FOREWORD INTRODUCTION

M-ANISIDINE

CAS N°: 536-90-3

Substance

End Point	:	**IDENTIFIERS, PHYSICAL AND CHEMICAL PROPERTIES**
Chemical Name	:	**Benzenamine, 3-methoxy-**
Common Name	:	**m-Anisidine**
CAS Number	:	**536-90-3**
RTECS Number	:	**BZ5408000**

Synonyms

m-Aminoanisole
3-Aminoanisole
m-Aminomethoxybenzene
m-Anisylamine
m-Methoxyaniline
3-Methoxyaniline
3-Methoxybenzenamine
3-Methoxyphenylamine

Properties & Definitions

Molecular Formula	:	**C7H9NO**
Molecular Weight	:	**123**
Melting Point	:	**<-10C**
Boiling Point	:	**251C**
State	:	**Liquid**
Vapour Pressure	:	**3.1E-4 kPa(2.33E-3 mmHg)at 25C**
Octanol/Water Partition Coefficient	:	**log Pow = 1.01 at 25C**
Water Solubility	:	**20.5 g/L at 25C**
General Comments	:	Volatile. GLP (melting point, boiling point): no. GLP (other data): yes. Vapour pressure 1.3E-3 kPa at 40C (measured). Test method used: OECD Guideline 104 (vapour pressure), 105 (water solubility), 107 (Log Pow). Stable in neutral, acidic or alkaline solutions. Henry's law constant: 7.74E-7 (estimated).

Overall Evaluation

NEEDS FURTHER WORK

INITIAL ASSESSMENT

3-Methoxybenzenamine is volatile stable liquid. Although the production volume was ca. 1700 tonnes/year for 1985, presently no production and import were confirmed in Japan. This chemical is stable in neutral, acidic or alkaline solutions, and is classified as "not readily biodegradable" by the results of the biodgradation test conducted as SIDS testing.

The chemical is strongly toxic to daphnids, moderately toxic to algae, but non-toxic to fish. The environmental risk presumably low because the PEC is lower than the MTC.

The chemical showed genotoxic effects in bacterial test, non-bacterial test in vitro and micronucleus test, and LOAEL for repeated dose toxicity was 2.4 mg/kg/day and NOAEL for reproductive toxicity was 60 mg/kg/day.

Daily intake of the chemical was estimated as 7.95E-6 mg/day from calculation using MNSEM 145I exposure model.

ENVIRONMENTAL EXPOSURE

Biodegradability: "not readily biodegradable"

ESTIMATION OF ENVIRONMENTAL FATE, PATHWAY AND CONCENTRATION

Comparison of calculated environmental concentration using several models.

MNSEM Model:
Air: 1.18E-10 ug/L ; Water: 3.62E-3 ug/L ; Soil: 5.95E-4 ug/L ; Sediment: 0.0218 ug/L

CHEMCAN2 Model:
Air: 2.96E-12 ug/L; Water: 3.62E-3 ug/L; Soil: 2.15E-7 ug/L; Sediment: 2.55E-3 ug/L
CHEMFRAN Model:
Air: 6.13E-14 ug/L; Water: 3.62E-3 ug/L; Soil: 1.06E-8 ug/L; Sediment: 2.55E-3 ug/L
UKMODEL Model:
Air: 2.79E-8 ug/L; Water: 3.62E-3 ug/L; Soil: 8.14E-3 ug/L; Sediment: 0.0162 ug/L

CONSUMER EXPOSURE

No specific information were provided on consumer exposure.

OCCUPATIONAL EXPOSURE

No specific information were provided on occupational exposure.

CONCLUSION

In conclusion, 3-methoxybenzenamine is persistent and toxicological and ecotoxicological tests showed toxicities. Based on the genotoxicity of the chemicals, we concluded that further work should be considered.

RECOMMENDATION

International information gathering on exposure should be continued.

Production-Trade

Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Geographic Area : **JPN**

Production

Quantity	*Year*
0 t - P	**1991-1993**
0 t - IM	**1991-1993**
1300 t	**1985**

General Comments : 1300 tonnes in 1985: total figure for production and import of aminophenolalkyl (C1-2) ether in Japan.

