main

(76)

Type	:	LD50
Species	:	rabbit
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Value	:	= 250 mg/kg bw
Method	:	other: internal guideline of Hoechst AG
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(1) valid without restriction Guideline similar study

(77)

5.1.4 ACUTE TOXICITY, OTHER ROUTES

Type	:	LD50
Species	:	rat
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	

Route of admin. : intraperitoneal [i.p.]
Exposure time :
Value : = 154 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(78)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : i.p.
Exposure time :
Value : = 154 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Original report in Russian

(78)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : subcutaneous [s.c.]
Exposure time :
Value : = 5 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : male
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(79)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 97.4 mg/kg bw
Method : other: internal guideline of Hoechst AG
Year : 1979

GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : female
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(80)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 108 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : male
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(81)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 5 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Sex: male
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Abstract

(79)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 97.4 mg/kg bw
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : Sex: female
Source : Hoechst AG Frankfurt/Main

		Clariant GmbH Frankfurt am Main
Reliability	:	(1) valid without restriction Guideline similar study

(82)

Type	:	LD50
Species	:	rat
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Route of admin.	:	s.c.
Exposure time	:	
Value	:	= 108 mg/kg bw
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	Sex: male
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(2) valid with restrictions Guideline similar study with acceptable limitations

(81)

Type	:	LD50
Species	:	mouse
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Route of admin.	:	s.c.
Exposure time	:	
Value	:	= 250 mg/kg bw
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(83)

Type	:	LD50
Species	:	mouse
Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Route of admin.	:	s.c.
Exposure time	:	
Value	:	= 150 mg/kg bw
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	male
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(72)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 250 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(83)

Type : LD50
Species : mouse
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : s.c.
Exposure time :
Value : = 150 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Sex: male
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Abstract

(72)

Type : LD50
Species : rat
Strain :
Sex :
Number of animals :
Vehicle :
Route of admin. : i.v.
Exposure time :
Value : = 55 mg/kg bw
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(69)

Type : LD50
Species : rat

Strain	:	
Sex	:	
Number of animals	:	
Vehicle	:	
Route of admin.	:	i.v.
Exposure time	:	
Value	:	= 55 mg/kg bw
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(4) not assignable Original report in Russian

(69)

5.2.1 SKIN IRRITATION

Species	:	rabbit
Concentration	:	
Exposure	:	
Exposure time	:	
Number of animals	:	
PDII	:	
Result	:	
EC classification	:	
Method	:	other: patch test, occlusive
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	In the skin tolerance test according to the FDA guidelines (application of 500 mg of the substance in paste form to the intact or scarified skin) all animals died within the 24-hour exposure period.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main

(84)

Species	:	rabbit
Concentration	:	
Exposure	:	
Exposure time	:	
Number of animals	:	
PDII	:	
Result	:	corrosive
EC classification	:	corrosive (causes burns)
Method	:	other: patch test, occlusive
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	exposure period: 24 h; modified (100 mg/kg of body weight [Kgw] in 0.9% NaCl solution)
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(84)

Species	:	rabbit

Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : irritating
EC classification :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : exposure time: 24 h; 10% solution, appreciable hyperemia and slight skin thickenning (edema)
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(85)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : highly corrosive
EC classification :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Concentrated chloroacetic acid; concentration limit 0.05 %; no other data
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(69)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result :
EC classification :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Exposure of 3 % of the body surface to chloroacetic acid was lethal to the test animals (no detailed data).
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(86)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :

PDII :
Result :
EC classification :
Method : other: patch test, occlusive
Year : 1979
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : In the skin tolerance test according to the FDA guidelines (application of 500 mg of the substance in paste form to the intact or scarified skin)
all animals died within the 24-hour exposure period
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(87)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : corrosive
EC classification : corrosive (causes burns)
Method : other: patch test, occlusive
Year : 1979
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : Exposure time: 24 h; modified (100 mg/kg Kgw. in 0.9 % NaCl solution)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(87)

Species : rabbit
Concentration :
Exposure :
Exposure time :
Number of animals :
PDII :
Result : irritating
EC classification :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Exposure time: 24 h; 10 % solution, appreciable hyperemia and slight skin thickenning (edema)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
secondary literature

(85)

Species : rabbit

Concentration	:	
Exposure	:	
Exposure time	:	
Number of animals	:	
PDII	:	
Result	:	highly corrosive
EC classification	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	Concentrated chloroacetic acid; concentration limit 0.05 %; no further data
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(4) not assignable Original report in Russian

(69)

Species	:	rabbit
Concentration	:	
Exposure	:	
Exposure time	:	
Number of animals	:	
PDII	:	
Result	:	
EC classification	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	Exposure of 3 % of the body surface to chloroacetic acid was lethal to the test animals (no detailed data).
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(4) not assignable Abstract

(86)

5.2.2 EYE IRRITATION

Species	:	rabbit
Concentration	:	
Dose	:	
Exposure Time	:	
Comment	:	
Number of animals	:	
Result	:	highly corrosive
EC classification	:	
Method	:	other: FDA guidelines (Fed. Register 38, No.187 of 9-27-1973, p. 27019)
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	Exposure time: 24 h; 100 mg (made into a paste with 0.01 mL of 0.9% NaCl solution)
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main

(84)

Species	:	rabbit
Concentration	:	
Dose	:	
Exposure Time	:	
Comment	:	
Number of animals	:	
Result	:	highly corrosive
EC classification	:	
Method	:	other: FDA guideline (Fed. Register 38, No.187 of 9-27-1973, p. 27019)
Year	:	1979
GLP	:	no data
Test substance	:	as prescribed by 1.1 - 1.4
Remark	:	Exposure time: 24 h; 100 mg (made into a paste with 0.01 mL of 0.9 % NaCl solution)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(2) valid with restrictions Study well documented, acceptabe from a natural science standpoint and for evaluation

(87)

5.3 SENSITIZATION

Type	:	Open epicutaneous test
Species	:	rabbit
Number of animals	:	
Vehicle	:	
Result	:	not sensitizing
Classification	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(4) not assignable Original report in Russian

(69)

Type	:	Open epicutaneous test
Species	:	rabbit
Number of animals	:	
Vehicle	:	
Result	:	not sensitizing
Classification	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(69)

5.4 REPEATED DOSE TOXICITY

Species		
Sex	:	
Strain	:	
Route of admin.	:	inhalation
Exposure period	:	4 months
Frequency of treatment	:	duration/day/week not given
Post obs. period	:	
Doses	:	5.8, 20.8 mg/m^3
Control group	:	yes
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	75 animals
Result	:	In the high dose group, reduced body weight and oxygen consumption, decrease in rectal temperature, reduction of amount of chlorides in urine as well as hemoglobinemia and inflammatory changes in the respiratory tract were noted. The low concentration caused increased performance of the CNS, a decrease in oxygen requirements and rectal temperature, a decrease in the amount of chlorides in urine and only slight morphological changes in the respiratory organs compared to the control group.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(69)

Species	:	rat
Sex	:	no data
Strain	:	no data
Route of admin.	:	inhalation
Exposure period	:	4 months
Frequency of treatment	:	duration/day/week not given
Post obs. period	:	
Doses	:	5.8, 20.8 mg/m^3
Control group	:	yes
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	75 animals
Result	:	In the high dose group, reduced body weight and oxygen consumption, decrease in rectal temperature, reduction of amount of chlorides in urine as well as hemoglobinemia and inflammatory changes in the respiratory tract were noted. The low concentration caused increased performance of the CNS, decrease in oxygen requirements and rectal temperature, a decrease in the amount of chlorides in urine as well as only slight morphological changes in the respiratory organs compared to the control group
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(4) not assignable Original report in Russian

(69)

Species : rat
Sex : male
Strain : Wistar
Route of admin. : oral feed
Exposure period : 208 days
Frequency of treatment : daily
Post obs. period :
Doses : 0, 0.005, 0.01, 0.025, 0.05, 0.1 % (ca. 2.5, 5, 12.5, 25, 50 mg/kg Kgw./day)
Control group : yes, concurrent no treatment
NOAEL : ca. 25 mg/kg
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 6 animals/group
Result : No treatment-related clinical symptoms, no macroscopically or histopathologically detectable changes in the organs, in the highest dose group reduced body weight increase and reduced activity.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(88)

Species : rat
Sex : male
Strain : Wistar
Route of admin. : oral feed
Exposure period : 90 days
Frequency of treatment : daily
Post obs. period :
Doses : 0.1 % (ca. 100 mg/kg Kgw./day)
Control group : yes, concurrent no treatment
Method : other:no data
Year :
GLP : no data
Test substance : other TS
Remark : 14 animals
Result : Reduced spontaneous activity in the loose cage [?] and questionable, slightly elevated liver glycogen content .
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(88)

