FOREWORD INTRODUCTION

DIMETHYLDIOCTADECYLAMMONIUMCHLORIDE

CAS N°: 107-64-2

Substance

End Point	:	**IDENTIFIERS, PHYSICAL AND CHEMICAL PROPERTIES**
Chemical Name	:	**1-Octadecanaminium, N,N-dimethyl-N-octadecyl-, chloride**
Common Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**

Synonyms

Aliquat 207
Ammonium, dimethyldioctadecyl-, chloride
Arosurf TA 100
Arquad 218-100
Arquad 218-100P
Arquad R 40
Cedequat TD 75
Dimethyldistearylammonium chloride
Dioctadecyldimethylammonium chloride
Distearyldimethylammonium chloride
Di-n-octadecyldimethylammonium chloride
N,N-Dioctadecyl-N,N-dimethylammonium chloride
DSDMAC
Flotigam
Genamin DSAC
KD 83
1-Octadecanaminium, N,N-dimethyl-N-octadecyl-,chloride
Praepagen
Q-D 86P
Quaternium 5
Sokalan 9200
Surfroyal DSAC
Talofloc
Varisoft 100
Verisoft 100

Properties & Definitions

Molecular Formula	:	**C38H80N.Cl**
Molecular Weight	:	**586.64**
Melting Point	:	**72-122C**
Boiling Point	:	**135C**
State	:	**Solid**
Density	:	**840 kg/m3 (100% pure)**
Vapour Pressure	:	**Low**
Water Solubility	:	**1 pg-2.5 mg/l at 25C**
General Comments	:	DSDMAC as isolated substance is not produced or used in a commercial range. Due to the use of tallow fatty acids for its manufacture, the product consists of a mixture of dialkyl dimethyl ammonium compounds, with carbon chain varying from C14 to C18, the C16 and C18 being the most abundant.

Overall Evaluation

NEEDS FURTHER WORK

SIDS INITIAL ASSESSMENT

Disterayldimethylammonium chloride (DSDMAC) is the major component in the technical product ditallowdimethylammonium chloride (DHTDMAC). In Germany, it is used as fabric softener, as additive in car washing agents and cosmetics, and to activate organic clays (bentonites). The use of DHTDMAC has strongly diminished in the last years in Germany.

DSDMAC is not readily biodegradable. Its removal in waste water treatment plants (ca. 95%) is mainly due to adsorption onto sludge. The most sensitive environmental species to DSDMAC is the algae Selenastrum capricornutum: in river water tests, a 5 day-NOEC = 62 ug/L was determined, while in laboratory water, the 96 hour-NOEC was 6 ug/L.

There are inconsistent information on the volume of DSDMAC used in Germany. With a worst case volume of 780 t/y used in fabric softeners, the PEC was estimated to be 4.45 ug/L. According to the German producer only 60 t/y are used in fabric softeners.

The substance has low acute oral and dermal toxicity. The NOEL for repeated dose toxicity is 100 mg/kg/day. It produced negative results in an Ames test, and an in-vitro chromosomal aberration test showed no genotoxicity. DSDMAC has been detected in drinking water received from bank filtrate and surface water.

EXPOSURE

General discussion
DSDMAC as an isolated substance is not produced or used in a commercial range. The substance is the major component in dihydrogenated tallow dimethyl ammonium chloride, DHTDMAC, (acronym: ditallow dimethyl ammonium chloride, DTDMAC, contains some unsaturated bonds in the alkyl chains), which consists of a mixture of dialkyl dimethyl ammonium compounds with carbon chain length varying from C12 to C20. The alkyl chain length distribution in standard European products (e.g. praepagen WK, genamin DSAC, both containing approximately 65% DHTDMAC) is:

C12	max. 2%
C14	1 - 5%
C16	25 - 35%
C18	60 - 70% (DSDMAC)
C20	max. 2%

ENVIRONMENTAL EXPOSURE

DSDMAC is "not readily biodegradable".

General

During production in Germany, 150 kg of DSDMAC/y are emitted into the River Alz.

During use of the fabric softeners, more than 95% of the DHTDMAC adsorbs uniformly onto cloth, but it will be removed during the next wash. The substance is chemically stable under washing conditions. So the whole volume used for softeners (60 and 1380 t/y respectively) will be emitted into the household sewage. The same release path has to be expected for additives in cosmetics (50 t/y) and car washing products (107 t/y).

About 990 t/y are used to activate bentonites, where the natural cations are replaced by DHTDMAC to improve the swelling properties. 1/3 of these activated bentonites are used for the formulation of laquers, which are especially applied in the automobile industry. These laquers are normally applied in spray cabins. In the air laquer smog is remaining which is scrubbed with water. The aqueous phase is decanted from the laquer coagulate sludge and recirculated. The DHTDMAC adsorbed on the bentonite is partially solubilized by the washing water. At certain time however, the washing water has to be renewed and the waste water is released into the sewer.

There is no information available about releases during the use of activated bentonites as drilling muds in oil industry.

ENVIRONMENTAL FATE

There are different estimations of the "water solubility", the values are in the range from 1 pg/L to 2.5 mg/L. The "solubility" can be based on dispersion in water where the substance forms lamellar structures.

DSDMAC easily forms complexes with anionics such as alkylsulphonates or natural humic acids.

No data for the vapour pressure are available. Based on the molecular structure, an extremely low volatility is to be expected.

There are no experimental data for log Pow available. Because DSDMAC is a surface active substance, its estimation is not opportune as no conclusions on BCF or Koc can be drawn.

In two tests on Lepomis macrochirus, after 49 days BCFs of 13 and 32 respectively in the whole body and 94 and 260 respectively in the guts were estimated. These values indicate that there is a moderate to high bio-accumulation potential.

As found in several tests, DSDMAC is not readily biodegradable. A primary degradation was found after several days with an adapted inoculum, but mineralisation is very slow (e.g. 31.7% after 240 days). As shown in river water tests, degradation is occuring with a half-life in the range of several weeks.
A large part of removal in waste water treatment plants is due to adsorption onto sludge solids. In several tests

on anaerobic degradation with sewage sludge, no transformation was found.

Biodegradation studies performed in soil indicated that 18 - 60% mineralisation occurs in 120 - 430 days.

DSDMAC adsorbs strongly onto sediments. Sediment - water partitioning coefficients from 3800 to 12500 L/kg dry weight were estimated. In a water/clay-mineral test system, a distribution coefficient of 30E+6 L/kg was estimated. The determination of a Koc is not opportune, because DSDMAC is a surface active substance. Based on these data in the hydrosphere a significant contamination of sediment and suspended matter is predicted.

EXPOSURE ASSESSMENT

Based on monitoring data, an elimination factor of 95% for biological treatment plants is predicted.

PRODUCTION

In Germany, during production 150 kg/y are emitted into the River Alz. Compared to the releases during use, this amount is negligible.

USE AS FABRIC SOFTENER, ADDITIVE IN COSMETICS AND CAR WASHING PRODUCTS

Because there are different data about the amounts used in softeners and car washing products, the exposure assessment will be done with both declarations. The total amounts are:

producers data: 110 t/y
UBA database: 937 t/y

Considering an average per-capita waste water discharge of 150 L/day and a population of about 80 millions, the concentration in the raw sewage, based on the producer's data, is

$$C = \frac{110\ E+6\ g}{4.38\ E+12\ L} = 25.1\ ug/L$$

For a best-case model, it is assumed that the whole household sewage will be purifiied in biological treatment plants, and the dilution factor during release into the receiving stream will be 1:10 . The initial concentration is calculated:

$$PECinit = \frac{25.1\ ug/L\ (1-0.95)}{10} = 0.12\ ug/L$$

For a worst-case model, the actual connection-percentage of about 80% to biological waste water treatment plants in Germany is used. Assuming the rest (20%) will be released directly into surface waters, a weighted concentration is calculated:

$$PECinit = \frac{25.1\ ug/L\ (1-0.95)\ 0.8}{10} + \frac{25.1\ ug/L\ (0.2)}{10} = 0.6\ ug/L$$

The most realistic model is based on an extensive study on the tenside discharges in Germany (former FRG). For substances with an elimination factor of 95% in biological waste water treatment plants, an average discharge rate into surface waters of 15% was found. The average PEC is

$$PECinit = \frac{25.1\ ug/L\ (0.15)}{10} = 0.38\ ug/L\ \text{(based on 110 t/y emissions)}$$

Using the "most realistic model", with the value from the UBA database (937 t/y) a PEC of 3.2 ug/L is calculated.

Because there are no monitoring data available reflecting the actual change of use pattern, the exposure model cannot be verified directly. But this can be done with the older data.
In 1982, up to 92 ug DHTDMAC/L were measured in Rhine tributaries, at this time about 20000 t/y were used. Based on the most realistic model, an initial PEC of 68.5 ug/L is calculated. There is a good agreement between

calculated and measured concentrations.

USE AS LAQUER ADDITIVE

As DSDMAC-loaded bentonites are continuously emitted into the washing water and the washing water is recirculated while the bentonites are removed, a high equilibrium concentration of DSDMAC has to be assumed. On a worst case approach, the concentration of DSDMAC will be assumed to reach its water solubility. The PEC is given by the equation

$$PEC = Sw \cdot Dint^{-1} \cdot \frac{(100 - P)}{100} \cdot Dext^{-1}$$

with Sw = water solubility (2.5 mg/L)
Dint = internal dilution, with further waste waters
P = degree of removal in waste water treatment plant (95%)
Dext = external dilution, during release into surface water

With the above parameters, a PEC of 1.25 ug/L is calculated.

The total initial concentration due to the whole use pattern (based on the most realistic model) is

PECinit = (0.38 + 1.25) ug/L = 1.63 ug/L (producers data)
respectively PECinit = (3.2 + 1.25) ug/L = 4.45 ug/L (UBA database)

Considering the partioning between water phase and suspended matter, the concentrations are

PECwater = 1.63 ug/L . 0.73 = 1.19 ug/L
PECsed = 1.19 ug/L . 10000 L/kg = 11.9 mg/kg dw (producers data)
PECwater = 4.45 ug/L . 0.73 = 3.25 ug/L
PECsed = 3.25 ug/L . 10000 L/kg = 32.5 mg/kg dw (UBA database)

SOIL EXPOSURE DURING APPLICATION OF SEWAGE SLUDGE

In Germany, 110 and 937 t/y DHTDMAC are emitted during use as softeners, cosmetics and car washing additive. The total concentration in raw waste water is 25.1 and 214 ug/L respectively.

During a monitoring study, a concentration in waste activated sludge of 8.3 g DSDMAC / kg dry solid was measured (the correlating influent concentration was 1.57 mg/L).

It is assumed that the actual concentration in sludge (Cs) is proportional to the influent concentration:

Cs = 8.3 g/kg . 25.1 / 1570 = 0.13 g/kg dw (producers data)
Cs = 8.3 g/kg . 214 / 1570 = 1.13 g/kg dw (UBA database)

Application as fertilizer in agriculture is allowed up to 5 t/ha every 3 years. Assuming homogenous distribution over a 20 cm layer (bulk density 1500 kg/m3), the initial concentration in soil can be calculated:

$$PECsoil = \frac{0.65\ kg}{3000\ t} = 0.22\ mg/kg\ dw \quad \text{(producers data)}$$

$$\text{respectively } PECsoil = \frac{5.65\ kg}{3000\ t} = 1.9\ mg/kg\ dw \quad \text{(UBA database)}$$

CONSUMER EXPOSURE

From its use as fabric softener, the general population is directly exposed to DSDMAC.

As shown by monitoring data, an indirect exposure exists through drinking water. As the volume of DSDMAC released into the environment has been diminished, the expected drinking water concentration should be

decreased.

OCCUPATION EXPOSURE

No data on occupational exposure has been made available so far.

ASSESSMENT OF ENVIRONMENTAL HAZARDS

According to the assessment concept of the German Federal Environmental Agency, the value of the safety factor F is to be determined in a range of 40 to 100, as

-data from long-term toxicity tests are available
- DSDMAC/DHTDMAC is inherently biodegradable

There are data of 4 trophic levels available, so a safety factor of 40 seems to be appropriate.
Considering the provisional OECD guidance document, a value of 10 has to be chosen for a safety factor.
The lowest aquatic effect concentration in tests with laboratory water is 6 ug/L (long-term, Selenastrum capricornutum).
However, in natural surface waters, DSDMAC adsorbs onto suspended matter and forms complexes with anionics. Although the adsorption onto suspended matter can be modelized for the PEC-calculation, the complexation with anionics cannot be calculated. The tests in river water probably reflect both properties, so that the substance can be assessed with these respective results.
In order to calculate the ratio Q of effect concentration and environmental concentration, the lowest NOEC from river water tests (62 ug/L, Selenastrum capricornutum) is taken into account, the quotients are:

Q = 62 : 1.63 = 38 (producers data)
Q = 62 : 4.45 = 14 (UBA database)

In both cases Q > 10. If the safety factor of 40 is used, a risk could be deduced for both scenarios.