References

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

Uses

Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**

Use

Quantity	*Year*	*Comments*
		Unspecified amount used as intermediate for dyestuffs.

References

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

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Benzenamine, 3-methoxy-**
CAS Number	:	**536-90-3**
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 for Evaluation of Fate of Chemicals in Environment consisting of Air, Water, Soil and Sediment Phases. Version 1.4.5I. Also called MNSEM 145I. (Model presented by Kikuo Yoshida).

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	1.18E-13 mg/L		
In air. 2.35E-11 ppm also reported. Steady state mass = 2.37E-1 g			
	3.62E-6 mg/L		
In water. Steady state mass = 7.24E+4 g			
	5.95E-7 mg/kg		
In soil. Steady state mass = 9.52E+2 g			
	2.18E-7 mg/kg		
In sediment. Steady state mass = 2.18E+3 g			

General Comments : All above data are calculated using MNSEM 145I model. Clearing time 25 days (no precision given on media).

References

Primary Reference : **#URMEA***

Unpublished Report on Exposure Estimation Test conducted by MITI and Environmental Agency, Japan

Secondary Reference : **!SIDSP***

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

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**Benzeneamine, 3-methoxy-**
CAS Number	:	**536-90-3**
Geographic Area	:	**JPN**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	AQ	**SURF**		
	AIR			
	SOIL			

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	0 ug/m3		**1990**
In air in 17 areas. Detection limit: 0.5 ug/m3.			
	0-0.028 ug/L		**1976**
In surface water in 23 areas. Detection limit: 0.01-0.2ug/L.			
	0-0.058 ug/L		**1990**
In surface water in 16 areas. Detection limit: 0.02 ug/L.			
	0-0.018 ug/g		**1976**
In soil/sediment in 23 areas. Detection limit: 0.0002- 0.0016 ug/L.			
	0 ug/g		**1990**
In soil/sediment in 19 areas. Detection limit: 0.02 ug/g.			
	0-0.0046 ug/g		**1990**
In biota in 18 areas. Detection limit: 0.002 ug/g.			

General Comments : The following reference is also cited: Chemicals in the Environmental Survey of Chemicals in 1976 F. Y. (Test was conducted by Office of Health Studies, Department of Environmental Health, EA, Japan).

References

Primary Reference : **#EACEW***
Chemicals in the Environment: Report on Environmental Survey and Wildlife Monitoring of Chemicals in F.Y., 1990 and 1991

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

Study

End Point	:	**CONCENTRATION**
Chemical Name	:	**m-Anisidine**
CAS Number	:	**536-90-3**
Geographic Area	:	**JPN**

Test Subject

Organism	*Medium*	*Specification*	*Lifestage*	*Sex*
	FOOD			
	FOOD			
	PLANT			

Test Results

Matrix	*Concentrations*	*Spec.*	*Date*
	1.15E-11 mg/L		
In meat			
	9.99E-12 mg/L		
In milk			
	1.41E-6 mg/L		
In vegetation			

General Comments : All above given values are calculated.

References

Primary Reference : **#URMEA***
Unpublished Report on Exposure Estimation Test conducted by MITI and Environmental Agency, Japan

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	:	**Benzenamine, 3-methoxy-**
CAS Number	:	**536-90-3**
Geographic Area	:	**JPN**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*
HUMAN					

Test Method and Conditions

Test method description : Multi-Phase Non-Steady State Equilibrium Model for Evaluation of Fate of Chemicals in Environment consisting of Air, Water, Soil and Sediment Phases. Version 1.4.5.I. Also called MNSEM 145I. (Model presented by Kikuo Yoshida).

Test Results

Intake	*Spec.*	*Date*
2.36E-9 mg/d Through inhalation of air		
7.24E-6 mg/d Through drinking water		
1.74E-7 mg/d Through ingestion of fish		
8.52E-13 mg/d Through ingestion of meat		
1.22E-12 mg/d Through ingestion of milk		
5.28E-7 mg/d Through ingestion of vegetables		
7.95E-6 mg/d Total exposure dose		

General Comments : All above data are calculated using MNSEM 145I model.