Species : rat
Sex : male
Strain : Wistar
Route of admin. : oral feed
Exposure period : 208 days
Frequency of treatment : daily
Post obs. period :
Doses : 0, 0.005, 0.01, 0.025, 0.05, 0.1 % (ca. 2.5, 5, 12.5, 25, 50 mg/kgKgw./day)
Control group : yes, concurrent no treatment
NOAEL : ca. 25 mg/kg
Method : other: no data
Year :
GLP : no data
Test substance : other TS

Remark : 6 animals/group
Result : No treatment-related clinical symptoms, no macroscopically or histopathologically detectable changes in the organs, in the highest dose group reduced body weight increase and reduced activity.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(88)

Species : rat
Sex : male
Strain : Wistar
Route of admin. : oral feed
Exposure period : 90 days
Frequency of treatment : daily
Post obs. period :
Doses : 0.1 % (ca. 100 mg/kg Kgw./day)
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 14 animals
Result : Reduced spontaneous activity in the cage and questionable, slightly elevated liver glycogen content
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(88)

Species : rat
Sex : male
Strain : Sprague-Dawley
Route of admin. : drinking water
Exposure period : 90 days
Frequency of treatment : daily
Post obs. period : not indicated
Doses : 0, ca. 18.6 mg/kg of body weight (1.9 mM)
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 5 animals/group
Result : Slightly (4.8 %) reduced body weight increase and decrease in liver weight (10 %) as well as inflammatory changes in the liver and the lungs.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(89)

Species : rat
Sex : male
Strain : Sprague-Dawley

Route of admin.	:	drinking water
Exposure period	:	90 days
Frequency of treatment	:	daily
Post obs. period	:	not given
Doses	:	0, ca. 18.6 mg/kg of body weight (1.9 mM) [sic – Translator]
Control group	:	yes, concurrent no treatment
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	5 animals/group
Result	:	Slightly (4.8 %) reduced body weight increase and decrease in liver weight (10 %) as well as inflammatory changes in the liver and the lungs.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(2) valid with restrictions Guideline similar study with acceptable limitations

(89)

Species	:	rat
Sex	:	male/female
Strain	:	other: F344/N
Route of admin.	:	gavage
Exposure period	:	13 weeks
Frequency of treatment	:	5 times/week
Post obs. period	:	
Doses	:	0, 30, 60, 90, 120, 150 mg/kg of body weight/day
Control group	:	yes, concurrent no treatment
NOAEL	:	= 30 mg/kg
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	20 animals/sex/dose and control group Determination of hematological parameters in 3-5 animals/sex/dose and control group after 4-week and 8-week test duration
Result	:	At 90 mg/kg of body weight, 9/10 of the male and all female animals, and above 120 mg/kg of body weight all animals died. No effect on body weight growth of the surviving animals; dose-dependent increase in blood urea nitrogen, alanine aminotransferase and aspartate aminotransferase as well as elevated relative liver and kidney weights, clustered appearance of cardiomyopathies (in the authors' opinion as a result of inhibition of mitochondrial aconitase activity in the heart).
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(90) (91)

Species	:	rat
Sex	:	male/female
Strain	:	other: F344/N
Route of admin.	:	gavage
Exposure period	:	13 weeks
Frequency of treatment	:	5 times/week
Post obs. period	:	
Doses	:	0, 30, 60, 90, 120, 150 mg/kg of body weight/day
Control group	:	yes, concurrent no treatment

NOAEL	:	= 30 mg/kg
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	20 animals/sex/dose and control group. Determination of hematological parameters in 3 - 5 animals/sex/dose and control group after a 4-week and 8-week test duration.
Result	:	At 90 mg/kg of body weight, 9/10 of the male and all female animals, and above 120 mg/kg of body weight all animals died. No effect on body weight growth of the surviving animals; dose-dependent increase in blood urea nitrogen, alanine aminotransferase and aspartate aminotransferase as well as elevated relative liver and kidney weights, clustered appearance of cardiomyopathies (in the authors' opinion as a result of inhibition of mitochondrial aconitase activity in the heart).
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	mnochloroacetic acid
Reliability	:	(1) valid without restriction Guideline similar study

(90) (91)

Species	:	mouse
Sex	:	male/female
Strain	:	B6C3F1
Route of admin.	:	gavage
Exposure period	:	13 weeks
Frequency of treatment	:	5 times/week
Post obs. period	:	
Doses	:	0, 25, 50, 100, 150, 200 mg/kg of body weight/day
Control group	:	yes, concurrent no treatment
NOAEL	:	= 100 mg/kg
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	20 animals/sex/dose and control group. Determination of hematological parameters in 3-5 animals/sex/dose and control group after a 4-week and 8-week test duration
Result	:	In the highest-dose group, all male and 2/10 of the female animals died, and the surviving animals in the highest-dose female group showed reduced body weight growth and elevated absolute and relative liver weights whereas the animals of the highest-dose group that had died in the course of the test showed cytoplasmic vacuolation of the liver cells.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(90) (91)

Species	:	mouse
Sex	:	male
Strain	:	B6C3F1
Route of admin.	:	gavage
Exposure period	:	14 days
Frequency of treatment	:	5 times/week
Post obs. period	:	
Doses	:	0, 15, 30, 60, 120, 240 mg/kg of body weight/day
Control group	:	yes, concurrent no treatment
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	5 animals/sex/dose and control group.
Result	:	No substance-related macroscopically visible changes. In the high-dose group, the following toxicity symptoms were noted: hypoactivity, piloerection, ataxia and lacrimation. The mortality in the highest-dose group was 100%.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(91)

Species	:	mouse
Sex	:	female
Strain	:	B6C3F1
Route of admin.	:	gavage
Exposure period	:	14 days
Frequency of treatment	:	5 times/week
Post obs. period	:	
Doses	:	0, 30, 60, 120, 240, 480 mg/kg of body weight/day
Control group	:	yes, concurrent no treatment
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	5 animals/sex/dose and control group.
Result	:	No substance-related macroscopically visible changes. In the 240 mg/kg and 480 mg/kg of body weight dose group, the following toxicity symptoms were noted: hypoactivity, piloerection, ataxia and lacrimation. The mortality in the two highest-dose groups was 100 %.
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochlorpacetic acid

(91)

Species	:	mouse
Sex	:	male/female
Strain	:	B6C3F1
Route of admin.	:	gavage
Exposure period	:	13 weeks
Frequency of treatment	:	5 times/week
Post obs. period	:	
Doses	:	0, 25, 50, 100, 150, 200 mg/kg of body weight/day
Control group	:	yes, concurrent no treatment
NOAEL	:	= 100 mg/kg

Method : other: no data

Year :
GLP : no data
Test substance : other TS
Remark : 20 animals/sex/dose and control group. Determination of hematological parameters in 3-5 animals/sex/dose and control group after a 4-week and 8-week test duration.
Result : In the highest-dose group, all male and 2/10 of the female animals died. The surviving animals in the highest-dose female group showed reduced body weight growth and elevated absolute and relative liver weights whereas the animals in the highest-dose group that had died in the course of the test showed cytoplasmic vacuolation of the liver cells.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(90) (91)

Species : mouse
Sex : male
Strain : B6C3F1
Route of admin. : gavage
Exposure period : 14 days
Frequency of treatment : 5 times/week
Post obs. period :
Doses : 0, 15, 30, 60, 120, 240 mg/kg of body weight/day
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 5 animals/sex/dose and control group.
Result : No substance-related macroscopically visible changes. In the high-dose group, the following toxicity symptoms were noted: hypoactivity, piloerection, ataxia and lacrimation. The mortality in the highest-dose group was 100 %.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Species : mouse
Sex : female
Strain : B6C3F1
Route of admin. : gavage
Exposure period : 14 days
Frequency of treatment : 5 times/week
Post obs. period :
Doses : 0, 30, 60, 120, 240, 480 mg/kg of body weight/day
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 5 animals/sex/dose and control group

Result : No substance-related macroscopically visible changes. In the 240 mg/kg and 480 mg/kg of body weight dose group, the following toxicity symptoms

were noted: hypoactivity, piloerection, ataxy and lacrimation. The mortality in the two highest-dose groups was 100 %.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Species : guinea pig
Sex :
Strain :
Route of admin. : inhalation
Exposure period : 4 months
Frequency of treatment : duration/day/week not given
Post obs. period :
Doses : 5.8, 20.8 mg/m^3
Control group : yes
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 18 animals
Result : In the high dose group, reduced body weight and oxygen consumption, decrease in rectal temperature, reduced amount of chlorides in urine as well as hemoglobinemia and inflammatory changes in the respiratory tract were noted. The low concentration caused increased performance of the CNS, a decrease in oxygen requirements and rectal temperature, a decrease of the amount of chlorides in urine and only slight morphological changes in the respiratory organs compared to the control group..
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochlorocetic acid

(69)

Species : guinea pig
Sex : no data
Strain : no data
Route of admin. : inhalation
Exposure period : 4 months
Frequency of treatment : duration/day/week not given
Post obs. period :
Doses : 5.8, 20.8 mg/m^3