Because there is no internationally accepted assessment concept for sediments and soil effects, a hazard assessment for these compartments cannot presently be performed.

ASSESSMENT OF HAZARD TO GENERAL POPULATION

Since the use in liquid formulations of fabric softeners in Germany has decreased, consumer exposure, therefore, is markedly reduced. The exposure time is short and exposure concentrations are low.

According to the exposure pattern, the substance is not expected to produce a hazard for the general population.

CONCLUSIONS

Despite of the high adsorption of DSDMAC, 2-3 ug/L were found in drinking water in 1992. For the assessment, instead of the lowest overall effect concentration (6 ug/L, Selenastrum capricornutum), the lowest effect concentration determined in river water was used.
The risk assessment has shown that the ratio Q of effect and environmental concentration is very low. The uncertainty is mostly on the exposure assessment and especially on the estimation of the volumes used. As the use of DHTDMAC has strongly diminished in the last years in Germany, the representativity of the exposure assessment for the whole OECD is not clear.

Data from acute toxicity testing, subchronic toxicity studies, from genotoxicity and reproductive toxicity testing indicate no concern. Based on the values for human toxicity no additional testing is recommended.

RECOMMENDATIONS

The exact volume used in fabric softeners and car washing products in Germany needs to be determined. The difference could be due to imports.

Furthermore, due to the high ecotoxicity of DSDMAC, the volumes used in other OECD countries needs to be determined.

Production-Trade

Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **EUR**

General Comments : DSDMAC as an isolated substance is not produced or used in a commercial range. The substance is a major component in dihydrogenated tallow dimethyl ammonium chloride (DHTDMAC). The production level of DHTDMAC in Europe was approximately 50000 tonnes in 1990.

References

!SIDSP*
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Production-Trade

Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **FRG**

Production

Quantity	*Year*
50000 t - P	**1990**

General Comments : Production during the last 12 months: yes. (The date of compilation of the reference was 11 March 1994).

References

!SIDSP*
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Processes

Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Process

Process comments : For the manufacture of this chemical, tallow fatty acids are used.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Uses

Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **EUR**

Use

Quantity	*Year*	*Comments*
		DSDMAC as an isolated substance is not used in a commercial range. DSDMAC is the major component in dihydrogenated tallow dimethyl ammonium chloride(DHTDMAC).
45000 t	**1990**	About 90% of production volume(45000 tonnes) of DHTDMAC was used in liquid formulations of fabric softeners.
4500-9000 t	**1993**	Since 1990, following changes in the softeners formulation on the European market resulted in 80-90% decrease in consumption of DHTDMAC.
5000 t	**1990**	About 10% of the production volume of DHTDMAC (5000 tonnes) was used as: conditioning agent in personal care products (shampoo, hair conditioners, emulsifier in lotions). In synthesis of organic clays by chemical industry (drilling muds in oil industry, rheological additives in paint industry). Sugar refining Anti-static agents Corrosive inhibitors Disinfection agents

References

Secondary References : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Uses

Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **FRG**

Use

Quantity	*Year*	*Comments*
		In Germany there is only one producer. The use pattern in Germany is as follows:
60 t	**1993**	Fabric softeners. There are inconsistent information about the volume. While 60 tonnes/year are declared by the producer, 780 tonnes/year are notified in the tenside database of the German Federal Environment Agency(UBA).
107 t	**1993**	Car washing: 107 tonnes/year are notified in the UBA-tenside while the producer has no knowledge of this use category.
50 t	**1993**	Cosmetics.
330 t	**1993**	Organic clays(bentonite) for laquers, especially for automobile industry.
660 t	**1993**	Organic clays(bentonite) for drilling muds in oil industry (the whole amount is exported).
		About 990 tonnes/year of DSDMAC are used to activate bentonites, where the natural cations are replaced by DHTDMAC to improve the swelling properties.

References

Secondary References : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **Pathway into the Environment and Environmental Fate.**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **FRG**

Pathway and Transport

Pathway : **INDST**

Quantity Transported

Medium		*to Medium*		*Quantity*	*Time*	*Year*	*to Year*
AQ	**FRESH**	**to AQ**	**FRESH**	**150 kg/y**			

During production in Germany emitted into the river Alz.

General Comments : There is no information available about releases during the use of activated bentonites as drilling muds in oil industry .

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **Pathway into the Environment and Environmental Fate.**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **FRG**

Pathway and Transport

Pathway : **LOAD**
Pathway description : Household sewage

Quantity Transported

Medium		*to Medium*		*Quantity*	*Time*	*Year*	*to Year*
AQ	**SEW**	**to AQ**	**SEW**	**1380 t/y**			

The whole volume used for softeners will be emitted into the household sewage.

AQ	**SEW**	**to AQ**	**SEW**	**50 t/y**			

Additives in cosmetics

AQ	**SEW**	**to AQ**	**SEW**	**170 t/y**			

Car washing products

General Comments : The above given values indicate the quantities of dihydrogenated tallow dimethyl ammonium chloride (DHTDMAC). During use of the fabric softeners more than 95% of the DHTDMAC absorbs uniformly onto cloth, but it will be removed during the next wash. The substance is chemically stable under washing conditions.

References

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**LOSS**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT	**AQ**	**SLUDG**

Species/strain/system : Activated sludge, adapted.

Test Method and Conditions

(An)aerobic : **AEROB**

Exposure

Exposure comments : Inoculum. The percolating filter was inocculated at the first 2 weeks daily with effluent water from a communal waste water treatment plant.

Test Results

Quantity	*Time*	*Comments on result*
87-99 %	**53 d**	Elimination after 53 days.
5-23.7 mg/L	**3 wk**	Concentration increase of DSDMAC during 3 weeks.

References

Primary Reference : **TSDTAZ**
Gerike. Tenside Detergents, 19(3), 162-164, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **LOSS**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*
PLANT MCR	**AQ**	**WASTE**

Species/strain/system : Laundromat waste water, secondary settlement pond, control pond

Test Substance

Purity Grade : **98%**
Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Radiometric method. Mineralization assay by CO2 evaluation. Kd from given source of detritus. Test substance/L water with 0.1 g mercuric chloride.

Exposure

Dose / Concentration : **50 mg/L**
Exposure comments : K=concentration on leaf(mg/kg)/concentration in water. Submerged detritus(oak leaves adapted) from a laundromat waste water pond were cut into disks(diameter 1.9 cm); see genera l comments.

Test Results

Quantity	*Time*	*Comments on result*
57-64 Kd		Distribution absorption coefficient for central pond/ detritus
39-49 Kd		Source of detritus = laundromat pond
36-51 Kd		Source of detritus = secondary pond
16 %	**82 d**	Degradation after 82 days for the laundromat waste water pond.

General Comments : 1.83 +/- 0.78E+7 cells per cm2) and incubated for 30 days. 50 mg/L test substance/L water with 0.1 g mercuric chloride.

References

Primary Reference : **APMBAY**
Federle and Ventullo. Applied Microbiology, 56, 333-339, (1990)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**WASTE**		

Species/strain/system : Waste water of an industrial area developed to pesticide manufacturing and surfactant industry.

Test Results

General Comments : DSDMAC was found qualitatively (measurement of concentration at contaminated site) in waste water of an industrial area developed to pesticide manufacturing and surfactant industry.

References

Primary Reference : **IJEAA3**
Rivera et al. International Journal of Environmental Analytical Chemistry, 29, 15-35, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SURF**		
	AQ	**FRESH**		

Species/strain/system : River Rhine(Germany), 1981

Test Method and Conditions

Test method description : Background concentration

Test Results

Matrix	Concentrations	Spec.	Date
	4-92 ug/L		**1981**

DSDMAC found in Germany in 1981.

73 %

DSDMAC found in the water phase.

References

Primary Reference : **TSDTAZ**
Kappeler. Tenside Detergents, 19(3), 169-176, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **FRG**

Test Subject

Organism	Medium	Specification	Lifestage	Sex
	AQ	**SURF**		

Species/strain/system : Surface water of the river Rhine (near Bonn, Germany), 1980.

Test Method and Conditions

Test method description : Background concentration

Test Results

Matrix	Concentrations	Spec.	Date
	6-12 ug/L		**1980**

Range of concentration found in Germany during the 1980s.

References

Primary Reference : **CECED9**
Schneider and Levsen. Commission of the European Communities Report, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	SED	**-**		
	AQ	**FRESH**		
	SOIL			

Species/strain/system : River Main (Germany); sludge-treated soil (Germany)

Test Substance

Description of the test substance : DHTDMAC, which DSDMAC is its major component

Test Method and Conditions

Test method description : Background concentration

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	11-201 mg/kg		**1989-1990**
DHTDMAC found in Germany in 1989/90 (River Main)			
	<1-24 mg/kg		**1987**
DHTDMAC concentration in Germany in 1987 (sludge-treated soils)			

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **NLD**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SURF**		
	AQ	**FRESH**		

Species/strain/system : Different rivers (the Netherlands)

Test Substance

Description of the test substance : DHTDMAC, which its main component is DSDMAC

Test Method and Conditions

Test method description : Background concentration

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	2-52 ug/L		**1990-1991**

DHTDMAC found in 1990/1991 in the Netherlands

General Comments : The following reference is also cited: Versteeg et al. (1992): Chemosphere 24, 641-662.

References

Primary Reference : **CMSHAF**
Van Leeuwen et al. Chemosphere. Chemistry, Biology and Toxicology as Related to Environmental Problems, 24, 629-639, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **NLD**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**DRINK**		
	AQ	**SURF**		
	AQ	**FRESH**		

Test Substance

Description of the test substance : DHTDMAC, which its main component is DSDMAC

Test Method and Conditions

Test method description : Background concentration

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	2.8 ug/L	**AV**	

The level of DHTDMAC (average) in drinking water after treatment, in the water from surface water.

	1.9 ug/L	**AV**	

The level of DHTDMAC (average) in drinking water after treatment, from the bank filtrate.

References

Primary Reference : **CMSHAF**
Versteeg et al. Chemosphere. Chemistry, Biology and Toxicology as Related to Environmental Problems, 24, 641-662, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**WASTE**		

Species/strain/system : Raw waste water

Test Substance

Description of the test substance : DHTDMAC, which DSDMAC is its major component

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	25.1 ug/L		

DHTDMAC emitted during use as softeners, cosmetics and car washing additives (Based on 110 tonnes per year).

214 ug/L

Total concentration of DHTDMAC in raw waste water (emitted during use as softeners, cosmetics and car-washing additives) in 937 tonnes/year.

References

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**FRESH**		

Species/strain/system : Rhine tributaries, (Germany)

Test Substance

Description of the test substance : DHTDMAC, which DSDMAC is its major component

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	92 ug/L		**1982**

Measured concentration of DHTDMAC in Rhine tributaries

General Comments : At this time about 20000 tonnes/year of DHTDMAC were used; and based on the realistic model, an initial PEC of 68.5 ug/L is calculated. There is a good agreement between calculated and measured concentrations.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **WORLD**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**RIVER**		
	SOIL	**-**		
	AQ	**DRINK**		

Test Substance

Description of the test substance : DHTDMAC, which DSDMAC is its major component

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	4-92 ug/L		**1982**

Total concentration; the average part in water solution was 73%; (Rhine and affluents, Germany).

	11-201 mg/kg	**1989-1990**

Suspended solides; (Main, Germany).

	<1-24 mg/kg	**1987**

Soil; (Germany).

	32-164 mg/kg	**1979**

Soil; (USA).

	2-52 ug/L	**1990**

Rivers; (Netherlands).

	15-116 ug/L	**1990**

Canals; (Netherlands).

	1.1-14.4 ug/L	**1992**

Bank filtrate; (Netherlands).

	1.9-2.8 ug/L	**1992**

Average concentration; drinking water from bank filtrate; (Netherlands). Also reported: 2.8 ug/L (average concentration); drinking water from surface water; (Netherlands).

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**GBR**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**WASTE**		
	AQ	**SEW**		

Species/strain/system : Waste water treatment plant, (Alderly Edge, UK)

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	Concentrations	Spec.	Date
	1.38 mg/L		
	Average concentration in raw sewage.		
	0.04 mg/L		
	Average concentration in secondary effluent.		

