

[FOREWORD](#)

[INTRODUCTION](#)

**NEOPENTYL GLYCOL**  
**CAS N°: 126-30-7**

## Substance

<i>End Point</i>	:	<b>IDENTIFIERS, PHYSICAL AND CHEMICAL PROPERTIES</b>
<i>Chemical Name</i>	:	<b>1,3-Propanediol, 2,2-dimethyl</b>
<i>Common Name</i>	:	<b>Neopentyl glycol</b>
<i>CAS Number</i>	:	<b>126-30-7</b>
<i>RTECS Number</i>	:	<b>TY5775000</b>

## Synonyms

**2,2-Dimethyl-1,3-propanediol**  
**Neopentyl glycol**

**Dimethyltrimethylene glycol**

## Properties & Definitions

<i>Molecular Formula</i>	:	<b>C5H12O2</b>
<i>Molecular Weight</i>	:	<b>104.15</b>
<i>Melting Point</i>	:	<b>127C</b>
<i>Boiling Point</i>	:	<b>208C</b>
<i>Vapour Pressure</i>	:	<b>30 mmHg (140C), 760 mmHg (211C)</b>
<i>Octanol/Water Partition Coefficient</i>	:	<b>log Pow = 0.12 at 25C (measured)</b>
<i>Water Solubility</i>	:	<b>190g/100 ml at 20C (65%)</b>
<i>Impurities</i>	:	<b>Neopentyl glycol formic acid ester and neopentyl glycol isolactic acid ester</b>
<i>General Comments</i>	:	Thermal decomposition occurs at higher than 120C in strong base. Thermal decomposition products: methanol, isobutanol, isobutyl aldehyde, formaldehyde etc.

## Overall Evaluation

### SIDS INITIAL ASSESSMENT

This substance is presently of low priority for further work.

### SHORT SUMMARY OF THE REASONS WHICH SUPPORT THE RECOMMENDATION:

2,2-Dimethyl-1,3-propanediol is stable solid, and the production volume is 12,000 tonnes for 1991 in Japan. This chemical is stable in neutral, acidic or alkaline solutions, and is classified as "not readily biodegradable" by the results of the biodegradation test conducted as SIDS testing. The chemical is non-toxic to fish, daphnids and algae. The chemical showed no genotoxic effects, and NOAEL for repeated dose toxicity was 100 mg/kg/day and NOAEL for reproductive toxicity was 1000 mg/kg/day. Estimated dose of low concern (EDCL) was calculated as 0.1 mg/kg/day and 10.0 mg/kg/day for repeated dose toxicity and reproductive toxicity, respectively. Daily intake of the chemical was estimated as 1.11E mg/day from calculation using MNSEM 145J exposure model. In conclusion, although 2,2-dimethyl-1,3-propanediol is persistent and toxicological test showed moderate toxicity, no further testing is needed at present considering its exposure levels.

However, international information on exposure is needed for consideration of more realistic analysis.

## Production-Trade

*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**  
*Geographic Area* : **JPN**

## Production

<u>Quantity</u>	<u>Year</u>
<b>14000 T/Y - P</b>	<b>1985</b>
<b>12000 T/Y - P</b>	<b>1991</b>
<b>4000 T/Y - IM</b>	<b>1991</b>

## References

**!SIDSP\***

OECD/SIDS. Screening Information Data Set (SIDS) of OECD High  
Production Volume Chemicals Programme, (1993)

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## Uses

*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl-**  
*CAS Number* : **126-30-7**  
*Geographic Area* : **JPN**

## Use

<u>Quantity</u>	<u>Year</u>	<u>Comments</u>
<b>7300 T</b>		Raw material for alkyd resins
<b>5900 T</b>		Raw material for unsaturated polyester resins
<b>1800 T</b>		Raw material for powder paint resin
<b>1000 T</b>		Other uses-unspecified