Control group : yes
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 18 animals
Result : In the high dose group, reduced body weight and oxygen consumption, decrease in rectal temperature, reduction of amount of chlorides in urine as well as hemoglobinemia and inflammatory changes in the respiratory tract were noted. The low concentration caused increased performance of the CNS, a decrease in oxygen requirements and rectal temperature, a decrease in the amount of chlorides in urine and only slight morphological changes in the respiratory organs compared to the control group.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Original report in Russian

(69)

5.5 GENETIC TOXICITY 'IN VITRO'

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537
Concentration : 0.8 - 1000 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : 4 plates/concentration; cytotoxic range covered
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(92)

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537
Concentration : 0.8 - 1000 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: internal guideline of Hoechst AG
Year : 1979
GLP : no data
Test substance : as prescribed by 1.1 - 1.4
Remark : 4 plates//concentration, cytotoxic range covered
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Reliability : (1) valid without restriction
Guideline similar study

(93)

Type : Ames test
System of testing : Salmonella typhimurium TA 1530
Concentration : up to 10206 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 2 - 3 plates/concentration; above 1021 µg/plate cytotoxic;
metabolic activation; phenobarbital-induced mouse liver [?]
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation
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(94) (95) (96)

Type : Ames test
System of testing : Salmonella typhimurium TA 97, TA 98, TA 100, TA 1535, TA 1537
Concentration : 10 - 3333 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : cytotoxic range covered
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(97)

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537
Concentration : up to 1000 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no data concerning cytotoxicity
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(98)

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537
Concentration : no data
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : No other data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Type : Ames test
System of testing : Salmonella typhimurium TA 1535

Concentration : 0.1 - 500 mM
Cycotoxic conc. :
Metabolic activation : without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 3 plates/concentration, cytotoxic range covered
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(99)

Type : Ames test
System of testing : Salmonella typhimurium TA 1530
Concentration : up to 10206 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 2 - 3 plates/concentration; above 1021 µg/plate cytotoxic;
metabolic activation: phenobarbital-induced mouse liver
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(94) (95) (96)

Type : Ames test
System of testing : Salmonella typhimurium TA 97, TA 98, TA 100, TA 1535, TA 1537
Concentration : 10 - 3333 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : cytotoxic range covered
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(97)

Type : Ames test
System of testing : Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537
Concentration : up to 1000 µg/plate
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no data concerning cytotoxicity
Source : Hoechst AG Frankfurt 80

		Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(98)

Type	:	Ames test
System of testing	:	Salmonella typhimurium TA 98, TA 100, TA 1535, TA 1537
Concentration	:	
Cycotoxic conc.	:	
Metabolic activation	:	with and without
Result	:	negative
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	no other data
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(91)

Type	:	Ames test
System of testing	:	Salmonella typhimurium TA 1535
Concentration	:	0.1 - 500 mM
Cycotoxic conc.	:	
Metabolic activation	:	without
Result	:	negative
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	3 plates/concentration; cytotoxic range covered
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(99)

Type	:	Escherichia coli reverse mutation assay
System of testing	:	Escherichia coli WP2 and WP100
Concentration	:	
Cycotoxic conc.	:	
Metabolic activation	:	with and without
Result	:	negative
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(100)

Type	:	HGPRT assay
System of testing	:	V79 cells
Concentration	:	up to 198.45 µg/mL
Cycotoxic conc.	:	
Metabolic activation	:	without
Result	:	negative
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	no data concerning cytotoxicity

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(101) (102)

Type : HGPRT assay
System of testing : V79 cells
Concentration : up to 198.45 µg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no data concerning cytotoxicity
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(101) (102)

Type : mouse lymphoma assay
System of testing : mouse lymphoma cells (L5178Y Tk +/-)
Concentration : 139.4 - 1048.2 µg/mL
Cycotoxic conc. :
Metabolic activation : with
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : positive in cytotoxic range above about 590 µg/mL; negative at noncytotoxic concentrations
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(103)

Type : Mouse lymphoma assay
System of testing : Mouse lymphoma cells (L5178Y Tk +/-)
Concentration : 50 - 800 µg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Positive in cytotoxic range above 400 µg/mL; 3 independent tests carried out
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(104)

Type : Mouse lymphoma assay
System of testing : Mouse lymphoma cells (L5178Y Tk +/-)
Concentration : no data
Cycotoxic conc. :
Metabolic activation : without
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no other data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Type : mouse lymphoma assay
System of testing : mouse lymphoma cells (L5178Y Tk +/-)
Concentration : 139.4 - 1048.2 µg/mL
Cycotoxic conc. :
Metabolic activation : with
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Positive in cytotoxic range above about 590 µg/mL; negative at low concentrations
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(103)

Type : mouse lymphoma assay
System of testing : mouse lymphoma cells (L5178Y Tk +/-)
Concentration : 50 - 800 µg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : positive in cytotoxic range above 400 µg/mL;
3 independent tests were carried out
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(104)

Type : mouse lymphoma assay
System of testing : mouse lymphoma cells (L5178Y Tk +/-)
Concentration :
Cycotoxic conc. :
Metabolic activation : without
Result : positive
Method : other: no data
Year :
GLP : no data

Test substance : other TS
Remark : no further data
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(91)

Type : Sister chromatid exchange assay
System of testing : Ovary cells of Chinese hamster (CHO-W-B1)
Concentration : 50 - 500 µg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : positive above 160 µg/mL
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(105) (91)

Type : Sister chromatid exchange assay
System of testing : Ovary cells of Chinese hamster (CHO-W-BI)
Concentration : 50 - 1600 µg/mL
Cycotoxic conc. :
Metabolic activation : with
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(105) (91)

Type : Sister chromatid exchange assay
System of testing : CHL (hamster lung fibroblasts)
Concentration : 0.06 - 0.25 mg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(106)

Type : Sister chromatid exchange assay
System of testing : Ovary cells of Chinese hamster (CHO-W-B1)

Concentration : 50 - 500 µg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : positive
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Positive above 160 µg/mL
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(105) (91)

Type : Sister chromatid exchange assay
System of testing : Ovary cells of Chinese hamster (CHO-W-BI)
Concentration : 50 - 1600 µg/mL
Cycotoxic conc. :
Metabolic activation : with
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(105) (91)

Type : Sister chromatid exchange assay
System of testing : CHL (hamster lung fibroblasts)
Concentration : 0.06 - 0.25 mg/mL
Cycotoxic conc. :
Metabolic activation : without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(106)

Type : other: "umu-test" (gene mutation)
System of testing : Salmonella typhimurium TA 1535/pSK 1002
Concentration : no data
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Concentrations of up to 330 µg/mL; no data about cytotoxicity
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(107)

Type : other: "umu-test" (gene mutation)
System of testing : Salmonella typhimurium TA 1535/pSK 1002
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : Concentrations of up to 330 µg/mL; no data about cytotoxicity
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(107)

Type : other: chromosome damage
System of testing : Ovary cells of the Chinese hamster (CHO)
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : No further data
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(105) (91)

Type : other: chromosome damage
System of testing : CHL (hamster lung fibroblasts)
Concentration :
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(106)

Type : other: chromosome damage
System of testing : Ovary cells of Chinese hamster (CHO)
Concentration : no data
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no further data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(105) (91)

Type : other: chromosome damage
System of testing : CHL (hamster lung fibroblasts)
Concentration : no data
Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(106)

Type : other: inhibition of DNA synthesis
System of testing : bone marrow cells (rat)
Concentration : 1.5 - 151.2 µg/mL
Cycotoxic conc. :
Metabolic activation :
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(108)

Type : other: inhibition of DNA synthesis
System of testing : bone marrow cells (rat)
Concentration : 1.5 - 151.2 µg/mL
Cycotoxic conc. :
Metabolic activation :
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(108)

Type : other: Rec-Assay
System of testing : Escherichia coli WP2 and WP100
Concentration : no data

Cycotoxic conc. :
Metabolic activation : with and without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(100)

Type : other: SOS chromotest
System of testing : Escherichia coli
Concentration : no data
Cycotoxic conc. :
Metabolic activation : without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no further data
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from natural science standpoint and for evaluation

(109)

Type : other: SOS chromotest
System of testing : Escherichia coli
Concentration :
Cycotoxic conc. :
Metabolic activation : without
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no further data
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(109)

Type : other: screening test
System of testing : mouse embryo fibroblasts (after stimulation with Newcastle disease virus)
Concentration : no data
Cycotoxic conc. :
Metabolic activation :
Result : negative
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : inhibition of interferon induction
Effect: no carcinogenic potential

Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(4) not assignable secondary literature

(110)

Type	:	other: screening test
System of testing	:	mouse embryo fibroblasts (after stimulation with Newcastle disease virus)
Concentration	:	no data
Cycotoxic conc.	:	
Metabolic activation	:	
Result	:	negative
Method	:	other: no data
Year	:	1980
GLP	:	no data
Test substance	:	no data
Remark	:	inhibition of interferon induction
Result	:	no carcinogenic potential
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(4) not assignable secondary literature

(111)