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **FRG**

Test Subject

Organism	Medium	Specification	Lifestage	Sex
	AQ	**SEW**		
	AQ	**WASTE**		
	AQ	**SLUDG**		

Species/strain/system : Waste water treatment plant, (Duelmen, Germany)

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	Concentrations	Spec.	Date

1.57 mg/L
The average concentration in raw sewage.

0.09 mg/L
The average concentration in the effluent.

8.3 g/kg
Dry solid DSDMAC in waste activated sludge.

0.03-0.12 mg/L
The average concentration = 0.07 mg/L in the river below outfall.

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **FRG**

Test Subject

Organism	Medium	Specification	Lifestage	Sex
	AQ	**SEW**		
	AQ	**SLUDG**		

Species/strain/system : Sewage sludge

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	Concentrations	Spec.	Date

0.5-1 g/kg
DSDMAC in various sewage sludges

References

Primary Reference : **ZACFAU**
Hellmann. Fresenius Zeitschrift fuer Analytische Chemie, 315, 425-429, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SEW**		

Species/strain/system : Sewage water (Germany) in 1980s.

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	350-480 ug/L		**1980**

DSDMAC found in the sewage water in Germany in 1980s.

References

Primary Reference : **CECED9**
Schneider and Levsen. Commission of the European Communities Report, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**GBR**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SEW**		
	AQ	**SLUDG**		

Species/strain/system : Nine sewage works (UK), 1978; activated sludge mixed liquor.

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	1.14 mg/L	**AV**	**1978**

(Range 0.24 - 2.28 mg/L) in the primary settled sewage.

	0.43 %	**1978**

Concentration on dried solids (range = 0.3 - 0.51) in the activated sludge mixed liquor in 3 of 9 samples.

References

Primary Reference : **TSDTAZ**
Topping and Waters. Tenside Detergents, 19, 164-169, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**BEL**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SEW**		

Species/strain/system : A trickling filter sewage works (Belgium)

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	0.77 mg/L	**AV**	
The average level of the substance in the influent sewage			
	0.09 mg/L	**AV**	
Effluent concentration			
	86.1 %		
The estimated removal			

General Comments : Spot samples taken to coincide with an expected peak in household washing.

References

Primary Reference : **TSDTAZ**
Topping and Waters. Tenside Detergents, 19, 164-169, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SEW**		

Species/strain/system : Activated sludge sewage works (Germany)

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	3.07 mg/L	**AV**	

The average level of the substance in the first sample of the influent sewage.

	4.2 mg/L	**AV**

The average level of the substance in second sample of the influent sewage.

	0.045 mg/L	**AV**

The average level of the substance after treatment in the first sample of the inflent sewage.

	0.07 mg/L	**AV**

The average level of the substance after treatment in the second sample of the influent sewage.

General Comments : The removal in both plants was about 98%. Spot samples, taken to coincide with an expected peak in household washing.

References

Primary Reference : **TSDTAZ**
Topping and Waters. Tenside Detergents, 19, 164-169, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**EUR**
Area Specifications	:	**W**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SLUDG**		

Species/strain/system : Activated sludge samples (United Kingdom and Germany)

Test Method and Conditions

Test method description : Monitoring study

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	0.3 %		

DSDMAC was found by analysis on waste activated sludge (on dried solids), in the United Kingdom.

0.83 %

DSDMAC was found by analysis on waste activated sludge (on dried solids), in Germany.

References

Primary Reference : **TSDTAZ**
Topping and Waters. Tenside Detergents, 19, 164-169, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**GBR**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SEW**		
	AQ	**SLUDG**		

Species/strain/system : Treatment plant (Alderly Edge, United Kingdom)

Test Method and Conditions

Test method description : Monitoring of (DSDMAC) cationics is sewage plants

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*

0.66-1.90 mg/L
(Average = 1.38 mg/L) DSDMAC on dried solid, in raw sewage.

0.26-1.20 mg/L
(Average = 0.71 mg/L) DSDMAC on dried solid, primary settled sewage-phased.

0.29-0.67 mg/L
(Average = 0.44 mg/L) DSDMAC on dried solid, primary settled sewage - 24 hours composite.

15.4-70.0 %
(Average = 40.2%) DSDMAC on dried solid, removal in primary settlement-phased.

0.003-0.060 mg/L
(Average = 0.04 mg/L) DSDMAC on dried solid, secondary effluent-phased.

0.003-0.088 mg/L
(Average = 0.04 mg/L) DSDMAC on dried solid, secondary effluent- 24 hours composite.

76.9-99.5 %
(Average = 92.8%) DSDMAC on dried solid, removal in activated sludge treatment.

0.20-0.41 mg/L
(Average = 0.30 mg/L) DSDMAC on dried solid, activated sludge mixed liquor.

General Comments : Also reported: 0.002 - 0.020 mg/L (average = 0.008 mg/L) DSDMAC on dried solid, river above outfall, (average = 0.014) river below outfall.

References

Primary Reference : **TSDTAZ**
Topping and Waters. Tenside Detergents, 19, 164-169, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SEW**		
	AQ	**SLUDG**		

Species/strain/system : Sewage treatment plant (Duelmen, Germany)

Test Method and Conditions

Test method description : Monitoring of (DSDMAC) cationics is sewage plants

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*

0.82-2.44 mg/L
(Average = 1.57 mg/L) DSDMAC on dried solid, in raw sewage.

0.76-1.71 mg/L
(Average = 1.15 mg/L) DSDMAC on dried solid, in primary settled sewage.

7.3-31.41 %
(Average = 24.2%) DSDMAC on dried solid, removal in primary settlement.

0.04-0.12 mg/L
(Average = 0.09 mg/L) DSDMAC in secondary settled sewage effluent.

89.5-96.2 %
(Average = 92.5%) DSDMAC on dried solid, removal in activated sludge treatment.

0.60-0.95 mg/L
(Average = 0.75 mg/L) DSDMAC on dried solid, in activated sludge mixed liquor.

0.60-0.95 %
(Average = 0.83%) DSDMAC on dried solid, in waste actived sludge.

0.01-0.012 mg/L
(Average = 0.01) DSDMAC on dried solid, in river above outfall; (average = 0.07) in the river below outfall.

References

Primary Reference : **TSDTAZ**
Topping and Waters. Tenside Detergents, 19, 164-169, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
PLANT	**SOIL**			

Species/strain/system : Radish

Test Substance

Description of the test substance : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Plant growing experiments. The radish seeds were sown in soil contaminated with 2 mg DSDMAC/kg soil.

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
PLANT	**0.02 mg/kg**		

Concentration in interior of root body calculated from radioactivity measurements after 36 days.

PLANT	**0.05 mg/kg**		

Concentration in the peel of root body calculated from radioactivity measurements after 36 days.

References

Primary Reference : **CJC14***
Loetzsch et al. Communicaciones Presentadas a las 14 Jornadas del Comile Espanol de la Detergencia, 15, 445-461, (1984)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **CONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
PLANT	**SOIL**			

Species/strain/system : Cucumber

Test Substance

Description of the test substance : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Plant growing experiments. The seedlings were set out in soil contaminated with 2 mg DSDMAC/kg soil.

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
PLANT	**0.05 mg/kg**		

Concentration in shoots calculated from radioactivity measurements 28 days after emergence.

PLANT	**<0.01 mg/kg**		

Concentration in shoots calculated from radioactivity measurements after 8 days.

PLANT	**<0.01 mg/kg**		

Concentration in shoots calculated from radioactivity measurements after 18 days.

PLANT	**0.01 mg/kg**		

Concentration in shoots calculated from radioactivity measurements after 31 days.

PLANT	**0.03 mg/kg**		

Concentration in shoots calculated from radioactivity measurements after 38 days.

References

Primary Reference : **CJC14***
Loetzsch et al. Communicaciones Presentadas a las 14 Jornadas del Comile Espanol de la Detergencia, 15, 445-461, (1984)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
PLANT	**SOIL**			

Species/strain/system : Bean

Test Substance

Description of the test substance : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Plant growing experiments. The bean seeds were sown in soil contaminated with 2 mg DSDMAC/kg soil.

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
PLANT	**0.02 mg/kg**		

Concentration in shoots calculated from radioactivity measurements, after 38 days.

References

Primary Reference : **CJC14***

Loetzsch et al. Communicaciones Presentadas a las 14 Jornadas del Comile Espanol de la Detergencia, 15, 445-461, (1984)

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
PLANT	**SOIL**			

Species/strain/system : Bean

Test Substance

Description of the test substance : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Plant growing experiments. The bean seeds were sown in soil contaminated with 4 mg DSDMAC/kg soil.

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
PLANT	**0.04 mg/kg**		

Concentration in shoots calculated from radioactivity measurements, 28 days after emergence.

References

Primary Reference : **CJC14***
Loetzsch et al. Communicaciones Presentadas a las 14 Jornadas del Comile Espanol de la Detergencia, 15, 445-461, (1984)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
PLANT	**SOIL**			

Species/strain/system : Tomatoes

Test Substance

Description of the test substance : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Plant growing experiments. The seedlings were set out in soil contaminated with 4 mg DSDMAC/kg soil.

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
PLANT	**0.04 mg/kg**		

Concentration in shoots calculated from radioactivity measurements, 28 days after emergence.

References

Primary Reference : **CJC14***

Loetzsch et al. Communicaciones Presentadas a las 14 Jornadas del Comile Espanol de la Detergencia, 15, 445-461, (1984)

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**HUMAN INTAKE AND EXPOSURE**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*
HUMAN	**AIR**	**-**	**IHL**		
	AQ	**DRINK**	**SKN**		
			ORL		

Species/strain/system : Drinking water-indirect exposure

Test Results

General Comments : From its use as fabric softener, the general population is directly exposed to it. An indirect exposure exists through drinking water. As the volume of the substance released into the environment has been diminished, the expected drinking water concentration should be decreased. No data, so far are available on occupational exposure.

References

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	SOIL	

Species/strain/system : Sandy, loam soils

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Batch Incubated Flask Method; incubated at room temperature; the loam contained some digested sewage sludge as conditioner.

Exposure

Exposure Period	:	**385 d**
Dose / Concentration	:	**50 mg/kg**

Test Results

Quantity	*Time*	*Comments on result*
48 %	**385 d**	Dissipation after 385 days

General Comments : The dosage rate of 50 mg/kg dry soil was calculated to be equivalent to typical field application rates. No differences between the two soils in CO2 production. There was no evidence of a log phase.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	SOIL	**LOAM**

Species/strain/system : Four different soils were used: a sandy loam and a silt loam, with and without sewage sludge.

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Batch Incubated Flask Method

Exposure

Dose / Concentration : **0.5-50 mg/kg**

Test Results

Quantity	*Time*	*Comments on result*
31-63 %	**494 d**	Dissipation after 494 days at initial concentration = 50 mg /kg
31-50 %	**494 d**	Dissipation after 494 days at initial concentration = 5 mg /kg
18-27 %	**494 d**	Dissipation after 494 days at initial concentration = 0.5 mg /kg

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	SOIL	

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Biodegradation in soils (CO2 production test)

Exposure

Dose / Concentration : **0.1-1.0 mg/kg**

Test Results

Quantity	*Time*	*Comments on result*
18-33 %	**116 d**	Dissipation after 116 days and concentration = 0.1 mg/kg
34-38 %	**116 d**	Dissipation after 116 days and concentration = 1.0 mg/kg

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**USA**

Test Subject

Organism	*Medium*	*Specification*
	SOIL	

Species/strain/system : Sludge amended sandy loam (Pennsylvania, USA)

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Biodegradation in soils (CO2 production test)

Exposure

Dose / Concentration : **0.1-1 mg/kg**

Test Results

Quantity	*Time*	*Comments on result*
36-52 %	**120 d**	Dissipation after 120 days and concentration = 0.1 mg/kg
38-41 %	**120 d**	Dissipation after 120 days and concentration = 1 mg/kg

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**FRESH**

Test Results

General Comments	:	Cationic surfactants of the DSDMAC-type are relatively stable chemically and do not change under washing conditions.

References

Primary Reference	:	**JJASDH** Huber. JAOCS - Journal of the American Oil Chemists Society, 61, 377-382, (1984)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**FRESH**

Species/strain/system	:	Natural river water

Test Substance

Purity Grade	:	**>=95%**
Labelled Compound	:	**Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : River water test

Exposure

Exposure Period : **13.8 d**
Dose / Concentration : **0.5 mg/L**
Exposure comments : Adapted inoculum

Test Results

Quantity		*Time*	*Comments on result*
50 %	T/2	**14 d**	Degradation after 13.8 days.
	T/2		Estimated half-life: in the range of several weeks.