## References

*Primary References* : **#MITIR\***  
Chemical Report submitted by the Ministry of International Trade and Industry, Japan

*Secondary References* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **CONCENTRATION**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**  
*Study type* : **MODEL**  
*Geographic Area* : **JPN**

## Test Subject

Organism Medium Specification Lifestage Sex

**AIR**  
**AQ**  
**SOIL**

## Test Method and Conditions

*Test method description* : Multi-phase, non-steady state equilibrium model (MNSEM 145J) for evaluation of fate of chemicals in environment consisting of air, water, soil and sediment phases and food. Version 145J. All values are calculated.

## Test Results

Matrix Concentrations Spec. Date

**AIR** **1.79E-10 ppm**  
Steady state (SS) mass = 1.53E+0g

**AQ** **5.08E-04 mg/l**  
In water SS-mass = 1.02E+07g was also given.

**SOIL** **3.85E-05 mg/l**  
In soil; a second value of SS-mass = 6.16E+04g was also given.

**SED** **1.53E-03 mg/l**  
In sediment SS-mass = 1.53E+05g was also given.

**FOOD** **2.37E-10 mg/l**  
In meat.

**FOOD** **2.24E-10 mg/l**  
In milk.

**PLANT** **2.42E-04 mg/l**  
In vegetation.

## References

<i>Primary Reference</i>	:	<b>#EAMIT*</b> MITI ENVIRON. Agency. Exposure Estimation conducted by MITI and Environmental Agency (EA), Japan
<i>Secondary Reference</i>	:	<b>!SIDSP*</b> OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

<i>End Point</i>	:	<b>CONCENTRATION</b>
<i>Chemical Name</i>	:	<b>1-3 Propanediol, 2,2-dimethyl</b>
<i>CAS Number</i>	:	<b>126-30-7</b>
<i>Geographic Area</i>	:	<b>JPN</b>

## Test Subject

Organism Medium Specification Lifestage Sex

**AQ** **SURF**  
**SOIL**  
**SED**

*Species/strain/system* : Two areas in Japan

## Test Results

<u>Matrix</u>	<u>Concentrations</u>	<u>Spec.</u>	<u>Date</u>
<b>AQ</b> <b>ND</b> Not detected in surface water.(Detection limit:0.2-0.4mg/l)			<b>1977-</b>
<b>SOIL</b> <b>ND</b> Not detected in soil or sediment.(Detection limit:0.002mg/l)			<b>1977-</b>

## References

<i>Primary Reference</i>	:	<b>#MOREA*</b> E. A. Environmental Monitoring of Chemicals, Environmental Survey Report (Office of Health Studies, Department of Environmental Health), Japan, (1977)
<i>Secondary Reference</i>	:	<b>!SIDSP*</b> OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 6-7, (1993)

## Study

*End Point* : HUMAN INTAKE AND EXPOSURE  
*Chemical Name* : 1,3-Propanediol, 2,2-dimethyl  
*CAS Number* : 126-30-7  
*Geographic Area* : JPN

## Test Subject

*Organism Medium Specification Route Lifestage Sex*

## FOOD

*Species/strain/system* : Fish, meat, milk and vegetables

## Test Method and Conditions

*Test method description* : Multi-phase, non-steady state equilibrium model (MNSEM 145J) for evaluation of fate of chemicals in environment consisting of air, water, soil and sediment phases. Version 145J (presented by Kikuo Yoshuda). All values are calculated

## Test Results

*Intake Spec. Date*

**1.11E-3 mg/d**

Total exposure dose calculated.

**1.45E-08 mg/d**

From inhalation of air.

**1.02E-03 mg/d**

From drinking water.

**4.89E-06 mg/d**

From ingestion of fish.

**1.76E-11 mg/d**

From ingestion of meat.

**2.74E-11 mg/d**

From ingestion of milk.

**9.05E-05 mg/d**

From ingestion of vegetable.