Type	:	other: screening test
System of testing	:	mouse embryo fibroblasts (after stimulation with Newcastle disease virus)
Concentration	:	
Cycotoxic conc.	:	
Metabolic activation	:	
Result	:	negative
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	inhibition of interferon induction effect: no carcinogenic potential
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(110)

5.6 GENETIC TOXICITY 'IN VIVO'

Type	:	cytogenetic assay
Species	:	mouse
Sex	:	male/female
Strain	:	Swiss
Route of admin.	:	i.p.
Exposure period	:	
Doses	:	12.5, 25, 50 mg/kg of body weight or 5 times 10 mg/kg of body weight
Result	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	evaluation: 300 metaphases/dose; control: 1000 metaphases
Result	:	positive
Source	:	Hoechst AG Frankfurt/Main

Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
Considerably flawed method

(112)

Type : cytogenetic assay
Species : mouse
Sex : male/female
Strain : Swiss
Route of admin. : oral unspecified
Exposure period :
Doses : 50 mg/kg of body weight
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : evaluation: 300 metaphases/dose; control: 600 metaphases
Result : negative
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
Considerably flawed method

(112)

Type : cytogenetic assay
Species : mouse
Sex : male/female
Strain : Swiss
Route of admin. : s.c.
Exposure period :
Doses : 50 mg/kg of body weight.
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : evaluation: 300 metaphases/dose; control: 600 metaphases
Result : negative
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
method markedly flawed

(112)

Type : cytogenetic assay
Species : mouse
Sex : male/female
Strain : Swiss
Route of admin. : i.p.
Exposure period :
Doses : 12.5, 25, 50 mg/kg of body weight or 5 times 10 mg/kg of body weight
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : evaluation: 300 metaphases/dose; control: 1000 metaphases

Result : positive
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(112)

Type : cytogenetic assay
Species : mouse
Sex : male/female
Strain : Swiss
Route of admin. : oral unspecified
Exposure period :
Doses : 50 mg/kg of body weight
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : evaluation: 300 metaphases/dose; control: 600 metaphases
Result : negative
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(112)

Type : cytogenetic assay
Species : mouse
Sex : male/female
Strain : Swiss
Route of admin. : s.c.
Exposure period :
Doses : 50 mg/kg of body weight
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : evaluation: 300 metaphases/dose; control: 600 metaphases
Result : negative
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(113)

Type : Drosophila SLRL test
Species : Drosophila melanogaster
Sex : male
Strain :
Route of admin. : oral feed
Exposure period :
Doses : 400 ppm
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no further data
Result : negative
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

Reliability : (1) valid without restriction
Guideline similar study

(91)

Type : Drosophila SLRL test
Species : Drosophila melanogaster
Sex : male
Strain :
Route of admin. : other: injection
Exposure period :
Doses : 900 ppm
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : route of administration: injection; no further data
Result : questionable
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Type : Drosophila SLRL test
Species : Drosophila melanogaster
Sex : male
Strain :
Route of admin. : oral feed
Exposure period :
Doses : 400 ppm
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : no further data
Result : negative
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(91)

Type : Drosophila SLRL test
Species : Drosophila melanogaster
Sex : male
Strain :
Route of admin. : other: injection
Exposure period :
Doses : 900 ppm
Result :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : route of administration: injection; no further data
Result : questionable
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(91)

Type	:	other: mouse sperm abnormality test
Species	:	mouse
Sex	:	male
Strain	:	Swiss
Route of admin.	:	i.p.
Exposure period	:	
Doses	:	12.5, 25, 50 mg/kg of body weight
Result	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	3 animals/dose; evaluation: 1500 sperms/dose; control:: 3000 sperms
Result	:	positive (above 25 mg/kg of body weight)
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(3) invalid Method markedly flawed

(112)

Type	:	other: mouse sperm abnormality test
Species	:	mouse
Sex	:	male
Strain	:	Swiss
Route of admin.	:	i.p.
Exposure period	:	
Doses	:	12.5, 25, 50 mg/kg of body weight
Result	:	
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	3 animals/dose; evaluation: 1500 sperms/dose; control: 3000 sperms
Result	:	positive (above 25 mg/kg of body weight)
Source	:	Hoechst AG Frankfurt 80 Hoechst AG Frankfurt/Main
Test substance	:	monochloroacetic acid

(112)

5.7 CARCINOGENICITY

Species	:	mouse
Sex	:	female
Strain	:	other: ICR/Ha Swiss
Route of admin.	:	dermal
Exposure period	:	580 days
Frequency of treatment	:	3 times/week
Post. obs. period	:	
Doses	:	2 mg in 0.1 mL of acetone
Result	:	
Control group	:	yes, concurrent no treatment
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS

Remark : 50 animals; skin painting study
Result : No elevated tumor incidence at the application site compared to the controls, but the mean survival time was reduced (506 days; untreated controls: 526 days, controls treated with acetone: 543 days)
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(114)

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : dermal
Exposure period : 580 days
Frequency of treatment : 3 times/week
Post. obs. period :
Doses : 2 mg in 0.1 mL of acetone
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 50 animals; skin painting study
Result : No elevated tumor incidence at the application site compared to the controls, but the mean survival time was reduced (506 days; untreated controls: 526 days, controls treated with acetone: 543 days)
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
inappropriate test system

(114)

Species : rat
Sex : male
Strain : Fischer 344
Route of admin. : drinking water
Exposure period : 100 - 104 weeks
Frequency of treatment : daily
Post. obs. period :
Doses : 0, 50, 500, 2000 mg/L (0, 3.6, 28, 69 mg/kg of body weight/day)
Result :
Control group :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Result : Dose-dependent reduction of body weight growth and elevated mortality in the highest-dose group, no substance-related histopathological findings and no indications of a carcinogenic effect.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(115)

Species : rat

Sex : male

Strain : Fischer 344
Route of admin. : drinking water

Exposure period : 100 - 104 weeks
Frequency of treatment : daily
Post. obs. period :
Doses : 0, 50, 500, 2000 mg/L (0, 3.6, 28, 69 mg/kg of body weight/day)
Result :
Control group :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Result : Dose-dependent reduction of body weight growth and elevated mortality in the highest-dose group, no substance-related histopathological findings and no indications of a carcinogenic effect
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Abstract

(115)

Species : rat
Sex : male/female
Strain : other: F344/N
Route of admin. : gavage
Exposure period : 104 weeks
Frequency of treatment : daily, 5 times/week
Post. obs. period :
Doses : 0, 15, 30 mg/kg of body weight
Result :
Control group : yes, concurrent no treatment
Method : other: carcinogenicity
Year :
GLP : no data
Test substance : other TS
Remark : 70 animals/sex/dose and control group.
Test substance preparation in deionized water. Interim section of 10 animals/sex/dose and control group after a 6-month test period and of 7 animals/sex/dose and control group after a 15-month test period.
Result : No elevated tumor incidence compared to the controls. The average body weight of the females in the low-dose and high-dose groups and of the males in the low-dose group did not deviate from those of the controls by more than 10 % during the test. For the males in the high-dose group, the average body weight after the 30th week was 4 to 8% lower. The mortality of the males in the high-dose group (controls: 26/53, high dose: 37/53) and of the males in the low and high-dose groups (controls: 16/53, low dose: 34/53 and high dose: 27/53) was significantly elevated.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(91)

Species : rat

Sex : male/female

Strain : other: F344/N
Route of admin. : gavage
Exposure period : 104 weeks
Frequency of treatment : daily, 5 times/week
Post. obs. period :
Doses : 0, 15, 30 mg/kg of body weight
Result :
Control group : yes, concurrent no treatment
Method : other: carcinogenicity
Year :
GLP : no data
Test substance : other TS
Remark : 70 animals/sex/dose and control group. Test substance preparation in deionized water. Interim section of 10 animals/sex/dose and control group after a 6-month test period and of 7 animals/sex/dose and control group after a 15-month test period .
Result : No elevated tumor incidence compared to the controls. The average body weight of the females in the low-dose and high-dose groups and of the males in the low-dose group did not deviate from those of the controls by more than 10 % during the test. For the males in the high-dose group, the average body weight after the 30th week was 4 to 8% lower. The mortality of the males in the high-dose group (controls: 26/53, high dose: 37/53) and of the males in the low and high-dose groups (controls: 16/53, low dose: 34/53 and high dose: 27/53) was significantly elevated
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Species : mouse
Sex : male/female
Strain : other: B6C3F1, B6AKF1
Route of admin. : gavage
Exposure period : 18 months
Frequency of treatment : daily; from 7th to 28th day of life by stomach tube then in the feed.
Post. obs. period :
Doses : 46.4 mg/kg of body weight/day by stomach tube; 149 ppm in the feed (see text)
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 18 animals/sex/strain
Result : The kinds and incidence of tumors were the same as in the control group.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(116)

Species : mouse

Sex : male/female
Strain : B6C3F1

Route of admin. : gavage
Exposure period : 104 weeks
Frequency of treatment : daily, 5 times/week
Post. obs. period :
Doses : 0, 50, 100 mg/kg of body weight
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 60 animals/sex/dose and control group. Test substance preparation in deionized water
Result : No elevated tumor incidence compared to the controls. The average body weight of the males was the same as that of the controls. After week 52 of the test period, the body weight growth of the females in the low-dose and high-dose groups was inhibited by 6 to 10 % compared to the controls.
The animals treated with the substance showed an elevated incidence of inflammations of the mucous membrane of the nasal passage, respiratory epithelial metaplasia of the olfactory epithelium and squamous cell hyperplasia in the forestomach. The mortality of the males in the high-dose group was significantly elevated (controls: 14/60, high dose group: 39/60).