References

Primary Reference : **RREVAH**
Larson. Residue Reviews, 85, 159-171, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**FRESH**
	SED	

Species/strain/system : Natural river water

Test Substance

Purity Grade : **>=95%**
Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : River water test

Exposure

Exposure Period : **4.9 d**
Dose / Concentration : **0.5 mg/L**
Exposure comments : 0.5 mg/L = the initial concentration; and 5 g/L sediments, as inoculum.

Test Results

Quantity	*Time*	*Comments on result*
50 %	**4.9 d**	Degradation after 4.9 days
T/2		Estimated half-life: in the range of several weeks

General Comments : The following reference was also cited: Larson, Vashon (1983): Dev. Ind. Microbiol. 24, 425-434.

References

Primary Reference : **RREVAH**
Larson. Residue Reviews, 85, 159-171, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **EUR**
Area Specifications : **W**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**WASTE**

Species/strain/system : Waste water treatment plant, (Alderly Edge, UK) and (Duelmen, Germany)

Test Method and Conditions

(An)aerobic : **AEROB**

Test Results

Quantity	Time	Comments on result
>95 %		Total removal rate in UK.
94 %		Total removal rate during primary settlement and aerobic treatment in Germany.
98.2 %		Removal rate in Germany.
98.9 %		Removal rate in Germany.

References

Secondary Reference :

!SIDSP*

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **FIELD**
Geographic Area : **FRG**

Species/strain/system : Biological treatment plant

Test Results

Quantity	Time	Comments on result
95 %		Predicted elimination factor

References

Secondary Reference :

!SIDSP*

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**FIELD**
Geographic Area	:	**BEL**

Test Subject

Organism	*Medium*	*Specification*
	AQ	

Species/strain/system : Trickling filter plant

Test Results

Quantity	*Time*	*Comments on result*
86.1 %		Removal rate

References

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Continuous activated sludg test. End point: elimination of radioactivity from the medium. Partitioning of the DSDMAC between the suspended solids & the water was studied together with the radiolable removal of DSDMAC & mineralisation.

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.01 mg/L**
Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
11 %	**5 d**	Degradation after 5 days
71.2 %		Average 14C was adsorbed onto the solids
0.6 %		Average 14C was in the liquid
13.9 %		Average 14C was in the effluent

General Comments : It should be noted that sludge wastage in the test unit was stopped during the test period leading to an increase in solid, from 2000 mg/L at the begining of the test period to about 5000 mg/L at the end.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge

Test Method and Conditions

Test method description : Metoda oficial espanol
Temperature : **22-28**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**
Exposure comments : Inoculum; daily analysis cycle of 23 hours aeration and renewal of test medium, 3 days adaptation period, previous to testing.

Test Results

Quantity	*Time*	*Comments on result*
95 %	**7 d**	Degradation after 7 days

General Comments : No further information on inoculum is provided whether domestic or industrial.

References

Primary Reference : **GRACAN**
Ruiz. Grasas y Aceites (Seville), 38, 383-386, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge

Test Method and Conditions

Test method description : Metado oficial espanol
Temperature : **22-28**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**
Exposure comments : Inoculum: two previous adaptation periods of 72 hours for each substance group.

Test Results

Quantity	*Time*	*Comments on result*
92 %	**8 d**	Degradation after 8 days

General Comments : No further information on inoculum is provided whether domestic or industrial.

References

Primary Reference : **GRACAN**
Ruiz. Grasas y Aceites (Seville), 38, 383-386, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Inoculum: activated sludge

Test Method and Conditions

Test method description : Continuous activated sludge test

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **240 mg/L**
Exposure comments : The concentration of 240 mg/L was added daily to the inoculum.

Test Results

Quantity	*Time*	*Comments on result*
80 %	**28 d**	Approximate degradation after 28 days
20 %	**28 d**	Approximate adsorption after 28 days
95 %		Total removal of DSDMAC appears to have reached

General Comments : No information on inoculum whether domestic or industrial.

References

Primary Reference : **TSDEES**
Taeuber. Tenside Surfactants, Detergents, 25, 134-136, (1988)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**WASTE**

Species/strain/system : Secondary effluent of a waste water treatment plant

Test Method and Conditions

Test method description : OECD Confirmatory Test(1976); substance group specific analysis(MBAS, BIAS).
Temperature : **18-25**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**
Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
93 %	**21 d**	Degradation after 21 days

References

Primary Reference : **GRACAN**
Ruiz. Grasas y Aceites (Seville), 38, 383-386, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge, adapted

Test Method and Conditions

Test method description : OECD Confirmatory Test (OECD,1971); substance group specific analysis(DBAS).

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **10 mg/L**
Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
82 %	**21 d**	Elimination after 21 days

References

Primary Reference : **WATRAG**
Gerike et al. Water Research, 12, 1117-22, (1978)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge, domestic

Test Method and Conditions

Test method description : OECD Guideline 301 D "Readily Biodegradability: Closed Bottle Test"

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **10 mg/L**

Exposure comments : Inoculum: 2 mg/L (dry weight) related to other test substance.

Test Results

Quantity	*Time*	*Comments on result*
63 %	**280 d**	Approximately degraded after 280 days
4 %	**28 d**	Degradation of other test substance after 28 days
12 %	**180 d**	Degradation of other test substance after 180 days

General Comments : The results indicate the substance is "not readily biodegradable".

References

Primary Reference : **CMSHAF**

Van Ginkle and Kolvenbach. Chemosphere. Chemistry, Biology and Toxicology as Related to Environmental Problems, 23, 281-289, (1991)

Secondary Reference : **!SIDSP***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SURF**

Species/strain/system : Rhine river

Test Method and Conditions

Test method description : Biodegradation has been studied by field desorption mass spectrometry.

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.5-8.25 mg/L**

Test Results

Quantity	*Time*	*Comments on result*
65 %	**70 d**	Degradation in surface water after 70 days and the concentration = 8.25 mg/L
75 %	**50 d**	Degradation in surface water after 50 days and the concentration = 0.5 mg/L

References

Primary Reference : **CECED9**
Schneider and Levsen. Commission of the European Communities Report, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge adapted; activated sludge non-adapted

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Batch activated sludge test; measurement of CO2 production

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.5-2 mg/L**

Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
60.2 %	**240 d**	Degradation after 240 days (adapted)
31.7 %	**240 d**	Degradation after 240 days (non-adapted)

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge, non-adapted

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Batch activated sludge test; end point: primary degradation. Measurement of CO2 production.

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **2 mg/L**

Exposure comments : Inoculum: 1 g/L

Test Results

Quantity	*Time*	*Comments on result*
50 %	**34 d**	Degradation after 34 days
53.1 %		CO2 production was observed at the end of the test and no radiolabelled intermediate was detected suggesting that primary biodegradation is the limiting factor in the ultimatae biodegradation of DSDMAC.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
AQ	**SLUDG**	

Species/strain/system : Activated sludge, adapted

Test Substance

Purity Grade	:	**>=95%**
Labelled Compound	:	**Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description	:	CO2 Screening test
Temperature	:	**24**
(An)aerobic	:	**AEROB**

Exposure

Dose / Concentration	:	**20 mg/L**
Exposure comments	:	Inoculum

Test Results

Quantity	*Time*	*Comments on result*
3.8 %	**35 d**	Degradation after 35 days
3 %	**28 d**	Degradation after 28 days
		The lack of degradation is probably due to either microbial toxicity or insolubility.

General Comments : The following reference is also cited: Larson (1983): Res. Rev. 85, 159-171.

References

Primary Reference : **DIMCAL**
Larson and Vashon. Developments in Industrial Microbiology, 24, 425-434, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SEW**

Species/strain/system : Domestic sewage

Test Method and Conditions

Test method description : Colorimetric method. Biodegradation assessed by infrared spectrometry (end point: measurement of reduction of active substance using sodium alizarine sulfonate).

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **20 mg/L**

Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
0 %	**28 d**	Degradation after 28 days

References

Primary Reference : **WATRAG**
Baleux and Caumette. Water Research, 11, 833-841, (1977)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge, adapted

Test Method and Conditions

Test method description : OECD Confirmatory Test (OECD, 1971); substance group specific analysis.

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**

Exposure comments : Inoculum. The test was done on four evaluation periods each lasting two days.

Test Results

Quantity	*Time*	*Comments on result*
80-90 %		Of the total throughput could not be recovered analytically, i.e. some biological and/or chemical modification of the molecules must have occurred.
<10 %		Usually found adsorbed on the walls of the influent and effluent containers.
<2 %		Left the unit in a dissolved form.
12 %		The carry over sludge may contain relatively large amountsu up to 12% of total throughput.
40 %		DSDMAC eliminated by adsorption in the second evaluation period.
10-20 %		DSDMAC eliminated in the other evaluation periods.

General Comments : DSDMAC does not accumulate as such on the sludge. In three of the four evaluation periods the sludge contained less at the end than at the begining.

References

Primary Reference : **WATRAG**
Gerike et al. Water Research, 12, 1117-22, (1978)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**WASTE**

Species/strain/system : Secondary effluent of a waste water treatment plant

Test Method and Conditions

Test method description : OECD Screening Test (1976); substance group specific analysis (MBAS, BIAS).
Temperature : **24-26**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**
Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
94 %	**19 d**	Degradation after 19 days

References

Primary Reference : **GRACAN**
Ruiz. Grasas y Aceites (Seville), 38, 383-386, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge, adapted

Test Substance

Description of the test substance : Genamin DSAC (approximately 65% DSDMAC)

Purity Grade : **TG**

Test Method and Conditions

Test method description : OECD Confirmatory Test (1976); primary degradation; 1989; GLP: no

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**

Exposure comments : Inoculum. Sludge was adapted over 10 days at 0.5 mg/L to 5 mg/L DSDMAC.

Test Results

Quantity	*Time*	*Comments on result*
91.9 %	**22 d**	Degradation after 22 days
67.3 %	**1 d**	(Kinetic) after 1 day
88.6 %	**7 d**	(Kinetic) after 7 days
91.3 %	**14 d**	(Kinetic) after 14 days

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 89.434, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system : Activated sludge

Test Substance

Description of the test substance : Genamin DSAC (approximately 65% DSDMAC)

Purity Grade : **TG**

Test Method and Conditions

Test method description : OECD Confirmatory Test (1971); 1989; GLP: no

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.5-5 mg/L**

Exposure comments : Inoculum. The influent and effluent concentration and the sludge adsorbed substance were measured in regular intervals. (Concentrations reported as per hour-xh)

Test Results

Quantity	*Time*	*Comments on result*
91.8-+/-6.36 %	**10 d**	Approximate primary degradation for the system after 10 days. The given value is calculated.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 89.434, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Substance

Description of the test substance	:	DHTDMAC, which DSDMAC is its major component
Purity Grade	:	**TG**

Test Method and Conditions

Test method description	:	Test method not specified
(An)aerobic	:	**ANAER**

Test Results

General Comments	:	Several tests showed that there is no evidence that DHTDMAC undergoes anaerobic degradation.

References

Primary Reference	:	**ECETR*** ECETOC. ECETOC Technical Report, 53, (1993)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
	AQ	**SLUDG**

Species/strain/system	:	Activated sludeg, domestic

Test Method and Conditions

Test method description : OECD Guideline 301 D "Readily Biodegradability: Closed Bottle Test"

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **10 mg/L**
Exposure comments : Inoculum: 2 mg/L (dry weight) related to other test substance.