*General Comments* : Consumer exposure seems to be low because this chemical is used as raw material, and processed in closed system except packaging.

## References

*Secondary Reference* : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **BIODEGRADATION**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**  
*Study type* : **LAB**  
*Geographic Area* : **JPN**

## Test Subject

Organism Medium Specification

**AQ** **SLUDG**

*Species/strain/system* : Activated sludge 30mg/l as suspended solid

## Test Substance

*Purity Grade* : **99.4%**

## Test Method and Conditions

*Test method description* : OECD Guideline 301 C. The sludge samples were mixed by stirring in a single container and then cultured at 25C for 1 month. GLP: yes  
*Temperature* : **25C**

*(An)aerobic* : **AEROB**

## Exposure

*Exposure Period* : **1 mo**  
*Dose / Concentration* : **100 mg/l**

## Test Results

<u>Quantity</u>	<u>Time</u>	<u>Comments on result</u>
<b>0.6 %</b>	LOSS <b>14 d</b>	Degree of biodegradation from BOD 14
<b>1 %</b>	LOSS	Degree of biodegradation from DOC
<b>0 %</b>		Degree of biodegradation from GC
		Total oxygen demand (TOD) = 64.5 mg
<i>General Comments</i>	:	These results indicate that neopentyl glycol should be classified as "not readily biodegradable".

## References

*Primary Reference* : **#MITIT\***  
 Test conducted by the Ministry of International Trade and Industry (MITI), Japan  
  
*Secondary Reference* : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 4, (1993)



## Study

*End Point* : **PHOTODEGRADATION**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**  
*Study type* : **LAB**

## Test Results

Quantity      Time      Comments on result

Photochemical degradation rate reported as 0.00. T/2 = infinitude.

## References

*Primary Reference* : **#MITIT\***  
Test conducted by the Ministry of International Trade and Industry (MITI), Japan

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

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## Study

*End Point* : **HYDROLYSIS**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**  
*Study type* : **LAB**

## Test Substance

*Purity Grade* : **99.4%**

## Test Method and Conditions

*Test method description* : OECD Test Guideline 111, GLP: yes.  
*Temperature* : **25 C**  
*pH* : **4-9**

## Test Results

<u>Quantity</u>	<u>Time</u>	<u>Comments on result</u>
<b>50 %</b>	<b>1 y</b>	T/2 of test compound in pH 4.0, 7.0 and 9.0 at 25C.

## References

*Primary Reference* : **#MITIT\***  
Test conducted by the Ministry of International Trade and Industry (MITI), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

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## Study

*End Point* : **BIOCONCENTRATION**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl-**  
*CAS Number* : **126-30-7**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**FISH**

*Species/strain/system* : Japanese carp\*

## Test Substance

*Description of the test substance* : Neopentyl glycol  
*Purity Grade* : >98%

## Test Method and Conditions

*Test method description* : Exposure period = 8 weeks. OECD Test Guideline 305C. Flow-through test. GLP: yes.

## Exposure

*Exposure comments* : Level 1 exposure means low exposure level. Level 2 exposure means higher exposure level and is 10x higher in concentration than the low one.

## Test Results

<i>Organ</i>	<i>Bioconcent. Factor</i>	<i>Calc Basis</i>	<i>Time</i>	<i>State</i>	<i>Comments on result</i>
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	0				log BCF for level 1 exposure.
	1				log BCF for level 2 exposure.

*General Comments* : \* Specific details on the lifestage of the test organism and test conditions were not given.

## References

*Primary Reference* : **#MITIT\***  
Test conducted by the Ministry of International Trade and Industry (MITI), Japan

*Secondary Reference* : **!SIDSP\***  
Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **MAMMALIAN ACUTE TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**

*Exposure Type* : **ACUTE**  
*Dose / Concentration* : **3.200 mg/kg**

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
RAT			ORL			LD50	

## References

*Primary Reference* : **#URKOD\***  
Eastman Kodak Company Reports, (1993)

*Secondary Reference* : **!SIDSP\***  
Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **MAMMALIAN ACUTE TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**

*Species/strain/system* : Strain not specified

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
RAT			ORL	ADULT		LD50	Oral acute toxicity dose was reported as 3200mg/kg.