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochlorocetic acid

(91)

Species : mouse
Sex : male/female
Strain : other: B6C3F1, B6AKF1
Route of admin. : gavage
Exposure period : 18 months
Frequency of treatment : daily; from day 7 to day 28 of life by stomach tube then in the feed
Post. obs. period :
Doses : 46.4 mg/kg of body weight/day by stomach tube; 149 ppm in the feed (see text)
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 18 animals/sex/variety
Result : The kind and incidence of tumors were the same as in the control group.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
Documentation insufficient for evaluation

(116)

Species : mouse
Sex : male/female
Strain : B6C3F1

Route of admin. : gavage
Exposure period : 104 weeks

Frequency of treatment : daily, 5 times/week
Post. obs. period :
Doses : 0, 50, 100 mg/kg of body weight
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 60 animals/sex/dose and control group. Test substance preparation in deionized water
Result : No elevated tumor incidence compared to the controls. The average body weight of the males was the same as that of the controls. After week 52 of the test period, the body weight growth of the females in the low-dose and high-dose groups was inhibited by 6 to 10 % compared to the controls. The animals treated with the substance showed an elevated incidence of inflammations of the mucous membrane of the nasal passage, respiratory epithelial metaplasia of the olfactory epithelium and squamous cell hyperplasia in the forestomach. The mortality of the males in the high-dose group was significantly elevated (controls: 14/60, high dose group: 39/60).

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (1) valid without restriction
Guideline similar study

(91)

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : s.c.
Exposure period : 580 days
Frequency of treatment : once/week
Post. obs. period :
Doses : 0.5 mg in 0.05 mL of tricaprylin
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 50 animals
Result : Three sarcomas detected in the area of the application site do not represent a significant increase in tumor incidence compared to the controls. The mean survival time of the dose group was reduced compared to the controls (454 days; controls: untreated 526 days, animals treated with tricaprylin: 495 days).
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(114)

Species : mouse
Sex : male/female
Strain : other: B6C3F1, B6AKF1

Route of admin. : s.c.

Exposure period : 18 months
Frequency of treatment : once at the age of 28 days
Post. obs. period :
Doses : 100 mg/kg of body weight in water
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 18 animals/sex/strain
Result : The kind and incidence of the tumors were in the same range as in the control group
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(117)

Species : mouse
Sex : female
Strain : other: ICR/Ha Swiss
Route of admin. : s.c.
Exposure period : 580 days
Frequency of treatment : once/week
Post. obs. period :
Doses : 0.5 mg in 0.05 mL of tricaprylin
Result :
Control group : yes, concurrent no treatment
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Remark : 50 animals
Result : Three sarcomas detected in the area of the application site do not represent a significant increase in tumor incidence compared to the controls. The mean survival time of the dose group was reduced compared to the controls (454 days; controls: untreated 526 days, animals treated with tricaprylin: 495 days).
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (3) invalid
Inappropriate test system

(114)

Species : mouse
Sex : male/female
Strain : other: B6C3F1, B6AKF1
Route of admin. : s.c.
Exposure period : 18 months
Frequency of treatment : once at the age of 28 days
Post. obs. period :
Doses : 100 mg/kg of body weight in water
Result :
Control group : yes, concurrent no treatment

Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	other TS
Remark	:	18 animals/sex/strain
Result	:	The kind and incidence of the tumors were in the same range as in the control group
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Test substance	:	monochloroacetic acid
Reliability	:	(3) invalid Inappropriate test system

(117)

5.8 TOXICITY TO REPRODUCTION

Type	:	other: fertility
Species	:	rat
Sex	:	male/female
Strain	:	Fischer 344
Route of admin.	:	gavage
Exposure period	:	13 weeks
Frequency of treatment	:	5 days/week
Premating exposure period		
Male	:	
Female	:	
Duration of test	:	
Doses	:	30, 60, 90, 120 or 150 mg/kg of body weight/day
Control group	:	yes
Method	:	other: no data
Year	:	
GLP	:	no data
Test substance	:	no data
Result	:	No substance-related histopathologically detectable effects on the testes and no change in absolute and relative weights of the testes.
Source	:	Hoechst AG Frankfurt/Main Clariant GmbH Frankfurt am Main
Reliability	:	(2) valid with restrictions Study well documented, acceptable from a natural science standpoint and for evaluation.

(118)

Type	:	
Species	:	rat
Sex	:	female
Strain	:	Long-Evans
Route of admin.	:	other: p.o.
Exposure period	:	6th – 15th day of gestation
Frequency of treatment	:	daily
Premating exposure period		
Male	:	
Female	:	
Duration of test	:	
Doses	:	0, 17, 35, 70, 140 mg/kg of body weight/day
Control group	:	

Method : other: no data
Year :
GLP : no data

Test substance : other TS
Result : At the highest dose level, maternal toxicity (reduced body weight growth), no fetotoxicity, in the highest dose group elevated number of malformations of the cardiovascular system; skeletal malformations did not occur.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(119)

5.9 DEVELOPMENTAL TOXICITY/TERATOGENICITY

Species : rat
Sex : female
Strain : Long-Evans
Route of admin. : other: p.o
Exposure period : 6th –15th day of gestation
Frequency of treatment : daily
Duration of test :
Doses : 0, 17, 35, 70, 140 mg/kg of body weight/day
Control group :
Method : other: no data
Year :
GLP : no data
Test substance : other TS
Result : At the highest dose level, maternal toxicity (reduced body weight growth), no fetotoxicity, in the highest dose group elevated number of malformations of the cardiovascular system; skeletal malformations did not occur.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloriacetic acid
Reliability : (4) not assignable
Abstract

(119)

5.10 OTHER RELEVANT INFORMATION

Type : neurotoxicity
Remark : species: mouse
strain Swiss-Webster
sex: male
Rt. of admin.: oral (not specified)
Adm. duration: no data
Adm. interval: no data
Dose: 260 (LD 50), 380 mg/kg of body weight (LD80)
Controls: no data
Method: no data
GLP: no data
Result:
The surviving animals showed after 24 h symptoms such as rigidly pressing together the forelegs and spreading the hindlegs, occasionally also pressing together the hindlegs, bent back and severe convulsions followed by death within 48 hours p.a. Animals surviving up to 6 months showed no improvement in symptoms. Histologically, damage to Purkinje

cells occurred primarily in the cerebellum but also in the brain stem, hippocampus and cortex (2 to 5 weeks p.a.). The blood-brain barrier also showed damage.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(71)

Type : Neurotoxicity

Remark : Dichloroacetic acid and phenobarbital were tested in rodents as potential antidotes in monochloroacetic acid (MCA) poisoning. Administration to rats (Sprague-Dawley, males) of dichloroacetic acid (DCA; 110 mg/kg of body weight, i.p.) 15 minutes after administration of MCA (80 mg/kg of body weight, i.v.) reduced the mortality to 0. Administration of phenobarbital (PhB; 40 mg/kg of body weight, i.p.) reduced mortality to < 15 %. A similar effect was seen in mice (Swiss-Webster, males). In the authors' opinion, the lethal effect of MCA on rats is not associated with an altered permeability of the blood-brain barrier, because PhB did not change the concentration of MCA and of metabolites in plasma and in the cerebrospinal fluid (CSF) of rats that had been treated with a lethal dose of ^{14}C-MCA. Rather, the lethal effect is associated with a dose-dependent accumulation of lactate in the CSF which occurs in parallel with the ataxia and for which a threshold value for the mortality (18 mmol/l) has been noted. By use of DCA and PhB, the lactate level in the CSF and thus also the mortality were reduced.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(120)

Type : Neurotoxicity

Remark :

Species:	mouse
Strain:	Swiss-Webster
Sex:	males
Rt. of adm.:	oral (not specified)
Adm. duration:	no data
Adm. interval:	no data
Dose:	260 (LD 50), 380 mg/kg of body weight (LD80)
Controls:	no data
Method:	no data
GLP:	no data

Result : The surviving animals showed after 24 h symptoms such as rigidly pressing together the forelegs and spreading the hindlegs, occasionally also pressing together the hindlegs, bent back and severe convulsions followed by death within 48 hours p.a. Animals surviving up to 6 months showed no improvement in symptoms. Histologically, damage to Purkinje cells occurred primarily in the cerebellum but also in the brain stem, hippocampus and cortex (2 to 5 weeks p.a.). The blood-brain barrier also showed damage.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid

Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(71)

Type : Neurotoxicity
Remark Dichloroacetic acid and phenobarbital were tested in rodents as potential antidotes in monochloroacetic acid (MCA) poisoning. Administration to rats (Sprague-Dawley, males) of dichloroacetic acid (DCA; 110 mg/kg of body weight, i.p.) 15 minutes after administration of MCA (80 mg/kg of body weight, i.v.) reduced the mortality to 0. Administration of phenobarbital (PhB; 40 mg/kg of body weight, i.p.) reduced mortality to < 15 %. A similar effect was seen in mice (Swiss-Webster, males). In the authors' opinion, the lethal effect of MCA on rats is not associated with an altered permeability of the blood-brain barrier, because PhB did not change the concentration of MCA and of metabolites in plasma and in the cerebrospinal fluid (CSF) of rats that had been treated with a lethal dose of ^{14}C-MCA. Rather, the lethal effect is associated with a dose-dependent accumulation of lactate in the CSF which occurs in parallel with the ataxia and for which a threshold value for the mortality (18 mmol/l) has been noted. By use of DCA and PhB, the lactate level in the CSF and thus also the mortality were reduced.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(120)

Type : other
Remark : Calves and sheep, after inadvertent ingestion of drinking water containing monochloroacetic acid (ca. 170 mg/kg of body weight) showed an estimated minimum lethal dose of about 20 - 70 mg/kg of body weight. Both animal varieties experienced paralysis of the extremities, tremor and convulsions. Necropsy showed blood-congested lungs, subcutaneous hemorrhage and edema as well as hemorrhages and bleeding in the epicardium and endocardium.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(121)

Type : other
Remark : Cows showed after oral administration of 50 mg/kg of body weight (Na salt) lethargy fpr 24 hours; 100 mg/kg of body weight caused severe intoxication symptoms (the animals needed 2 weeks to recover); 150 mg/kg of body weight caused death after 9 hours; oral doses of 5 - 50 mg/kg of body weight given for 28 days were without effect.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(122)

Type : other
Remark : Dogs after oral administration of 24 mg/kg of body weight or after intravenous administration of 25-30 mg/kg of body weight experienced vomiting and increased bile secretion.
Source : Hoechst AG Frankfurt 80

Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(123)

Type : other
Remark : Two geese showed no symptoms after oral administration of 50 mg/kg of body weight (Na salt). After 75 mg/kg of body weight, both animals died within 4 - 6 hours.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(124)

Type : other
Remark : Molten monochloroacetic acid (about 60 °C) was applied to the shaved back skin of rabbits (male, 5-10 animals/group) for 1.5 or 5 minutes (3 - 5 % of the body surface) and then washed off with warm tap water for 2 minutes. Immediately after the washing, one part of the animals received an intravenous infusion of ethanol (0.5 – 3 g/L of saline, ear). The application of monochloroacetic acid caused all animals to die within a few hours. The symptoms were: loss of balance, lethargy, apnea and coma. As in poisoning with monofluoroacetic acid, hyperglycemia and severe acidosis were noted. Treatment with ethanol postponed the death of the animals , and the blood glucose level was less affected.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(125)

Type : other
Remark : Dermal application of 200 or 400 mg/kg of body weight for 10, 20 or 40 minutes to rats was lethal.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(72)

Type : other
Remark : Calves and sheep, after inadvertent ingestion of drinking water containing monochloroacetic acid (ca. 170 mg/kg of body weight) showed an estimated minimum lethal dose of about 20 - 70 mg/kg of body weight. Both animal varieties experienced paralysis of the extremities, tremor and convulsions. Necropsy showed blood-congested lungs, subcutaneous hemorrhage and edema as well as hemorrhages and bleeding in the epicardium and endocardium.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

(121)

Type : other
Remark : Cows showed after oral administration of 50 mg/kg of body weight (Na salt) lethargy for 24 hours; 100 mg/kg of body weight caused severe intoxication symptoms (the animals needed 2 weeks to recover); 150 mg/kg of body weight caused death after 9 hours; oral doses of 5 - 50 mg/kg of body

weight given for 28 days were without effect.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

(122)

Type : other
Remark : Dogs after oral administration of 24 mg/kg of body weight or after intravenous administration of 25-30 mg/kg of body weight experienced vomiting and increased bile secretion
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

(123)

Type : other
Remark : Two geese showed no symptoms after oral administration of 50 mg/kg of body weight (Na salt). After 75 mg/kg of body weight, both animals died within 4 - 6 hours.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

(124)

Type : other
Remark : Molten monochloroacetic acid (about 60 °C) was applied to the shaved back skin of rabbits (male, 5-10 animals/group) for 1.5 or 5 minutes (3- - 5 % of the body surface) and then washed off with warm tap water for 2 minutes. Immediately after the washing, one part of the animals received an intravenous infusion of ethanol (0.5 – 3 g/L of saline, ear). The application of monochloroacetic acid caused all animals to die within a few hours. The symptoms were: loss of balance, lethargy, apnea and coma. As in poisoning with monofluoroacetic acid, hyperglycemia and severe acidosis were noted. Treatment with ethanol postponed the death of the animals , and the blood glucose level was less affected.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

(125)

Type : other
Remark : Dermal application of 200 or 400 mg/kg of body weight for 10, 20 or 40 minutes to rats was lethal
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Abstract

(72)

Type : Other: hepatotoxicity
Remark : Species: rat
Strain: Sprague-Dawley
Sex: male
Route of adm.: drinking water
Duration of adm.: 14 days
Adm. interval: daily

Dose: 170, 321, 501 mg/kg of body weight/day
Controls: received 0.2% NaCl solution
Method: no data

GLP: no data
Result::
Significant dose-dependent reduction in body weight growth and significant dose-dependent reduction in liver weight even at the lowest dose level, compared to the controls. No peroxisome proliferation.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(126)

Type : Other: hepatotoxicity
Remark : Species: mouse
Strain: B6C3F1
Sex: male
Route of adm.: drinking water
Duration of adm.: 14 days
Adm. interval: daily
Dose: 265, 386, 482 mg/kg of body weight/day
Controls:: received 0.2% NaCl solution
Method: no data
GLP: no data
Result::
No effect on body weight growth or on liver weight. No peroxisome proliferation
Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(126)

Type : Other: hepatotoxicity
Remark : Species: rat
Strain: Sprague-Dawley
Sex: male
Rt. of adm.: drinking water
Duration of adm.: 14 days
Adm. interval: daily
Dose: 170, 321, 501 mg/kg of body weight/day
Controls: received 0.2 % NaCl solution
Method: no data
GLP: no data

Result : Significant dose-dependent reduction in body weight growth and significant dose-dependent reduction in liver weight even at the lowest dose level, compared to the controls. No peroxisome proliferation.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid

Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(127)

Type : Other: hepatotoxicity
Remark : Species: mouse
Strain: B6C3F1
Sex: male
Route of adm.: drinking water

Duration of adm.: 14 days
Adm. interval: daily
Dose: 265, 386, 482 mg/kg of body weight/day
Controls: received 0.2 % NaCl solution

Method: no data
GLP: no data

Result : No effect on body weight growth or on liver weight. No peroxisome proliferation

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid

Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(127)

Type : Other: kinetics and metabolism

Remark : Species: rat
Strain: Sprague-Dawley
Sex: male (3 animals)
Route of adm. s.c.
Duration of adm.: no data
Adm. interval: no data
Dose: 53 (LD1), 162 mg/kg of body weight (LD90)
Controls: no data
Methode: no data
GLP: no data
Result:
Predominantly distributed in the kidneys and liver; less radioactivity was measured in the plasma, heart and brain. At 53 mg/kg of body weight the highest plasma concentration was reached after 32 minutes. Elimination took place in two phases (half-life: fast phase: 90 min, slow phase 500 min). After 1024 minutes, 50 % of the adminstered radioactivity was detected in the urine.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : [^{14}C]-labeled monochloroacetic acid

(81)

Type : Other: kinetics and metabolism

Remark : In rats to which 1µCi (37kBq) of1-^{14}C-monochloroacetic acid had been administered orally, the radioactivity in the plasma, liver, kidneys, heart, testes and spleen reached a peak after 1 – 2 h, after which it dropped rapidly (half-life: 2 – 7 hours). In the brain, the radioactivity increased up to 8 hours and then remained constant for 24 hours.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(72)

Type : Other: kinetics and metabolism

Remark : Species: rat
Strain: Sprague-Dawley
Sex: male
Route of adm.: i.v. (tail vein)
Duration of adm.: no data
Adm. interval: no data
Dose: 6.8 µg/100 g of body weight
Controls: no data
Method: no data