References

Primary Reference : **#URMEA***
Unpublished Report on Exposure Estimation Test conducted by MITI and Environmental Agency, Japan

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

Study

End Point	:	**BIODEGRADATION**
Chemical Name	:	**Benzenamine, 3-methoxy-**
CAS Number	:	**536-90-3**
Study type	:	**LAB**
Geographic Area	:	**JPN**

Test Subject

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

Species/strain/system : Activated sludge (standard) 30 mg/L as suspended solid.

Test Substance

Purity Grade : **>99%**

Test Method and Conditions

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

Temperature : **25 C**

(An)aerobic : **AEROB**

Exposure

Exposure Period : **1 mo**

Dose / Concentration : **100 mg/L**

Test Results

Quantity		*Time*	*Comments on result*
0 %	AV	**1 mo**	Degree of biodegradation from BOD7
0 %	AV	**1 mo**	Degree of biodegradation from BOD14
0 %	AV	**1 mo**	Degree of biodegradation from BOD28
3 %	AV	**1 mo**	Degree of biodegradation from DOC
0 %	AV	**1 mo**	Degree of biodegradation from HPLC

General Comments : The results indicate that m-anisidine should be calssified as "not readily biodegradable".

References

Primary Reference : **#URBMA***
Unpublished Report on the Biodegradation Test of m-Anisidine

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

Study

End Point	:	**PHOTODEGRADATION**
Chemical Name	:	**Benzenamine, 3-methoxy-**
CAS Number	:	**536-90-3**

Test Substance

Purity Grade	:	**>99%**

Test Method and Conditions

Test method description	:	Handbook of Chemical Properties Estimation (W. J. Lyman et al.). Depth in the water body estimated at 500 m. Conversion constant 6.023E+20. Quantum yield for disappearance of chemicals under solar irradiation: 0.01. GLP: no

Exposure

Dose / Concentration	:	**6.16E-3**

Test Results

Quantity		*Time*	*Comments on result*
50 %	LOSS	**369 d**	Estimated half-life at photochemical degradation rate = 1.09E-13 mol/L/s.

General Comments	:	The above values are calculated values.

References

Primary Reference	:	**#URBHA*** Unpublished Report on Hydrolysis and Photodegradation Test of m-Anisidine
Secondary Reference	:	**!SIDSP*** OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, (1994)

Study

End Point	:	**HYDROLYSIS**
Chemical Name	:	**Benzenamine, 3-methoxy-**
CAS Number	:	**536-90-3**
Study type	:	**LAB**

Test Substance

Purity Grade	:	**>99%**

Test Method and Conditions

Test method description	:	OECD Test Guideline 111. GLP: yes. Hydrolysis as a function of pH (measured).
Temperature	:	**25 C**
pH	:	**4-9**

Exposure

Exposure Period	:	**1 y**

Test Results

Quantity		*Time*	*Comments on result*
50 %	LOSS	**>1 y**	Half-life of m-anisidine in pH: 4.0, 7.0 and 9.0.

General Comments	:	The substance is hydrolytically stable.

References

Primary Reference	:	**#URBHA*** Unpublished Report on Hydrolysis and Photodegradation Test of m-Anisidine
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 : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**

Species/strain/system : Rat, Crj:CD(SD)

Test Substance

Vehicle - Solvent : Corn oil

Test Method and Conditions

Test method description : Japanese Guideline; GLP: yes

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**ORL**	**ADULT**		**LD50**	Oral LD50 for male and female rats was estimated as 526 mg/kg using the test substance disolved in corn oil.

References

Primary Reference : **#MHTNR***
Unpublished Report on Acute Toxicity Test (of specific chemical)-HPV test conducted by MHW

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 : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**

Species/strain/system : Rat, Crj:CD(SD)

Test Substance

Vehicle - Solvent : Distilled water

Test Method and Conditions

Test method description : Japanese Guideline; GLP: yes

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
RAT			**ORL**	**ADULT**		**LD50**	Oral LD50 for male and female rats was estimated as >300 mg/kg using the test substance disolved in distilled water.