## References

*Primary Reference* : **#URKOD\***  
Eastman Kodak Company Reports, (1971)

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 10, (1993)

## Study

End Point : MAMMALIAN TOXICITY  
 Chemical Name : 1,3-Propanediol, 2,2-dimethyl-  
 CAS Number : 126-30-7

## Test Subject

<u>Organism</u>	<u>Medium</u>	<u>Specification</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Number exposed</u>	<u>Number controls</u>
RAT			ORL		M F		

Species/strain/system : Slc: SD strain

## Test Substance

Description of the test substance : Neopentyl glycol  
 Purity Grade : 99.1%  
 Vehicle - Solvent : Distilled water

## Test Method and Conditions

Test method description : OECD Combined Repeated Dose and Reproductive/Developmental Toxicity Screening Test. Killing day: male/day 43; female/day 4 of lactation. GLP: yes.

## Exposure

Dose / Concentration : 100-1000 mg/kg /d  
 Exposure comments : Per gavage to 0 (vehicle), 100, 300, 1000mg/kg/day. Administration period: male: 42 days; female: from 14 day before mating to day 3 of lactation.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
NEF					

There were no dead or no abnormal animals with clinical signs suggested to be relating to the treatment. Bodyweight and food consumption did not reveal consistent or apparently treatment-related differences with the control groups. No observed effects on haematology of the treated male rats.

**BLOOD BIOCH**

Blood chemical examination revealed an elevation in values of total protein, total bilirubin and albumin for male rats receiving 300 and 1,000mg/kg. Moreover, glucose values were depressed for male rats receiving 1,000mg/kg.

**LIVER SIZE KIDNEY SIZE**

Absolute and relative weights of the liver and kidney of both male and female rats receiving 300 and 1,000mg/kg were elevated.

**LIVER SIZE**

Necropsy revealed hypertrophy of the liver in 2 males receiving 1,000mg/kg. No definite lesion was found histologically. Histopathological examination revealed high incidence of protein casts, hyaline droplet and basophilic change of the renal tubules in males at 1,000mg/kg.

**NOAEL**

Dose or concentration at which no toxic effects were observed: NOAEL: 100mg/kg/day.

General Comments : Estimated Dose of Low Concern: EDLC = 0.1mg/kg/day.

## References

- Primary Reference* : **#URMHW\***  
Unpublished Report on Combined Repeated Dose and Reproductive/  
Developmental Toxicity Screening Test conducted by the Ministry of Health  
and Welfare (MHW), Japan
- Secondary Reference* : **!SIDSP\***  
Screening Information Data Set (SIDS) of OECD High Production Volume  
Chemicals Programme, (1993)

## Study

*End Point* : **MAMMALIAN TOXICITY**  
*Chemical Name* : **Neopentyl glycol**  
*CAS Number* : **126-30-7**  
*Study type* : **LAB**

## Test Subject

<u>Organism</u>	<u>Medium</u>	<u>Specification</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Number exposed</u>	<u>Number controls</u>
RAT			ORL	ADULT	M F		

*Species/strain/system* : Slc:SD strain

## Test Substance

*Purity Grade* : **99%**

## Test Method and Conditions

*Test method description* : OECD Combined Repeated Dose and Reproductive/Developmental Toxicity Screening Test. GLP: yes.

## Exposure

*Exposure Period* : **100-1000 mg**  
*Exposure comments* : The doses 0, 100, 300, 1000 mg/kg/day were administered in oral gavage for 42 days to the males and for 14 days before mating to the females and continued through 3-rd day of lactation.