GLP: no data
Test substance: 1-^{14}C-monochloroacetic acid
Result::
5 min p.a. rapid accumulation of radioactivity in the liver, kidney cortex, stomach walls, salivary and tear glands, esophagus, tracheal tissues, pancreas, certain ganglia of the peripheral nervous system, and incipient accumulation in the brain were noted. One hour p.a. the radioactivity was largely eliminated into the small intestine, the kidney contents and the urinary bladder. High accumulation was noted in the brain, bone marrow, thymus, myocardial tissue, salivary gland and tongue; 4 hours p.a. the liver and other tissues began to eliminate the radioactivity, whereas the brain (primarily the cerebellum), bone marrow, thymus and pancreas continued to accumulate the monochloroacetic acid which continued for 48 hours p.a. These observations suggest an early accumulation of monochloroacetic acid and/or its metabolites in hydrophylic tissue and accumulation in lipophilic tissues at a later time.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(128)

Type : Other: kinetics and metabolism

Remark : Species: rat
Strain: Sprague-Dawley
Sex: male (6 animals)
Route of adm.: i.v.
Duration of adm.: 75 minutes (the animals were terminated thereafter)
Adm. interval: no data
Dose: 80 mg/kg of body weight
Controls: no data
Method: no data
GLP: no data
Test substance: ^{14}C-monochloroacetic acid (0.25 µCi/mg)
Result::
The following substances or metabolites were identified:
carboxymethylcysteine (brain and plasma),
monochloroacetic acid (brain, plasma and cerebrospinal fluid = CSF),
oxalic acid (brain and plasma) and thiodiacetic acid (plasma). Another substance in the brain and CFS could not be identified (it was neither chlorocitric acid nor glycolic acid).

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(120)

Type : Other: kinetics and metabolism

Remark : Species: mouse
Strain: no data
Sex: female
Route of adm.: i.p.
Duration of adm.: no data
Adm. interval: no data
Dose: 70, 90, 100 mg/kg of body weight (^{14}C-labeled)
Controls: no data
Method: no data
GLP: no data
Result::
Within 72 h, 82-88 % of the radioactivity was found in the urine, 8% in the exhaled air and 0.2 – 0.3 % in the feces, 2 – 3% remained in the body. Two main metabolites were found in the urine, namely: S-carboxymethyl-L-cysteine (33 – 43%) and thiodiacetic acid (33 – 42%); moreover

monochloroacetic acid (6 – 22%), glycolic acid (3 – 5 %) and oxalic acid (0.1 – 0.2%). In the authors' opinion, two different degradation paths for monochloroacetic acid exist in the body:
main path → S-carboxymethylglutathione --> S-carboxymethylcysteine → thiodiacetic acid;
second path: enzymatic hydrolysis of the C-Cl bond → glycolic acid → CO_2

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : ^{14}C-monochloroacetic acid

(129)

Type : Other: kinetics and metabolism

Remark :
Species: rat
Strain: Sprague-Dawley
Sex:: male
Route of adm.: oral (by stomach tube)
Duration of adm.: 3 days
Adm. interval: daily
Dose: 94.5 mg/kg of body weight (14.2 µL/dose)
Controls: no data
Method: no data
GLP: no data
Result:
Monochloroacetic acid was absorbed rapidly. 24 hours after the first administration, 57.7, 53.7, 32.1, 18.9, 17.8, 13.5, 10.7 or. 8.0 nmol of monochloroacetic acid equivalents/gram of tissue was found in the kidneys, liver, intestines, lungs, spleen, brain and testes. 24 hours after the 3rd administration, accumulation in the organs was noted (significant, $p \leq 0.05$, in the intestines, lungs, heart and testes). In the erythrocytes and hemoglobin, no significant binding of monochloroacetic acid was detected. In nondialyzed or dialyzed plasma, elevated binding to plasma proteins of about 0.57 or 0.42 nmol of monochloroacetic acid equivalents/kg of protein was noted 24 h after the 1st administration and of 0.88 or 0.71 nmol/mg of protein 24 h after the 3rd administration.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : [1-^{14}C]-labeled monochloroacetic acid

(130)

Type : Other: kinetics and metabolism

Remark :
Species: rat
Strain: Sprague-Dawley
Sex: male (3 animals)
Route of adm.: s.c.
Duration of adm.: no data
Adm. interval: no data
Dose: 53 (LD1), 162 mg/kg of body weight (LD90)
Controls: no data
Method: no data
GLP: no data

Result : Predominantly distributed in the kidneys and the liver; less radioactivity was measured in the plasma, heart and brain. At 53 mg/kg of body weight the highest plasma concentration was reached after 32 minutes. Elimination took place in two phases (half-life: fast phase: 90 min, slow phase 500 min). After 1024 minutes, 50 % of the adminstered radioactivity was detected in the urine.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : [^{14}C]-labeled monochloroacetic acid
Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(81)

Type : Other: kinetics and metabolsm
Remark : In rats which had received 1µCi (37kBq) 1-^{14}C-monochloroacetic acid orally, the radioactivity in plasma, liver, kidneys, heart, testes and spleen reached a peak after 1 – 2 h after which it dropped rapidly (half-life: 2 – 7 h). In the brain, the radioactivity increased up to 8 hours and then remained constant for 24 hours.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (4) not assignable
Abstract

(72)

Type : Other: kinetics and metabolism
Remark : Species: rat
Strain: Sprague-Dawley
Sex: male
Route of adm.: i.v. (tail vein)
Duration of adm.: no data
Adm. interval: no data
Dose: 6.8 µg/100 g of body weight
Controls: no data
Method: no data
GLP: no data
Test substance: 1-^{14}C-monochloroacetic acid
Result : 5 min p.a. rapid accumulation of radioactivity in the liver, kidney cortex, stomach walls, salivary and tear glands, esophagus, tracheal tissues, pancreas, certain ganglia of the peripheral nervous system, and incipient accumulation in the brain were noted. One hour p.a. the radioactivity was largely eliminated into the small intestine, the kidney contents and the urinary bladder. High accumulation was noted in the brain, bone marrow, thymus, myocardial tissue, salivary gland and tongue; 4 hours p.a. the liver and other tissues began to eliminate the radioactivity, whereas the brain (primarily the cerebellum), bone marrow, thymus and pancreas continued to accumulate the monochloroacetic acid which continued for 48 hours p.a. These observations suggest an early accumulation of monochloroacetic acid and/or its metabolites in hydrophylic tissue and accumulation in lipophilic tissues at a later time
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation.

(128)

Type : Other: kinetics and metabolism
Remark : Species: rat
Strain: Sprague-Dawley
Sex: male (6 animals)

Route of adm.: i.v.
Duration of adm.: 75 minuten (the animals were then terminated)
Adm. interval: no data
Dose: 80 mg/kg of body weight
Controls: no data
Method: no data
GLP: no data
Test substance: ^{14}C-monochloroacetic acid (0.25 µCi/mg)

Result : The following substances or metabolites were identified: carboxymethylcysteine (brain and plasma), monochloroacetic acid (brain, plasma and cerebrospinal fluid = CSF), oxalic acid (brain and plasma) and thiodiacetic acid (plasma). Another substance in the brain and CFS could not be identified (it was neither chlorocitric acid nor glycolic acid).

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : monochloroacetic acid

Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation

(120)

Type : Other: kinetics and metabolism

Remark : Species: mouse
Strain: no data
Sex: female
Route of adm.: i.p.
Duration of adm.: no data
Adm. interval: no data
Dose: 70, 90, 100 mg/kg of body weight (^{14}C-labeled)
Controls: no data
Method: no data
GLP: no data

Result : Within 72 h, 82-88 % of the radioactivity was found in the urine, 8% in the exhaled air and 0.2 – 0.3 % in the feces, 2 – 3% remained in the body. Two main metabolites were found in the urine, namely: S-carboxymethyl-L-cysteine (33 – 43%) and thiodiacetic acid (33 – 42%); moreover monochloroacetic acid (6 – 22%), glycolic acid (3 – 5 %) and oxalic acid (0.1 – 0.2%). In the authors' opinion, two different degradation paths for monochloroacetic acid exist in the body:
main path → S-carboxymethylglutathione --> S-carboxymethylcysteine → thiodiacetic acid;
second path: enzymatic hydrolysis of the C-Cl bond → glycolic acid → CO_2

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : ^{14}C-monochloroacetic acid

Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation.

(129)

Type : Other: kinetics and metabolism

Remark : Species: rat
Strain: Sprague-Dawley
Sex: male
Route of adm. oral (by stomach tube)
Duration of adm.: 3 days
Adm. interval: daily
Dose: 94.5 mg/kg of body weight (14.2 µL/dose)
Controls: no data

Method: no data
GLP: no data

Result : Monochloroacetic acid was absorbed rapidly. 24 hours after the first administration, 57.7, 53.7, 32.1, 18.9, 17.8, 13.5, 10.7 or. 8.0 nmol of monochloroacetic acid equivalents/gram of tissue was found in the kidneys, liver, intestines, lungs, spleen, brain and testes. 24 hours after the 3rd administration, accumulation in the organs was noted (significant, $p \leq 0.05$, in the intestines, lungs, heart and testes). In the erythrocytes and hemoglobin, no significant binding of monochloroacetic acid was detected. In nondialyzed or dialyzed plasma, elevated binding to plasma proteins of about 0.57 or 0.42 nmol of monochloroacetic acid equivalents/kg of protein was noted 24 h after the 1st administration and of 0.88 or 0.71 nmol/mg of protein 24 h after the 3rd administration

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

Test substance : [1-^{14}C]-labeled monochloroacetic acid

(130)

Type : Other: metabolism and kinetics

Remark : Rat (Sprague-Dawley), male (15 animals), 9.45 mg/kg of body weight (0.1 mmol/kg of body weight, 14.2 µCi/dose), p.o, animals killed after 4, 8, 12, 24 and 48 hours.