Test Results

Quantity	*Time*	*Comments on result*
65	**56 d**	Degradation after 56 days and the concentration = 0.05 mg/L
43 %	**28 d**	Degradation after 28 days and the concentration = 0.05 mg/L
66 %	**60 d**	Degradation after 60 days and concentration = 0.5 mg/L
95 %		Confidential range of degradation for the concentration = 0.5 mg/L
8 %		Degradation after 28 days and concentration = 0.05 mg/L (non-adapted to sediments)
11 %		Degradation after 56 days and concentration = 0.05 mg/L (non-adapted to sediments)

References

Primary Reference : **DIMCAL**
Larson and Vashon. Developments in Industrial Microbiology, 24, 425-434, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT	**SOIL**	

Species/strain/system : Bacteria, polyseed(adapted)

Test Method and Conditions

Test method description : Modified Closed Bottle Test; BOD analysis

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **1 mg/L**
Exposure comments : The inoculum was a mixture of 12 soil bacterial species

Test Results

Quantity	*Time*	*Comments on result*
36 %	**20 d**	Degradation after 20 days

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT	**AQ**	**SLUDG**

Species/strain/system : Activated sludge, industrial

Test Substance

Description of the test substance : Praepagen WK (73-75% DSDMAC, 7-8% isopropanol, 7-8% ethanol). Concentration related to DOC.
Purity Grade : **TG**

Test Method and Conditions

Test method description : According to OECD Guideline 302B "Inherent biodegradability: modified Zahn-Wellens Test"; (Dissolved Organic Carbon); 1986; GLP: no

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **200 mg/L**
Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
>70 %	**3 h**	Elimination after 3 hours
>90 %	**15 d**	Elimination after 15 days

General Comments : No statement about possible biological degradation, according to contributor.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT	**AQ**	**SLUDG**

Species/strain/system : Activated sludge, adapted

Test Substance

Labelled Compound : **Radiolabelled-14C DSDMAC**

Test Method and Conditions

Test method description : Semi-continuous activated sludge test

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.5 mg/L**
Exposure comments : Inoculum

Test Results

Quantity		*Time*	*Comments on result*
2-20 %	LOSS	**7 d**	80-98% of the test substance remained on the sludge, using a 7 day adaptation period, and no production of 14CO2 could be detected.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT	**AQ**	**FRESH**

Species/strain/system : River water, adapted with sediment

Test Substance

Purity Grade : **>=95%**
Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : River water test; measurement of 14CO2 evolution
Temperature : **24 C**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.05-0.5 mg/L**
Exposure comments : Inoculum: the river water contains 5 g/L sediment

Test Results

Quantity	Time	Comments on result
65	**56 d**	Degradation after 56 days and the concentration = 0.05 mg/L
43 %	**28 d**	Degradation after 28 days and the concentration = 0.05 mg/L
66 %	**60 d**	Degradation after 60 days and concentration = 0.5 mg/L
95 %		Confidential range of degradation for the concentration = 0.5 mg/L
8 %		Degradation after 28 days and concentration = 0.05 mg/L (non-adapted to sediments)
11 %		Degradation after 56 days and concentration = 0.05 mg/L (non-adapted to sediments)

References

Primary Reference : **DIMCAL**
Larson and Vashon. Developments in Industrial Microbiology, 24, 425-434, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	Medium	Specification
BACT	**AQ**	**FRESH**

Species/strain/system : River water, adapted

Test Substance

Purity Grade : **>=95%**
Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : River water test; measurement of CO2 evolution
Temperature : **24 C**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **0.5 mg/L**
Exposure comments : Inoculum

Test Results

Quantity	*Time*	*Comments on result*
38-48 %	**80 d**	Degradation after 80 days
8-95 %	**28 d**	Confidential range of degradation after 28 days(measurement of CO2 evolution).

References

Primary Reference : **RREVAH**
Larson. Residue Reviews, 85, 159-171, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*
BACT	**AQ**	**FRESH**

Species/strain/system : River water

Test Method and Conditions

Test method description : River water test; substance group specific analysis(DBAS)
Temperature : **24-26**
pH : **7.7**

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **5 mg/L**
Exposure comments : Bacterial Inoculum (2.11E+3 colonies/mL)

Test Results

Quantity	*Time*	*Comments on result*
91 %	**30 d**	Degradation after 30 days

References

Primary Reference : **GRACAN**
Ruiz. Grasas y Aceites (Seville), 38, 383-386, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIODEGRADATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT		

Species/strain/system : Biomass, non-adapted

Test Method and Conditions

Test method description : Readily biodegradability test

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **2 mg/L**
Exposure comments : Inoculum = other bacteria

Test Results

Quantity	*Time*	*Comments on result*
38 %	**287 d**	Degradation after 287 days

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT		

Species/strain/system : Biomass, non-adapted

Test Method and Conditions

Test method description : Ready biodegradability test; BOD analysis

(An)aerobic : **AEROB**

Exposure

Dose / Concentration : **2 mg/L**

Exposure comments : Inoculum = other bacteria

Test Results

Quantity	*Time*	*Comments on result*
3 %	**84 d**	Degradation after 84 days

General Comments : The results indicate the substance is "not readily biodegradable". Adsorption of test substance on silica gel does not influence biodegradation.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*
BACT	**AQ**	**SEW**

Species/strain/system : Secondary effluent of a domestic water treatment plant

Test Method and Conditions

Test method description : OECD Guideline 301D: Closed Bottle Test

Exposure

Exposure Period : **5 d**

Test Results

General Comments : EC50 for 5 days = 2 mg/L; EC50 in second test for 5 days = 6.5 mg/L; EC50 in third test for 5 days = 3.5 mg/L. Confidence range = 3.1 - 4.1 mg/L. Report No. UBA-FB 106-03-069.

References

Primary Reference : **D3REP3**
Umweltbundesamt. Report - UBA-FB

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**PHOTODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Substance

Description of the test substance	:	DHTDMAC, which DSDMAC is its major component

Test Method and Conditions

Test method description	:	OECD Screening Test: absorbed on silica gel. Light source: quartz-filtered UV light.

Test Results

Quantity	*Time*	*Comments on result*
63 %	**10 d**	DOC disappearance of the products obtained after 16 hours irradiation

General Comments	:	While it is conceivable that UV degradation may occur in the environment, it is not a significant degradation mechanism.

References

Primary Reference	:	**ECETR*** ECETOC. ECETOC Technical Report, 53, (1993)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**PHOTODEGRADATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Substance

Description of the test substance	:	DHTDMAC, which DSDMAC is its major component

Test Method and Conditions

Test method description	:	Absorbed on silica gel. Light source: pyrex-filtered UV light.

Test Results

Quantity	*Time*	*Comments on result*
43 %	**72 h**	Degradation after 72 hours.
81 %	**28 d**	Mineralisation of the products obtained from the exposure which they were largely and rapidly biodegraded.

General Comments : Photomineralisation appeared to be wave-length dependent. The products obtained from the exposure were largely and rapidly biodegraded. While it is conceivable that UV degradation may occur in the environment, it is not a significant degradation mechanism.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**SORPTION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Specifications	:	**SED**
Geographic Area	:	**FRG**

Test Results

General Comments	:	DSDMAC absorbs strongly onto sediments. Sediment-water partition coefficients from 3800 to 12500 L/kg dry weight were estimated. In a water/clay-mineral test system, a distribution coefficient of 30E + 6 L/kg was estimated. The determination of a Koc is not opportune, because DSDMAC is a surface active substance. Based on these data in the hydrosphere a significant contamination of sediment and suspended matter is predicted.

References

Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**SORPTION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Specifications	:	**SED**
Geographic Area	:	**FRG**

Test Substance

Purity Grade	:	**>96%**

Test Results

General Comments	:	Adsorptivity (sediment): KD about 50000.

References

Primary Reference	:	**ECTCDK** Pittinger et al. Environmental Toxicology and Chemistry, 8, 1023-33, (1989)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**SORPTION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Medium	:	**CLAY**
Specifications	:	**AQ**
Geographic Area	:	**FRG**
Species/strain/system	:	Water-clay-mineral

Test Method and Conditions

Test method description	:	Measurement of the adsorption and desorption of DSDMAC
Temperature	:	**22 C**

Exposure

Dose / Concentration	:	**10 ug/L**
Dose / Concentration	:	25 mg clay-mineral/L water

Test Results

Quantity	*Time*	*Comments on result*
72-96.2 %		Estimated amount of substance which will be absorbed on the clay, according to the distribution coefficient K of the water/clay-mineral system, which was extrapolated to be 30E+6 L/kg.

References

Primary Reference	:	**ZACFAU** Hellman. Fresenius Zeitschrift fuer Analytische Chemie, 327, 524-529, (1987)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**SORPTION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Medium	:	**SED**
Specifications	:	**AQ**
Geographic Area	:	**FRG**

Test Substance

Purity Grade	:	**>=95%**
Labelled Compound	:	**Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Detection with the radiolabelled compound. K = C solids (mg/kg)/C solution (mg/L).

Test Results

Quantity	*Time*	*Comments on result*
10775 k		Absorption coefficient (k) for Rapid Creek, (USA)
3833 k		Ohio River (USA)
12489 k		EPA 18

General Comments : The following reference is also cited: Larson and Vashon (1983): Dev. Ind. Microbiol. 24, 425-434.

References

Primary Reference : **RREVAH**
Larson. Residue Reviews, 85, 159-171, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **SORPTION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Medium : **SLUDG** **SEW** **SLUDG**
Specifications : **SOIL** **AQ** **AQ**
Geographic Area : **FRG**

Test Method and Conditions

(An)aerobic : **ANAER**

Test Results

Quantity	*Time*	*Comments on result*
		No transformation found

General Comments : A large part of removal in waste water treatment plants is due to adsorption onto sludge solids.

References

Secondary Reference :

!SIDSP*

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIOCONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Bluegill sunfish (Lepomis macrochirus)

Test Method and Conditions

Test method description : Test method not specified. (The BCF determined after exposure in the contaminated tap water was detected).

Exposure

Exposure Period	:	**49 d**
Dose / Concentration	:	**0.02 mg/L**

Test Results

Organ	*Bioconcent. Factor*	*Calc Basis*	*Time*	*State*	*Comments on result*
	<5				BCF in the filet
	260				BCF in the guts
WB	**32**				BCF in the whole body
					After 14 days in clear water 93% of DSDMAC was eliminated.

References

Primary Reference : **TSDTAZ**
Kappeler. Tenside Detergents, 19(3), 169-176, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **BIOCONCENTRATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Bluegill sunfish (Lepomis macrochirus)

Test Method and Conditions

Test method description : Test method not specified. (BCF determined after exposure in contaminated river water).

Exposure

Exposure Period : **49 d**
Dose / Concentration : **0.023 mg/L**

Test Results

Organ	*Bioconcent. Factor*	*Calc Basis*	*Time*	*State*	*Comments on result*
	<5				BCF in the filet
	94				BCF in the guts
WB					BCF in the whole body
					After 14 days in clear water, 93% of DSDMAC was eliminated.

References

Primary Reference : **TSDTAZ**
Kappeler. Tenside Detergents, 19(3), 169-176, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**BIOCONCENTRATION**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Goldfish (Carassius sp.)

Test Substance

Labelled Compound : **Radiolabelled 14C DSDMAC**

Test Method and Conditions

Test method description : Test method not specified.

Test Results

General Comments : The test demonstrated that absorbed DSDMAC was almost completely eliminated in 7 to 14 days when fish were transferred to clear water.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **EXCRETION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**SKN**			**4**	

Species/strain/system : Rabbit

Test Substance

Labelled Compound : **(14C)-DSDMAC chloride (approximately 30 ci)**

Test Method and Conditions

Test method description : Excreta were collected over a 72 hours period and were assayed for radioactivity.

Exposure

Exposure Type : **ACUTE**
Exposure Period : **72 h**
Dose / Concentration : **10 mg/ ANIMAL**
Exposure comments : 10 mg of test substance was applied to the back of each rabbit. The rabbits were then restrained for 72 hours.

Test Results

Organ	*Quantity*		*Time*	*Comments on result*
AIR	**0.27 %**	**TOT**	**72 h**	% of the dose excreted as CO2 in expired air
URINE	**0.15 %**	**TOT**	**72 h**	% of the dose excreted with urine
FECES	**0.16 %**	**TOT**	**72 h**	% of the dose excreted with feces

General Comments : Only traces of radioactivity were found in the carbon dioxide, urine and feces; most of the radioactivity was recovered from the skin site where it had been applied (88%). The author interpreted the experiment as clear evidence that the test substance does not effectively penetrate the skin.

References

Primary Reference : **38FTAB**
Drotman. Cutaneous Toxicity: Proceedings of the Conference on Cutaneous Toxicity, 3, 95-109, (1977)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Dose / Concentration : **2000 mg/kg BW**

Test Substance

Description of the test substance : Praepagen WK high conc. (DSDMAC 97% pure, max. 3% water).

Test Method and Conditions

Test method description : OECD Guideline 401 "Acute Oral Toxicity"; GLP: no

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**ORL**			**LD50**	Oral LD50 for rats was established as > 2000 mg/kg body weight.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 86.0200, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Dose / Concentration : **11300-13000 mg/kg BW**

Test Method and Conditions

Test method description : GLP: no data

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**ORL**		**M** **F**	**LD50**	Oral LD50 for male and female rats was established as 11300 mg/kg body weight and 13000 mg/kg body weight, respectively.

References

Primary Reference : **ESKHA5**
Susuki et al. Eisei Shikensho Hokoku
(Bulletin of the Institute of Hygienic Sciences), 101, 152-156, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Dose / Concentration : **2000 mg/kg BW**

Test Substance

Description of the test substance : Praepagen WK high-conc. (DSDMAC 97% pure, max. 3% water).