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
<b>BLOOD</b>	<b>BIOCH</b>				
Chemical examination of blood revealed elevated values of: total protein, total bilirubin and albumin for male rats receiving 300 and 1000 mg/kg of neopentyl glycol. The glucose values were depressed for male rats receiving 100 mg/kg of the test substance.					
<b>LIVER</b>	<b>SIZE</b>				
Absolute and relative weights of liver and kidneys of both males and females receiving 300 and 1000mg/kg were elevated.					
<b>KIDNEY</b>	<b>SIZE</b>				
Absolute and relative weights of liver and kidneys of both males and females receiving 300 and 1000mg/kg were elevated.					
<b>LIVER</b>	<b>STRUC</b>				
Necropsy revealed hypertrophy of the liver in 2 rats receiving the dose of 1000mg/kg but there was not definite lesions found on microscopic examination.					
<b>KIDNEY</b>	<b>STRUC</b>				
Histopathological examination revealed high incidence of protein casts, hyaline droplet and basophilic change in renal tubules in male rats on 1000mg/kg dose.					
<b>NOAEL</b>					
Dose of 100mg/kg/day was the dose at which no toxic effects were observed.					
<b>EDCL</b>					
Estimated dose of low concern was calculated as 0.1mg/kg/day .					

## References

- Primary Reference* : **#URMHW\***  
Unpublished Report on Combined Repeated Dose and Reproductive/ Developmental Toxicity Screening Test conducted by the Ministry of Health and Welfare (MHW), Japan
- Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 11-12, (1993)

## Study

*End Point* : **MUTAGENICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl-**  
*CAS Number* : **126-30-7**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**BACT**

*Species/strain/system* : Salmonella typhimurium /TA100, TA1535, TA98,TA1537; Escheri  
chia coli WP2 uvrA

## Test Substance

*Description of the test substance* : Neopentyl glycol  
*Purity Grade* : **99.1%**  
*Vehicle - Solvent* : Distilled water

## Test Method and Conditions

*Test method description* : Japanese Guideline for Screening Mutagenicity Testing of Chemicals.  
 Procedure: Plate method. Positive control: \* without S9: AF-2 (TA100, WP2 uvrA, TA98), sodium azide (TA1525) and 9-aminoacridine (TA1537); \* with S9: 2-aminoanthracene (all strains). GLP: yes.

## Exposure

**0-5000 ug/ plate**  
*Exposure comments* : The exposure doses used: 0, 312.5, 625, 1250, 2500, 5000ug/plate.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
<b>NEF</b>					

The test material was classified as "negative" under the experimental condition used.

*General Comments* : Minimum concentration of test substance at which toxicity to bacteria was observed: with and without metabolic activation: >5000ug/plate.

## References

*Primary Reference* : **#URMMT\***  
 Unpublished Report on Mutagenicity Test conducted by the Ministry of Health and Welfare (MHW), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
 Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)



## Study

End Point : **MUTAGENICITY**  
 Chemical Name : **1,3-Propanediol, 2,2-dimethyl-**  
 CAS Number : **126-30-7**  
 Study type : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**HAMST**

**VTR**

Species/strain/system : Chinese hamster CHL cells

## Test Substance

Description of the test substance : Neopentyl glycol  
 Purity Grade : **99.1%**  
 Vehicle - Solvent : Distilled water

## Test Method and Conditions

Test method description : Japanese Guideline for Screening Mutagenicity Testing of Chemicals. Positive control: mitomycin C and cyclophosphamide S-9: induced by phenobarbital and 5,6-benzoflavone. GLP: YES.

## Exposure

Exposure comments : **0-1.00 mg/ml**  
 The exposure doses are: 0, 0.25, 0.50, 1.00mg/ml.

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
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	<b>NEF</b>				

The test material was classified as "negative" under the experimental condition used.