References

Primary Reference : **#MHTNR***
Unpublished Report on Acute Toxicity Test (of specific chemical)-HPV test conducted by MHW

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 10, (1994)

Study

End Point : **MAMMALIAN TOXICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT			**ORL**	**ADULT**	**M**	**12/GROUP**	**12**
					F	**12/GROUP**	**12**

Species/strain/system : Rat, Crj:CD(SD)

Test Substance

Purity Grade : **98%**
Vehicle - Solvent : Corn oil and distilled water.

Test Method and Conditions

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

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **2.4-300 mg/kg**
Exposure comments : Doses of: 0, 2.4, 12, 60, 300 mg/kg/day were administered in oral gavage for 42 days to male rats and from 14 days before mating through day 3 of lactation to female rats.

Test Results

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

Increased weight and size of spleens in the parental animals of both sexes were observed at the dose level of 300 mg/kg/day.

LIVER **CELL**

Presence of test substance in Kupffer cells was observed in the dose groups of 300 mg/kg/day in both sexes.

BLOOD **STRUC**

Hemolytic anemia was observed in the animals of both sexes receiving 300 mg/kg/day.

BLOOD **BIOCH**

In the blood, levels of total protein, total bilirubin, sodium, inorganic phosphorus were affected in the males receiving more than 60 mg/kg/day.

SPLN CHNG

Histopathological examination revealed extramedullary hematopoiesis, brown pigmentation, decreased cellutarity (B-cells) and congestion in the animals receiving more than 2.4 mg/kg/day (both sexes).

URINE BIOCH
KIDNY CHNG

Increased level of bilirubin (brown color of urine) was observed in the animals of the dose groups 300 mg/kg/day. Brown pigmentation in the proximal tubule was observed at the dose level of more than 2.4 mg/kg.

EDLC

Estimated dose of low concern was calculated as 0.00048 mg/kg/day.

LOAEL

Dose or concentration at which no toxic effects were observed = 2.4 mg/kg.

General Comments : The test substance in the dose of 300 mg/kg/day affected general conditions in the animals of both sexes: salivation, food consumption and body weight gain. It is suggested that 3-methoxyaniline affects heamatopoietic system, hepatic and renal functions.

References

Primary Reference : **#MHRNR***
Unpublished Report on Combined Repeat Dose and Reproductive/Developmental Toxicity Screening (of specific chemical)-HPV test conducted by MHW

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

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

Species/strain/system : Salmonella typhimurium, strains: TA97, TA98, TA100, TA102

Test Method and Conditions

Test method description : Preincubation; GLP: no

Test Results

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

Test substance was "positive" for mutagenic effect in cultures with metabolic activation in TA98 strain.

General Comments : The test substance did not produce mutagenic effect in the strains TA97, TA100, TA102, with and without metabolic activation and in TA98 without metabolic activation under the testing conditions.

References

Primary Reference : **#MHMHS***
Unpublished Report on Mutagenicity Test (of specific chemical) (HPV/SIDS Test conducted by MHW), (1992)

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

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

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

Test Method and Conditions

Test method description : Preincubation. GLP: no

Test Results

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

The test substance was negative in cultures with and without metabolic activation.

References

Primary Reference : **ENMUDM**
Haworth, S. et al. Environmental Mutagenesis, 5(1), 3-142, (1983)

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

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

Species/strain/system : Chinese hamster ovary cells

Test Method and Conditions

Test method description : Sister chromatid exchange.

Exposure

Exposure comments : The cells were exposed to the test substance in cultures with and without metabolic activation.

Test Results

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

The lowest concentration producing cell toxicity was <50 ug/mL in the cultures without metabolic activation.

MUT

Sister chromatid exchange test showed mutagenic effect in the cells cultured without metabolic activation.

References

Primary Reference : **ENMUDM**
Galloway, S. M. et al. Environmental Mutagenesis, 10(10), 1-158, (1987)

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

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

Species/strain/system : Chinese hamster ovary cells

Test Method and Conditions

Test method description : Cytogenetic analysis.