Test Method and Conditions

Test method description : OECD Guideline 402 "Acute Dermal Toxicity"; GLP: yes

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**SKN**		**M** **F**	**LD50**	Dermal LD50 for rats was established as > 2000 mg/kg body weight.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 88.0883, (1988)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**MAMMALIAN TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT			**ORL**		**M**	**5/GROUP**	**5**
					F	**5/GROUP**	**5**

Species/strain/system : Wistar rats

Test Substance

Description of the test substance	:	Praepagen WK (approx. 90% DSDMAC, 5% isopropanole, 5% water).
Purity Grade	:	**TG 90%**

Test Method and Conditions

Test method description	:	OECD Guideline 407 "Repeated Dose Oral Toxicity-Rodent: 28-day or 14-day Study", GLP: yes

Exposure

Exposure Type	:	**SHORT**
Exposure Period	:	**28 d**
Dose / Concentration	:	**20-500 mg/kg BW**
Exposure comments	:	Tested substance was applied by gavage at doses of 20, 100, or 500 mg/kg body weight, daily for 28 days.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
BW	**RETAR**				

In the high-dose group slightly reduced body weight gain was observed.

ADREN	**STRUC**			**F**

Necroses of the adrenal cortex with infiltration of granulocytes and bleeding in some females at 500 mg/kg dose.

STM	**STRUC**			**F**

In one female ulceration of stomach mucosa at 500 mg/kg.

WBC	**INC**			**M**
	NEF			

Males at 500 mg/kg had increased granulocyte levels, but no histopathological findings.

	NOAEL			
	LOAEL			

NOAEL: 100 mg/kg body weight/day; LOAEL: 500 mg/kg body weight/day

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 90.0532, (1990)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MAMMALIAN TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**SKN**		**M**	**3/GROUP**	**3**
					F	**3/GROUP**	**3**

Species/strain/system : Gelbsilber rabbits

Test Substance

Description of the test substance : Praepagen WK (approximately 75% DSDMAC, 25% isopropanole and water).
Purity Grade : **TG 75%**

Test Method and Conditions

Test method description : Repeated dose toxicity; GLP: no

Exposure

Exposure Type : **SHORT**
Exposure Period : **28 d**
Frequency : **5 d/wk**
Dose / Concentration : **4-40 mg/kg BW**
Exposure comments : Rabbits were treated dermally with doses of 0, 4 or 40 mg/kg/day for 4 weeks.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
SKIN	**IRRIT**				

Slight local skin reactions were observed in both dose groups.

NEF

The treated animals showed no toxic effects in haematological, clinicochemical and urine investigations. Autopsies and histopathological investigations failed to yield any substance-related changes.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 74.0089, (1974)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT			**VTR**				

Species/strain/system : Salmonella typhimurium TA98, TA100

Test Method and Conditions

Test method description : Ames test; GLP: no data

Exposure

Dose / Concentration : **1-500 ug/ PLATE**
Exposure comments : Tests were performed with metabolic activation (S9-mix of liver of rat, hamster or guinea pig; additionally with and without Norharman).

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NEF				

Negative results

References

Primary Reference : **ESKGA2**
Sunakawa et al. Eisei Kagaku
(Journal of Hygiene Chemistry), 27, 204-211, (1981)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT			**VTR**				

Species/strain/system : Salmonella typhimurium TA98, TA100, TA1535, TA1537, TA1538

Test Substance

Description of the test substance : Praepagen WK
Purity Grade : **TG**

Test Method and Conditions

Test method description : Ames test; OECD Guideline 471 "Genetic Toxicology: Salmonella typhimurium Reverse Mutation Assay;" GLP: no

Exposure

Dose / Concentration : **4-1000 ug/ PLATE**
Exposure comments : Tests were performed with and without metabolic activation.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NEF				

Negative result

General Comments : In the Ames test DSDMAC proved to be non-mutagenic.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 74-0089, (1974)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT			**VTR**				

Species/strain/system : Escherichia coli WP2uvrA

Test Substance

Description of the test substance : Praepagen WK
Purity Grade : **TG**

Test Method and Conditions

Test method description : Ames test; OECD Guideline 472 "Genetic Toxicology: Escherichia coli Reverse Mutation Assay"; GLP: no

Exposure

Dose / Concentration : **4-2500 ug/ PLATE**
Exposure comments : Tests were performed with and without metabolic activation.

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	NEF				

Negative results with and without metabolic activation

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 82.0486, (1982)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
HAMST			**VTR**				

Species/strain/system : Chinese hamsters V79 cells

Test Substance

Description of the test substance : Praepagen WK (approximately 90% DSDMAC, 5% isopropanole, 5% water).
Purity Grade : **TG 90%**

Test Method and Conditions

Test method description : OECD Guideline 473 "Genetic Toxicology: In Vitro Mammalian Cytogenetic Test;" GLP: yes

Exposure

Dose / Concentration : **4-50 ug/mL**
Exposure comments : Tests were performed with and without metabolic activation. Concentrations of 5-50 ug/mL and 4-40 ug/mL were used with and without metabolic activation, respectively.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NEF				

Negative results with and without metabolic activation

General Comments : An in-vitro study of chromosome aberrations of V79 cells from chinese hamsters showed no genotoxicity.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 89.1302, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **SENSITIZATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
GPIG			**SKN**				

Species/strain/system : Guinea pig

Test Substance

Description of the test substance : Praepagen WK (77% DSDMAC, 11.3% isopropanole, 11.7% water).
Purity Grade : **TG 77%**

Test Method and Conditions

Test method description : Maximization test. OECD Guideline 406 "Skin Sensitization"; GLP: yes

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NEF				

Not sensitizing

General Comments : Classification: not sensitizing; must not be labelled according to EEC 83/467/EWG.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 89.1253, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **IRRITATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**OCU**				

Species/strain/system : Rabbit

Test Substance

Description of the test substance : Praepagen WK high conc. (DSDMAC 97%, max. 3% water).
Purity Grade : **TG 97%**

Test Method and Conditions

Test method description : OECD Guidelilne 405 "Acute Eye Irritation/Corrosion"; GLP: no

Exposure

Exposure Type : **ACUTE**
Exposure Period : **24 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
EYE	**IRRIT**				

Irritating to eyes

General Comments : EC classification: risk of serious damage to eyes.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 86.0228, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **IRRITATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**SKN**				

Species/strain/system : Rabbit

Test Substance

Description of the test substance : Praepagen WK "special" (77-80% DSDMAC, approximately 12% isopropanole, approximately 11% water).*
Purity Grade : **TG 77-80%**

Test Method and Conditions

Test method description : OECD Guideline 404 "Acute Dermal Irritation/Corrosion"; GLP: yes

Exposure

Exposure Type : **ACUTE**
Exposure Period : **4 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
SKIN	**IRRIT**				

Irritating to skin

General Comments : EC classification: irritating; must be labelled with R38. *Very low content of monostearyldimethylammonium chloride, more unsaturated.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 90.0161, (1990)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **IRRITATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
RBT			**SKN**				

Species/strain/system : Rabbit

Test Substance

Description of the test substance : Praepagen WK high conc. (DSDMAC 97%, max. 3% water).
Purity Grade : **TG 97%**

Test Method and Conditions

Test method description : OECD Guideline 404 "Acute Dermal Irritation/Corrosion"; GLP:no

Exposure

Exposure Type : **ACUTE**
Exposure Period : **4 h**

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	NEF				

Not irritating

General Comments : EC classification: not irritating; must not be labelled.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 86.0227, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **IRRITATION**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RBT			**SKN**				

Species/strain/system : Rabbit

Test Substance

Description of the test substance : Praepagen WK (DSDMAC 77%, 11.3% isopropanole, 11.7% water).
Purity Grade : **TG 77%**

Test Method and Conditions

Test method description : OECD Guideline 404 "Acute Dermal Irritation/Corrosion"; GLP: yes

Exposure

Exposure Type : **ACUTE**
Exposure Period : **4 h**
Exposure comments : Exposure time: 3 minutes and 4 hours.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
SKIN	**COR**				

Corrosive

General Comments : EC classification: corrosive (causes burns); must be labelled with R34.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 89.097, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**IMMUNOTOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
General Comments	:	It has been found, that DSDMAC chloride is an immunoadjuvant of higher value, if tetanus toxoids are used as antigens, there are endotoxincontaining biological adjuvants in amounts tolerable to man.

References

Primary Reference	:	**COIMDV** Gall. Comprehensive Immunology, 11, 369-386, (1966)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **TERATOGENICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
RAT			**SKN**		**F**		

Species/strain/system : Sprague-Dawley rats

Test Substance

Vehicle - Solvent : Ethanol

Test Method and Conditions

Test method description : GLP: no data

Exposure

Exposure Type : **SHORT**
Exposure Period : **6-15 TDP**
Frequency : **1 x/d**
Dose / Concentration : **22-50 mg/ ANIMAL**
Exposure comments : Females were treated between the 6th and 15th days of gestation with doses of 0, 22, 33 or 50 mg/animal/day (4.4, 6.6 or 9.9%).

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	NEF				

No systemic maternal toxicity, only slight local skin reactions in the dams.

NEF

No embryo-/fetotoxic effects

NEF

No teratogenic effects

NOEL

NOEL >= 50 mg/kg

General Comments : The dermal teratogenicity studies show no adverse effect of the test compound on the dams and offspring.

References

Primary Reference : **TXCYAC**
Palmer, et al. Toxicology, 26, 314-315, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Species/strain/system	:	Fathead minnow (Pimephales promelas)

Test Method and Conditions

Test method description	:	Static; acute toxicity.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50**	LC50 = 4.08 mg/L

General Comments	:	Analytical monitoring: no Related to exposure comment: the test was conducted with laboratory water. No further information available.

References

Primary Reference	:	**ECETR*** ECETOC. ECETOC Technical Report, 53, (1993)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**
Species/strain/system	:	Water flea (Daphnia magna)
Exposure Period	:	**48 h**

Test Substance

Labelled Compound	:	Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description	:	U.S. Environmental Protection Agency (EPA), 1975, Methods for Acute Toxicity Test with Fish, Microinvertebrates and Amphibiens. Ecological Research Service EPA 660/13-75-009; semi-static (daily revewal).
pH	:	**8.4-8.6**

Test Results

Organism	Medium	Spec.	Route	Lifestage	Sex	Effect	Effect Comments
CRUS	**AQ**	**FRESH**				**LC50**	LC50 (effective concentration) for 48 hours = 3.1 mg/L.

General Comments : Analytical monitoring: yes. Related to exposure comment: dilution water was river water (White River). The test solution was prepared with either ethanol or isopropanol.

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Species/strain/system : Bluegill sunfish (Lepomis macrochirus)
Exposure Period : **96 h**
Dose / Concentration : **0.74-1.45 mg/L**

Test Substance

Labelled Compound : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Static; U.S. Environmental Protection Agency (EPA), 1975, Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibiens; Ecological Research Service EPA-660/3-75-009.

pH : **7.1-7.9**

Test Results

Organism	Medium	Spec.	Route	Lifestage	Sex	Effect	Effect Comments
FISH	**AQ**	**FRESH**				**LC50**	LC50 for 48 hours = 1.04 mg/L.

General Comments : Analytical monitoring: no. 95% confidence range: 0.74-1.45 mg/L nominal concentrations. Related to exposure comment: dilution water was well water; the test solution was prepared with either ethanol or isopropanol.

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

[redacted]

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Species/strain/system : Waterflea (Daphnia magna)
Exposure Period : **48 h**

Test Substance

Labelled Compound : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : Environmental Protection Agency (EPA), 1975, Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibiens; Ecological Research Service EPA 660/13-75-009. Semi-static (daily renewal).

pH : **6.5-7.3**

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
CRUS	**AQ**	**FRESH**				**LC50**	LC50 (effective concentration) for 48 hours = 0.16 mg/L.

General Comments : Analytical monitoring: yes. Related to exposure comment: dilution water was reconstituted water. The test solution was prepared with either ethanol or isopropanol.

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

[redacted]

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Species/strain/system : Midge (Chironomus riparius)
Exposure Period : **72 h**
Exposure comments : The exposure was started with the eggs and continued for 72 hours postatch.

Test Substance

Purity Grade : **>96%**

Test Method and Conditions

Test method description : Egg hatching success and survival of newly hatched larvae, monitored.
Temperature : **20-24 C**
pH : **7.8-8.4**

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
INSEC	**AQ**			**EGG LARVA**		**LC50**	LC50 for 72 hours = 11.3 mg/L.

General Comments : Analytical monitoring: yes. 95% confidence range: 9.9-12.5 mg/L.