## References

Primary Reference : **#URMMT\***  
 Unpublished Report on Mutagenicity Test conducted by the Ministry of Health and Welfare (MHW), Japan, (1993)

Secondary Reference : **!SIDSP\***  
 Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

End Point : REPRODUCTION  
 Chemical Name : 1,3-Propanediol, 2,2-dimethyl-  
 CAS Number : 126-30-7  
 Study type : LAB

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

RAT

ORL

Species/strain/system : Slc: SD strain

## Test Substance

Description of the test substance : Neopentyl glycol  
 Purity Grade : 99.1%  
 Vehicle - Solvent : Distilled water

## Test Method and Conditions

Test method description : OECD Combined Repeated Dose and Reproductive/Developmental Toxicity Screening Test. Killing day: male: day 43; female: day 4 of lactation. GLP: yes.

## Exposure

Exposure comments : **0-1000 mg/kg /day**  
 The exposure doses are: 0(vehicle), 100, 300, 1000mg/kg/day. Administration period: male: 42 days; female: from 14 day before mating to day 3 of lactation.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
REPRO	NEF				

There were no effect of test substance on copulation, fertility and estrus cycle of rats. Delivery was normal for dams except for one animal of control group. No effects of test substance on dams during the lactation period were observed.

**OFSPR** **NEF**

No increase in appearance of abnormal pups to be caused by test substance. Body weight gain of pups was normal up to day 4 of lactation. Stillborn, dead pups and pups killed at day 4 of lactation showed no abnormal gross finding suggested to be attributable to the treatment with test substance.

**NOAEL**

For P generation: 1000mg/kg

**NOAEL**

For F1 generation: 1000mg/kg

General Comments : Estimated Doses of Low Concern: EDLC = NOAEL/UF = 1000/100 = 10.0mg/kg/day.

## References

*Primary Reference* : **#URMHW\***  
Unpublished Report on Combined Repeated Dose and Reproductive/  
Developmental Toxicity Screening Test conducted by the Ministry of Health  
and Welfare (MHW), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
Screening Information Data Set (SIDS) of OECD High Production Volume  
Chemicals Programme, (1993)

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## Study

End Point : **TERATOGENICITY**  
 Chemical Name : **Neopentyl glycol**  
 CAS Number : **126-30-7**  
 Study type : **LAB**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

RAT

ORL

Species/strain/system : Slc: SD strain

## Test Method and Conditions

Test method description : OECD Reproduction/Developmental Toxicity Screening Test

## Exposure

Dose / Concentration : **100-1000 mg/kg BW**  
 Exposure comments : In utero exposure to the maternal doses of 0, 100, 300, 1000mg/kg body weight/day of neopentyl glycol for assessment of teratogenic potential.

## Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
<b>FETUS</b>	<b>NEF</b>				

Stillborn, dead pups and pups sacrificed at day 4 of lactation showed no abnormal gross findings suggesting any influence on fetal development from the test substance.

General Comments : External examination of pups revealed no increase in appearance of abnormal pups to be caused by the test substance. Body weight gain of pups was normal up to day 4 of lactation. In the final comment the author stated that no effect on developmental toxicity was observed.

## References

Primary Reference : **#URMHW\***  
 Unpublished Report on Combined Repeated Dose and Reproductive/ Developmental Toxicity Screening Test conducted by the Ministry of Health and Welfare (MHW), Japan  
 Secondary Reference : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14-15, (1993)

## Study

*End Point* : **AQUATIC ACUTE TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**

*Species/strain/system* : Orange-red Killifish (*Oryzias latipes*)  
*Exposure Period* : **24-96 h**  
*Exposure comments* : The same doses were also tested for 48h and 72h.

## Test Method and Conditions

*Test method description* : Semi-static

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
<b>FISH</b>	<b>AQ</b>	<b>ESTUA</b>				<b>LC0</b> <b>LC50</b>	LC0 = 555mg/l (reported as 555ppm) for 24, 48, 72 and 96 hours, LC50 = > 1000mg/l (reported as > 1000ppm (w/v)).