Result : Rapid absorption and elimination, about 90% of the dose was eliminated in the urine within 24 hours. Elimination was fastest from the intestines and kidneys. Maximum radioactivity in the intestines and kidneys after 4 and 8 hours p.a., then in descending order in the liver, spleen, testes, lungs, brain and heart.

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

(130)

Type : Other: metabolism of foreign matter

Remark : In pharmacokinetic studies, monochloroacetic acid appeared as a metabolite after administration of various foreign substances, for example after inhalation of trichlorethylene and possibly as glutathione conjugate (inactivated) after oral administration of chloroethanol to rats. Moreover, monochloroacetic acid was found in vivo as metabolite in the metabolism of vinyl chloride.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

(131) (132) (133)

Type : Other: metabolism and foreign matter

Remark : In pharmacokinetic studies, monochloroacetic acid appeared as a metabolite after administration of various foreign substances, for example after inhalation of trichlorethylene and possibly as glutathione conjugate (inactivated) after oral administration of chloroethanol to rats. Moreover, monochloroacetic acid was found in vivo as metabolite in the metabolism of vinyl chloride

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

(131) (132) (133)

5.11 EXPERIENCE WITH HUMAN EXPOSURE

Remark : Five cases of poisoning with fatal outcome (The Netherlands, 1949; USA, 1969 and 1980; Japan, 1984; Sweden, 1986) and two cases of poisoning with awakening from a coma have been reported (USA, 1975; France, 1985) have been reported. In all cases, the skin of a male worker was accidentally exposed to warm (30 - 90 °C), liquid or molten monochloroacetic acid (about 10% of the body surface, in one case 25 – 30 %, mainly the legs) and as a result suffered burns of the 1st – 3rd degree. In general, after a short time, the skin was washed with water for at least 10 min and then once again for 10 – 60 min with water or bicarbonate solution. The first clinical symptoms set in after 1 – 3 hours (vomiting, anxiety, convulsions, then cardiovascular shock, loss of consciousness, coma). Biochemical effects consisted of severe metabolic acidosis, hyperglycemia, hypokalemia, hardly any diuresis, and elevated phosphocreatinine kinase level. Death usually occurred 4 – 18 hours after the skin contact (in one case after 7 days). Nonspecific pathological damage was noted (liver, brain, kidneys, heart and other organs). Iy is assumed that the toxic mechanism (similar to that for monofluoroacetic acid) consists of a metabolic poisoning occurring as a result of a blockade of the Krebs TCC cycle. (Chlorocitrate presumably acts as an inhibitor of aconitase which leads to metabolic acidosis through accumulation of citric acid.)

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(86) (125) (134)

Remark : In a laboratory accident, during the preparation of ^{14}C-labeled monochloroacetic acid, the fingers of an emplyee became contaminated (ca. 200 - 1600 rad; he washed his hands within 1 minute), about 1% was absorbed. With a half-life of 15 hours, monochloroacetic acid was eliminated predominanly unchanged, and in the slow phase it was bound to cysteine and glutathione or protein. In the blood, 17.5 h after the accident, less than 20% of the activity was found in the erythrocytes and the remainder in plasma. After 6 days, only very small amounts (0.16 mCi/mL) were detected in whole blood. The activities eliminated through urine and exhaled air were quantitatively about the same (0.16 mCi/day).

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(131)

Remark : Monochloroacetic acid acts as a noncompetitive inhibitor on the acetate oxidation in vitro, reduces the sulfhydryl concentration in the liver and kidneys (rat) and does not exert an alkylating action on cysteine sulfhydryl groups in vitro.

Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main

Test substance : monochloroacetic acid

(81)

Remark : A special mechanism seems to underly the systemic toxicity; hence, the effectiveness of ethanol as an antidote seems to be questionable.
Source : Hoechst AG Frankfurt 80
Hoechst AG Frankfurt/Main
Test substance : monochloroacetic acid

(135)

Remark : Five cases of poisoning with fatal outcome (The Netherlands, 1949; USA, 1969 and 1980; Japan, 1984; Sweden, 1986) and two cases of poisoning with awakening from a coma have been reported (USA, 1975; France, 1985) have been reported. In all cases, the skin of a male worker was accidentally exposed to warm (30 - 90 °C), liquid or molten monochloroacetic acid (about 10% of the body surface, in one case 25 – 30 %, mainly the legs) and as a result suffered burns of the 1st – 3rd degree. In general, after a short time, the skin was washed with water for at least 10 min and then once again for 10 – 60 min with water or bicarbonate solution. The first clinical symptoms set in after 1 – 3 hours (vomiting, anxiety, convulsions, then cardiovascular shock, loss of consciousness, coma). Biochemical effects consisted of severe metabolic acidosis, hyperglycemia, hypokalemia, hardly any diuresis, and elevated phosphocreatinine kinase level. Death usually occurred 4 – 18 hours after the skin contact (in one case after 7 days). Nonspecific pathological damage was noted (liver, brain, kidneys, heart and other organs). It is assumed that the toxic mechanism (similar to that for monofluoroacetic acid) consists of a metabolic poisoning occurring as a result of a blockade of the Krebs TCC cycle. (Chlorocitrate presumably acts as an inhibitor of aconitase which leads to metabolic acidosis through accumulation of citric acid).
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Study well documented, acceptable from a natural science standpoint and for evaluation.

(86) (135) (125) (134)

Remark : In a laboratory accident, during the preparation of ^{14}C-labeled monochloroacetic acid, the fingers of an emplyee became contaminated (ca. 200 - 1600 rad; he washed his hands within 1 minute), about 1% was absorbed. With a half-life of 15 hours, monochloroacetic acid was eliminated predominantly unchanged, and in the slow phase it was bound to cysteine and glutathione or protein. In the blood, 17.5 h after the accident, less than 20% of the activity was found in the erythrocytes and the remainder in plasma. After 6 days, only very small amounts (0.16 mCi/mL) were detected in whole blood. The activities eliminated through urine and exhaled air were quantitatively about the same (0.16 mCi/day).

Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(131)

Remark : Monochloroacetic acid acts as a noncompetitive inhibitor on the acetate oxidation in vitro, reduces the sulfhydryl concentration in the liver and kidneys (rat) and does not exert an alkylating action on cysteine sulfhydryl groups in vitro.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid
Reliability : (2) valid with restrictions
Guideline similar study with acceptable limitations

(81)

Remark : A special mechanism seems to underly the systemic toxicity; hence, the effectiveness of ethanol as an antidote seems to be questionable.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main
Test substance : monochloroacetic acid

(135)

Result : A 5-year old girl inadvertently drank 5 – 6 mL of a solution for wart removal which contained 80% monochloroacetic acid. She died 8 hours thereafter. The amount of monochloroacetic acid measured in the serum was 100 mg/L.
Source : Hoechst AG Frankfurt/Main
Clariant GmbH Frankfurt am Main

(136)

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(3) Hoechst AG (1993): Product Information about monochloroacetic acid (05-13-1993)

(4) [German] Federal Minister for Internal Affairs (1996): Common Ministry Gazzette No. 16, vol. 47, 332, ID No.. 227 (04-29-1996)

(5) Hoechst AG (1993): Product information about monochloroacetic acid (05-13-1993)

(6) Storfallverordnung [Accident Decree] (1991): [German] Federal Law Gazzette, Part 1, Appendix II, Nr. 54, ID No.. 4c (09-20-1991)

(7) Storfallverordnung [Accident Decree] (1991): [German] Federal Law Gazzette, Part 1, Appendix II, Nr. 54 (09-20-1991),

(8) TA-Luft [TA Air] (02-27-1986)

(9) [German] Federal Minister for Internal Affairs (1986): Common Ministry Gazzette No. 7, vol. 37, appendix E, 139 (02-28-1986)

(10) Hoechst AG (1993): Safety Data Sheet, Monochloroacetic Acid - Flakes (01-22-1993)

(11) Hoechst AG (1993): Safety Data Sheet, Monochloroacetic Acid - Flakes (01-22-1993)

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(15) Koenig et al. (1986): in Ullmann's Encyclopedia of Industrial Chemistry (5th ed.) A6, 537-552

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7.1 END POINT SUMMARY

7.2 HAZARD SUMMARY

7.3 RISK ASSESSMENT