References

Primary Reference : **ECTCDK**
Pittinger et al. Environmental Toxicology and Chemistry, 8, 1023-33, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Species/strain/system : Shrimp (Mysidopsis bahia)
Exposure Period : **96 h**

Test Substance

Description of the test substance : DTDMAC (C16/C18)

Test Method and Conditions

Test method description : U.S. Environmental Protection Agency (EPA), 1975, Methods for Acute Toxicity Tests with Fish, Macroinvertebrates and Amphibiens, Ecological Research Service EPA-660/13-75-009.
Salinity : **1.6-2.6 %**

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
CRUS	**AQ**	**MARIN**				**LC50**	LC50 for 96 hours = 0.22 mg/L.

General Comments : 95% confidence range: 0.17 - 0.3 mg/L nominal concentration. Related to exposure comment: dilution water was estuarine (1.6 - 2.6%).

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Species/strain/system : Southern House mosquito (Culex pipiens quinquefasciatus)
Exposure Period : **24 h**

Test Method and Conditions

Test method description : Biocidal and biostatic activity of aliphatic amines against Southern House mosquito larvae and pupae (1967); the test was conducted with tap water pH 8 - 8.5 prior to addition of the compound. GLP: no. The approximate temperature = 26C.
Temperature : **26 C**
pH : **8-8.5**

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
INSEC				**LARVA** **PUPA**		**LC50**	LC50 for 24 hours >= 50 mg/L; LC50 for 24 hours for young (second and third stage) > 50 mg/L; LC50 for 24 hours for fourth instar larvae > 50 mg/L; LC50 for 24 hours for pupae = 50 mg/L.

References

Primary Reference : **JEENAI**
Mulla. Journal of Economic Entomology, 60, 515-522, (1967)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**
Species/strain/system	:	Fathead minnow (Pimephales promelas)
Exposure Period	:	**96 h**

Test Substance

Description of the test substance	:	DHTDMAC (technical product of DSDMAC) complexed with humi c acid.
Purity Grade	:	**TG**

Test Method and Conditions

Test method description	:	Acute Aquatic Toxicity Laboratory Tests.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50** **EC50**	LC50 or EC50, for 96 hours = 6.49 mg/L and humic acid concentration of 4.1 mg/L; LC50 or EC50, for 96 hours = 10.3 mg/L and humic acid concentration of 6.9 mg/L; LC50 or EC50, for 96 hours 22.9 mg/L and humic acid concentration of 11.5 mg/L.

General Comments : Humic acid concentrations expressed as total organic carbon.

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**
Species/strain/system	:	Waterflea (Daphnia magna)
Exposure Period	:	**48 h**

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC) complexed with LAS, ratio 1:1.

Purity Grade : **TG**

Test Method and Conditions

Test method description : Acute Aquatic Toxicity Laboratory Tests of DHTDMAC complexed with LAS.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
CRUS	**AQ**	**FRESH**				**LC50** **EC50**	EC50 or LC50, for 48 hours = 0.72 mg/L. Similar result (concentration) obtained when the test was repeated for the same molar ratio. EC50 or LC50, for 48 hours = 1.6 mg/L.

General Comments : Procter and Gamble (1974-1986) cited in ECETOC.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Species/strain/system : Bluegill sunfish (Lepomis macrochirus)
Exposure Period : **96 h**

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC) complexed with LAS.

Purity Grade : **TG**

Test Method and Conditions

Test method description : Acute Aquatic Toxicity Laboratory Tests.

Test Results

Organism	Medium	Spec.	Route	Lifestage	Sex	Effect	Effect Comments
FISH	**AQ**	**FRESH**				**LC50** **EC50**	LC50 or EC50, for 96 hours and molar ratio of DHTDMAC/LAS: 1:2, = 17.6 mg/L; LC50 or EC50, for 96 hours and molar ratio of DHTDMAC/LAS: 2:1, = 7.1 mg/L; LC50 OR EC50, for 96 hours and molar ratio of DHTDMAC/LAS: 1:1, = 113.5 mg/L.

General Comments : Procter and Gamble (1974-1986) cited in ECETOC.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Species/strain/system : Waterflea (Daphnia magna)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Comparison between acute aquatic toxicity laboratory results of DHTDMAC in the presence and absence of LAS.

Test Results

Organism	Medium	Spec.	Route	Lifestage	Sex	Effect	Effect Comments
CRUS	**AQ**	**FRESH**				**LC50** **EC50**	LC50 or EC50 for DHTDMAC = 0.36 mg/L (Geom. mean); LC50 or EC50 for DHTDMAC and anionic compound (LAS) with the molar ratio of 1:1 = 0.97 mg/L (Geom. mean).

General Comments : As shown in several tests in daphnia, the presence of LAS causes a reduction in toxicity. Complexes with anionics are formed, which have less bioavailability than the pure substance.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Species/strain/system : Bluegill sunfish (Lepomis macrochirus)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Comparison between acute aquatic toxicity laboratory results of DHTDMAC in the presence and absence of LAS.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50** **EC50**	LC50 or EC50, for DHTDMAC = 0.56 - 3.2 mg/L; LC50 or EC50, for DHTDMAC and anionic compound LAS with the molar ratio of 1:1, = 39.5 mg/L. (The given concentration is Geom. mean mg/L).

General Comments : As shown in several tests on fish, the presence of LAS causes a reduction in toxicity. Complexes with anionics are formed, which have less bioavailability than the pure substance.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC ACUTE TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**
Species/strain/system	:	Fathead minnow (Pimephales promelas)

Test Substance

Description of the test substance	:	DHTDMAC (technical product of DSDMAC)
Purity Grade	:	**TG**

Test Method and Conditions

Test method description	:	Comparison between acute aquatic toxicity laboratory results of DHTDMAC in the presence and absence of humic acid.

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50** **EC50**	LC50 or EC50, for DHTDMAC = 0.29 - 0.558 mg/L; LC50 or EC50, for DHTDMAC and anionic compound humic acid = 6.46 mg/L as the single result. The molar ratio concentration of humic acid = 4.1 mg/L.

General Comments	:	As shown in several tests in fish, the presence of humic acid causes a reduction in toxicity. Complexes with anionics are formed, which have less bioavailability than the pure substance.

References

Primary Reference	:	**ECETR*** ECETOC. ECETOC Technical Report, 53, (1993)
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**	**FRESH**					

Species/strain/system : Algae (Selenastrum capricornutum)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : ASTM (1986) Standard Practice for Conducting 96 hours Toxicity Tests with Microalgae. End point: growth rate.
Temperature : **22-26 C**

Exposure

Exposure Period : **96 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in* *Exposed - Controls*
---	---	---	---	---	---
	EC50				

EC50 for 96 hours = 0.06 mg/L.

General Comments : Analytical monitoring: yes. The above given concentration is nominal concentration.

References

Primary Reference : **WATRAG**
Lewis and Hamm. Water Research, 20, 1575-82, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**						

Species/strain/system : Algae (Navicula pelliculosa)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)

Purity Grade : **TG**

Test Method and Conditions

Test method description : ASTM (1986) Standard Practice for Conducting 96 hours Toxicity Test with Microalgae. End point: growth rate.

Temperature : **18-22 C**

Exposure

Exposure Period : **96 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---
	EC50				

EC50 for 96 hours = 0.07 mg/L

General Comments : The above given value is nominal concentration. Analytical monitoring: yes

References

Primary Reference : **WATRAG**
Lewis and Hamm. Water Research, 20, 1575-82, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**						

Species/strain/system : Algae blue Cyanobacteria (Microcystis aeruginosa)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : ASTM (1986) Standard Practice for Conducting 96 hours Toxicity Tests with Microalgae. End point: growth rate.
Temperature : **18-22 C**

Exposure

Exposure Period : **96 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---
	EC50				

EC50 for 96 hours = 0.05 mg/L

General Comments : Analytical monitoring: yes. The above given value is nominal concentration.

References

Primary Reference : **WATRAG**
Lewis and Hamm. Water Research, 20, 1575-82, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**						

Species/strain/system : Lake plankton

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Photosynthesis Studies in Situ (Acton Lake, Ohio). End point: changes in photosynthesis, carbon assimilation.
Temperature : **17-28 C**
pH : **6.8-8**

Exposure

Exposure Period : **3 h**
Exposure comments : 8 tests were conducted over several months.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50				
	PHOTO				

EC50 for 3 hours = 6.4 mg/L.

	EC50				
	PHOTO				
	BIOCH				

EC50 range = 0.4 - 31.9 mg/L; these differences may be attributable, in part, to seasonal changes in water temperature and to the changing nature of the plancton community.

General Comments : Analytical monitoring: yes.

References

Primary Reference : **WATRAG**
Lewis and Hamm. Water Research, 20, 1575-82, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**	**FRESH**					

Species/strain/system : Algae (Selenastrum capricornutum)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**
Impurities : **8% MHTTMAC**

Test Method and Conditions

Test method description : Suspended solids = 68 mg/L. Test method not specified. River water used as medium.

Exposure

Exposure Period : **5 d**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEC				

NOEC = 0.062 mg/L. Effect = growth inhibition.

BIOMA	**INHIB**				

MIAC (minimum algistatic concentration) = 0.71 mg/L.

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**	**FRESH**					

Species/strain/system : Algae (Selenastrum capricornutum)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Short-term methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms; EPA - 600/4-85-014. End point: growth rate. Effluent water: test solutions were not renewed during the test.

Exposure

Exposure Period : **96 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEC				

NOEC = 10.7 mg/L

References

Primary Reference : **WATRAG**
Versteeg and Waltering. Water Research, 24, 717-723, (1990)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**	**FRESH**					

Species/strain/system : Algae (Selenastrum capricornutum)

Test Method and Conditions

Test method description : Algae Growth Inhibition Test; end point: growth rate.

Exposure

Exposure comments : The test was conducted with laboratory water. No further information available.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEC				

NOEC = 0.16 mg/L

	EC50				

EC50 = 0.46 mg/L

	NOEC				

NOEC = 0.6 mg/L in second study

	EC50				

EC50 = 1.17 mg/L in second study

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1995)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
ALGAE	**AQ**	**FRESH**					

Species/strain/system : Algae (Selenastrum capricornutum)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Algal Growth Inhibition Test; end point: sonication.

Exposure

Exposure Period : **96 h**
Exposure comments : Tap water

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEC				
NOEC = 0.006 mg/L					
	LOEC				
LOEC = 0.012					
	EC50				
EC50 = 0.026					

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT	**AQ**	**SLUDG**					

Species/strain/system : Nitrifying culture, isolated from a domestic nitrifying activated sludge.

Test Substance

Purity Grade : **75%**

Test Method and Conditions

Test method description : Manostatic respirometer

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	IC50				

IC50 (EC50 for inhibition) = 2.8 mg/L

References

Primary Reference : **GWWAAQ**
Wagner and Kayser. GWF, Das Gas - und Wasserfach: Wasser/Abwasser, 131, 165-177, (1990)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT	**AQ**	**MARIN**					

Species/strain/system : Indigenous bacterial community of sea water from the beach of Barcelona

Test Method and Conditions

Test method description : Measurement of the inhibition of thymidine incorporation. The test was conducted at room temperature.

Exposure

Exposure Period : **30 mi**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50 BIOCH				

EC50 for 30 minutes = 3.05 mg/L

References

Primary Reference : **WATRAG**
Vives-Rego et al. Water Research, 20, 1411-15, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT	**AQ**	**SEW**					

Species/strain/system : Anaerobic bacteria from a domestic waste water treatment plant

Test Substance

Description of the test substance	:	Praepagen WK
Purity Grade	:	**TG**

Test Method and Conditions

Test method description	:	OECD Guideline 209 "Activated Sludge, Respiration Inhibition Test"; 1989; GLP: no
(An)aerobic	:	**ANAER**

Exposure

Exposure Period	:	**3 h**
Exposure comments	:	Reference substance was potassium dichromate.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC10				
	BIOCH				

EC10 for 3 hours = 80 mg/L

	EC20				
	BIOCH				

EC20 for 3 hours = 110 mg/L

	EC50				
	BIOCH				

EC50 for 3 hours = 220 mg/L

	EC80				
	BIOCH				

EC80 for 3 hours = 420 mg/L

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, NOACK 8.697, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
BACT	**AQ**	**SEW**					

Species/strain/system : Anaerobic bacteria from a domestic waste water treatment plant

Test Substance

Purity Grade : **TG**

Test Method and Conditions

Test method description : OECD Guideline 209 "Activated Sludge, Respiration Inhibition Test"
Temperature : **20-22 C**
(An)aerobic : **ANAER**

Exposure

Exposure Period : **3 h**
Exposure comments : Reference substance was potassium dichromate

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	EC50				

EC50 for 3 hours = 267 mg/L. 95% confidence range = 267-325 mg/L

EC50

EC50 for 3 hours in another test = 520 mg/L

General Comments : Report No. UBA-FB 106-03-069.