## References

*Primary Reference* : **#UREAF\***  
 Unpublished Report on Toxicity to Fish Test conducted by Environmental Agency, Japan

*Secondary Reference* : **!SIDSP\***  
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **AQUATIC ACUTE TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**

*Species/strain/system* : Orange-red Killifish (*Oryzias latipes*)  
*Exposure Period* : **48 h**

## Test Substance

*Impurities* : **Water 0.03%, neopentyl hydroxy pivalate 0.44%, formic acid 0.002%**

## Test Method and Conditions

*Test method description* : JIS K0102. Static test.

## Test Results

<u>Organism</u>	<u>Medium</u>	<u>Spec.</u>	<u>Route</u>	<u>Lifestage</u>	<u>Sex</u>	<u>Effect</u>	<u>Effect Comments</u>
<b>FISH</b>	<b>ESTUA</b>					<b>LC50</b>	> 1000mg/l (reported > 1000 ppm)

## References

- Primary Reference* : **#UREAF\***  
Unpublished Report on Toxicity to Fish Test conducted by Environmental Agency, Japan
- Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)
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## Study

*End Point* : **AQUATIC TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl-**  
*CAS Number* : **126-30-7**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**ALGAE**

*Species/strain/system* : Algae (Selenastrum capricornutum)

## Test Substance

*Description of the test substance* : Neopentyl glycol  
*Purity Grade* : **>99%**

## Test Method and Conditions

*Test method description* : OECD Test Guideline. GLP: no

## Exposure

*Exposure Period* : **72 h**  
*Dose / Concentration* : **>1000 mg/l w/v**

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
	<b>EC50</b>				

Effective concentration (reported as EBC50 > 1000ppm (w/v) for 42h)

## References

*Primary Reference* : **#UREAA\***  
 Unpublished Report on Toxicity to Algae Test conducted by Environmental Agency, Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
 Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

## Study

*End Point* : **AQUATIC TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl**  
*CAS Number* : **126-30-7**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**CRUS**

**AQ**

*Species/strain/system* : Water flea (Daphnia magna)

## Test Substance

*Purity Grade* : **98%**

## Test Method and Conditions

*Test method description* : Static test. Method used to calculate EC values: Probit method.

## Exposure

*Exposure Period* : **21 d**  
**24-48 h**

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
	<b>NOEC</b>				

Maximum concentration at which no effect was observed > 1000ppm (w/v)) for 21days.

**EC0**

For 24h lowest dose without effect: > 1000ppm (w/v))

**EC50**

For 24h lowest dose without effect: > 1000ppm (w/v))

## References

*Primary Reference* : **#URTEA\***  
Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan

*Secondary Reference* : **!SIDSP\***  
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)



## Study

*End Point* : **AQUATIC TOXICITY**  
*Chemical Name* : **1,3-Propanediol, 2,2-dimethyl-**  
*CAS Number* : **126-30-7**

## Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

**CRUS**

*Species/strain/system* : Water flea (Daphnia magna)

## Test Substance

*Description of the test substance* : Neopentyl glycol  
*Purity Grade* : **>98%**

## Test Method and Conditions

*Test method description* : GLP: no. Probit method used to calculate these values.

## Exposure

*Exposure Type* : **ACUTE**  
*Exposure Period* : **24-48 h**  
*Dose / Concentration* : **>1000 ppm w/v**

## Test Results

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
-----	-----	-----	-----	-----	-----
	<b>EC0</b>				

**EC50**

The 24h EC0 and EC50 are higher than 1000ppm w/v.

## References

*Primary Reference* : **#URTEA\***  
 Unpublished Toxicity Test conducted by the Environmental Agency, (EA), Japan, (1993)

*Secondary Reference* : **!SIDSP\***  
 Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1993)

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