References

Primary Reference : **D3REP3**
UBA. Umweltbundesamt. Report - UBA-FB, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT	**AQ**	**SEW**					

Species/strain/system : Bacteria population isolated from domestic waste water

Test Method and Conditions

Test method description : Biophotometric (determination of growth by turbidity)

Exposure

Exposure Period : **15 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC0				

EC0 for 15 hours >= 20 mg/L

References

Primary Reference : **WATRAG**
Baleux and Caumette. Water Research, 11, 833-841, (1977)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT	**AQ**	**MARIN**					

Species/strain/system : Indigenous bacterial community of sea water from the beach of Barcelona

Test Method and Conditions

Test method description : Measurement of the inhibition of glucose metabolism. The test was conducted at room temperature.

Exposure

Exposure Period : **30 mi**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50 BIOCH				

EC50 for 30 minutes = 14.8 mg/L

References

Primary Reference : **WATRAG**
Vives-Rego et al. Water Research, 20, 1411-15, (1986)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT	**AQ**	**SEW**					

Species/strain/system : Anaerobic bacteria from a domestic waste water treatment plant

Test Substance

Description of the test substance : Praepagen WK (73-75% DSDMAC, 7-8% isopropanol, 7-8% ethanol)

Purity Grade : **TG**

Test Method and Conditions

Test method description : According to OECD Guideline 209 "Activated Sludge, Respiration Inhibition Test"; 1985; GLP: no

(An)aerobic : **ANAER**

Exposure

Exposure Period : **3 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC20				
	BIOCH				

EC20 for 3 hours = approximately 50 mg/L

	EC50				
	BIOCH				

EC50 for 3 hours = 100-500 mg/L

	EC80				
	BIOCH				

EC80 for 3 hours > 1000 mg/L

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
CRUS	**AQ**	**FRESH**					

Species/strain/system : Water flea (Daphnia magna)

Test Substance

Description of the test substance : Praepagen WK (73-75% DSDMAC, 7-8% isopropanol, 7-8% ehanol)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Daphnien-Kurzzeittest, DIN 38412 Teil 11, Bestimmung der Wirkung von wassertinhaltsstoffen auf Kleinkrebse; GLP: no

Exposure

Exposure Period : **24 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*

EC0

EC0 for 24 hours = ca. 0.1 mg/L

EC50

EC50 for 24 hours = ca. 0.37 mg/L

EC100

EC100 for 24 hours = ca. 0.9 mg/L

General Comments : Analytical monitoring: no

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
CRUS	**AQ**	**FRESH**					

Species/strain/system : Waterflea (Daphnia magna)

Test Substance

Description of the test substance : Radiolabelled 14C DSDMAC

Test Method and Conditions

Test method description : 21-day static renewal test (daily renewal). End point: reproduction rate. The test solution was prepared either with ethanol or isopropanol.
pH : **8.4-8.6**

Exposure

Exposure Period : **21 d**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---

NOEC

NOEC for 21 days = 0.38 mg/L

LOEC

LOEC (lowest observed effect concentration) for 21 days = 0.76 mg/L.

LC50

LC50 for 21 days = 1.72 mg/L

General Comments : Analytical monitoring: yes. Related to exposure comment: Dilution water was river water (White River).

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	Medium	Specification	Route	Lifestage	Sex	Number exposed	Number controls
CRUS	**AQ**	**FRESH**					

Species/strain/system : Waterflea (Daphnia magna)

Test Substance

Description of the test substance : DHTDMAC (technical product of DSDMAC)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Daphnia reproduction study. End point: reproduction rate

Exposure

Exposure Period : **21 d**
Exposure comments : Tap water

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	NOEC				

NOEC for 21 days = 0.18 mg/L

LOEC

LOEC (lowest observed effect concentration) for 21 days = 0.32 mg/L

EC50

EC50 for 21 days = 0.599 mg/L

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Zebrafish (Brachydanio rerio)

Test Substance

Description of the test substance : Praepagen WK (77% DSDMAC, 11.3% isopropanol, 11.7% water)
Purity Grade : **TG**

Test Method and Conditions

Test method description : OECD Guideline 203-Fish Acute Toxicity Test, 1989; static; GLP: yes

Exposure

Exposure Period : **48-96 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---

LC0

LC0 for 48 hours and 96 hours = 1 mg/L. At the 1 mg/L group symptoms of toxication were observed but without lethality.

LC50

LC50 for 48 hours and 96 hours = 1.48 mg/L.

LC100

LC100 for 48 hours and 96 hours = 2.2 mg/L.

General Comments : Analytical monitoring: yes. The given values are nominal concentrations.

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, 89.1029, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Zebrafish (Brachydanio rerio)

Test Substance

Description of the test substance : Praepagen WK (73-75% DSDMAC, 7-8% isopropanol, 7-8% ethanol)
Purity Grade : **TG**

Test Method and Conditions

Test method description : Static (according to DIN 38412 Part 15, 1986); GLP: no

Exposure

Exposure Period : **48 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---

LC0

LC0 for 48 hours = approximately 0.1 mg/L.

LC50

LC50 for 48 hours = 0.1 - 0.37 mg/L.

LC100

LC100 for 48 hours = 0.37 mg/L.

General Comments : Analytical monitoring: no

References

Primary Reference : **HOECH***
Hoechst AG. Hoechst AG, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**					

Species/strain/system : Fathead minnow (Pimephales promelas)

Test Method and Conditions

Test method description : Static

Exposure

Exposure comments : The test was conducted with river water. No further information available.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	LOEC				

LOEC (lowest observed effect concentration) > 12.7 mg/L

General Comments : Analytical monitoring: no

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**		**EGG** **LARVA**			

Species/strain/system : Fathead minnow (Pimephales promelas)

Test Substance

Description of the test substance : Radiolabelled C16/C18 DTDMAC

Test Method and Conditions

Test method description : Early life stage test. The test solution was prepared with triethylene glycol.

Exposure

Exposure Period : **35 d**
Exposure comments : Dilution water: well water

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---
	NOEC				

NOEC for 35 days = 0.23 mg/L for hatch, growth and survival

General Comments : Analytical monitoring: yes

References

Primary Reference : **ECTCDK**
Lewis and Wee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
FISH	**AQ**	**FRESH**		**EGG** **LARVA**			

Species/strain/system : Fathead minnow (Pimephales promelas)

Test Substance

Labelled Compound : Radiolabelled C16/C18 DTDMAC

Test Method and Conditions

Test method description : Early life stage test. End-point: hatch, survival, length of larvae. The test solution was prepared with isopropanol.

Exposure

Exposure Period : **35 d**
Exposure comments : Dilution water: well water

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---
	NOEC				

NOEC for 35 days = 0.053 mg/L

General Comments : Analytical monitoring: yes

References

Primary Reference : **ECTCDK**
Lewis and Lee. Environmental Toxicology and Chemistry, 2, 105-118, (1983)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
INSEC	**AQ**			**EGG**			

Species/strain/system : Midge (Chironomus riparius)

Test Method and Conditions

Test method description	:	Egg Hatchability Test
Temperature	:	**20-24 C**
pH	:	**7.8-8.4**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEC				

NOEC = 21.5 mg/L

General Comments : Analytical monitoring: yes

References

Primary Reference : **ECTCDK**
Pittinger et al. Environmental Toxicology and Chemistry, 8, 1023-33, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
INSEC	**AQ**	**FRESH**		**LARVA** **ADULT**			

Species/strain/system : Midge (Chironomus riparius)

Test Substance

Purity Grade : **>96%**

Test Method and Conditions

Test method description : Partial Life-cycle Chronic Bioassay; sediment free. The test was conducted with newly hatched larvae 72 hours old. The tests were continued until all live midges emerged as adults. The average duration was 24 days.
Temperature : **20-24 C**
pH : **7.8-8.4**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
---	---	---	---	---	---

NOEC
NOEC = 0.45 mg/L

LOEC
LOEC (lowest observed effect concentration) = 1.02 mg/L

General Comments : Analytical monitoring: yes

References

Primary Reference : **ECTCDK**
Pittinger et al. Environmental Toxicology and Chemistry, 8, 1023-33, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**AQUATIC TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
INSEC	**AQ**	**FRESH**		**LARVA** **ADULTS**			

Species/strain/system : Midge (Chironomus riparius)

Test Substance

Purity Grade : **>96%**

Test Method and Conditions

Test method description	:	The test was done with newly hatched larvae 72 hours old. The tests were continued until all live midges emerged as adul adults. The average duration was 24 days.
Temperature	:	**22 C**
pH	:	**7.8-8.4**

Exposure

Exposure comments : Test substance was sorbed at the sediment.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
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LOEC

LOEC (lowest observed effect concentration) = 2700 mg/kg in sediment

LOEC

LOEC = 0.18 mg/L in interstitial water

LOEC

LOEC = 0.41 mg/L in overlying water

NOEC

Sediment concentration of 876 mg/kg (0.06 mg/L in interstitial water and 0.29 mg/L in overlying water) or less did not elicit an adverse effect upon midge emergence.

A significant reduction in midge emergence was observed at the highest exposure conditions tested.

General Comments : Analytical monitoring: yes

References

Primary Reference : **ECTCDK**
Pittinger et al. Environmental Toxicology and Chemistry, 8, 1023-33, (1989)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point : **TERRESTRIAL TOXICITY**
Chemical Name : **Dimethyldioctadecylammonium chloride**
CAS Number : **107-64-2**
Study type : **LAB**
Geographic Area : **FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
BACT							

Species/strain/system : Soil Bacteria (Pseudomonas putida)

Test Method and Conditions

Test method description : Growth Inhibition Test with Pseudomonas putia (DIN 38412 part 8).
Temperature : **18-22 C**

Exposure

Exposure Period : **18 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50				

EC50 for 18 hours = 48 mg/L

EC50

EC50 for 18 hours in second study = 58 mg/L

EC50

EC50 for 18 hours in third study = 57 mg/L. 95% confidence range 53-60 mg/L.

General Comments : Report No. UBA-FB 106-03-069.

References

Primary Reference : **D3REP3**
UBA. Umweltbundesamt. Report - UBA-FB, (1992)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**TERRESTRIAL TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
PLANT	**TERR**						

Species/strain/system : Oats (Avena sativa)

Test Method and Conditions

Test method description : Draft of the OECD Guideline "Growth test with higher plants" (OECD, 1981). End point: growth.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	NOEC				

NOEC > 1000 mg/kg soil dry weight

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**TERRESTRIAL TOXICITY**
Chemical Name	:	**Dimethyldioctadecylammonium chloride**
CAS Number	:	**107-64-2**
Study type	:	**LAB**
Geographic Area	:	**FRG**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
PLANT							

Species/strain/system : Oilseed rape (Brassica rapa)

Test Method and Conditions

Test method description : Draft of the OECD Guideline "Growth test with higher plants" (OECD, 1981). End point: growth.

Test Results

Organ	Effect	Rev.	OnSet	Sex	Affected in Exposed - Controls
	NOEC				

NOEC > 1000 mg/kg soil dry weight

References

Primary Reference : **ECETR***
ECETOC. ECETOC Technical Report, 53, (1993)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Substance

[redacted]

Chemical Name : **AMMONIUM DIMETHYLDIOCTADECYL-, CHLORIDE**
Reported Name : **DISTEARYL (15% C16, 85% C18)DIMETHYL AMMONIUM CHLORIDE**
CAS Number : **107-64-2**

Area	*Type*	*Subject*	*Spec.*	*Description*	*Level / Summary Information :*
CAN	**REG**	**PACK LABEL USE**	**AGRIC PESTI**	**CLASS**	FORMULATIONS CONTAINING THIS ACTIVE INGREDIENT ARE APPROVED FOR COMMERCIAL USE AS LAUNDRY ADDITIVE. (FORMULATION: DUST OR POWDER). CODE QAT. THE PEST CONTROL PRODUCTS ACT AND REGULATIONS ARE ADMINISTERED BY THE DEPARTMENT OF AGRICULTURE. THEY ESTABLISH A REGISTRATION, CLASSIFICATION, PACKAGING AND LABELLING SYSTEM FOR PEST CONTROL PRODUCTS. ONLY PEST CONTROL PRODUCTS THAT ARE CURRENTLY REGISTERED WITH THE DEPARTMENT OF AGRICULTURE AND PRODUCTS THAT HAVE BEEN REMOVED FROM THAT LIST SINCE 1983 ARE INCLUDED; OTHER HISTORICAL RECORDS ARE NOT.

Title :

Reference : ***Effective Date :*** 11AUG1988

Last Amendment : **CAGAAK, 122, 18, 3601, 1988** ***Entry / Update :*** JUN1991
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