Exposure

Exposure comments : The cells were exposed to the test substance in cultures with and without metabolic activation.

Test Results

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

The lowest concentration producing cell toxicity was 160 ug/mL in cultures without metabolic activation.

MUT

Cytogenetic analysis showed mutagenic effect in the cells cultured without metabolic activation.

References

Primary Reference : **ENMUDM**
Galloway, S. M. et al. Environmental Mutagenesis, 10(10), 1-158, (1987)

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

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
MOUSE				**ADULT**			

Species/strain/system : Mouse, Crj:BDF-1

Test Substance

Purity Grade : **98%**

Test Method and Conditions

Test method description : Japanese Guideline for Mutagenicity Testing of Chemicals. GLP: yes

Exposure

Exposure comments : Micronucleus test.

Test Results

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

The substance was positive for mutagenic effect in the male mice.

NEF

The substance was negative for mutagenic effect in the female mice.

References

Primary Reference : **#MHMHR***
Unpublished Report on Micronucleus Test of (special chemical), HPV/SIDS test conducted by MHW, (1992)

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

Study

End Point : **REPRODUCTION**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT			**ORL**	**ADULT**	**M**	**12/GROUP**	**12**
					F	**12/GROUP**	**12**

Species/strain/system : Rat, Crj:CD(SD)

Test Substance

Purity Grade : **>98%**
Vehicle - Solvent : Corn oil and distilled water.

Test Method and Conditions

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

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **2.4-300 mg/kg**
Exposure comments : Doses of 0, 2.4, 12, 60, 300 mg/kg/day were given in oral gavage for 42 days to the male rats and from 14 days before mating to day 3 of lactation to the female rats.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
REPRO	**CHNG**			**F**	

There was a decrease in gestation index observed under the test conditions in the dams receiving 300 mg/kg/day.

NOAEL

No adverse effect level for P generation was at 60 mg/kg/day dose level under the test conditions.

EDLC

Estimated dose of low concern for reproduction toxicity was calculated as 0.12 mg/day.

General Comments : It is noted that since parturition was not observed in the 300 mg/kg group, there is a possibility that 3-methoxyaniline has lethal action on the fetuses in early stage of implantation, although neither copulation nor conception were affected.

References

Primary Reference : **#MHRNR***
Unpublished Report on Combined Repeat Dose and Reproductive/Developmental Toxicity Screening (of specific chemical)-HPV test conducted by MHW, (1992)

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

Study

End Point : **TERATOGENICITY**
Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

Organism	*Medium*	*Specification*	*Route*	*Lifestage*	*Sex*	*Number exposed*	*Number controls*
RAT			**ORL**				

Species/strain/system : Rat, Crj:CD(SD)

Test Substance

Purity Grade : **98%**
Vehicle - Solvent : Distilled water and corn oil.

Test Method and Conditions

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

Exposure

Dose / Concentration : **2.4-300 mg/kg**
Exposure comments : Maternal exposure of 0, 2.4, 12, 60, 300 mg/kg/day administered by oral gavage, through day 3 of lactation.

Test Results

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

No adverse effect level for F1 generation was at 60 mg/kg/day dose level of maternal exposure.

General Comments : No pups were born until day 25 of gestation in the group of 300 mg/kg/day. There is a possibility that the test substance had lethal action on the fetuses in the early stage of implantation at that dose level of maternal exposure.

References

Primary Reference : **#MHRNR***
Unpublished Report on Combined Repeat Dose and Reproductive/Developmental Toxicity Screening (of specific chemical)-HPV test conducted by MHW, (1992)

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	:	**Benzenamine, 3-methoxy-**
CAS Number	:	**536-90-3**
Species/strain/system	:	Orange-red Killifish (Oryzias latipes)
Exposure Period	:	**24-96 h**
Dose / Concentration	:	**100-1050 mg/L**

Test Substance

Purity Grade	:	**98%**
Vehicle - Solvent	:	DMSO: HCO = 4:1

Test Method and Conditions

Test method description	:	Exposure doses also tested for 48 and 72 hours. OECD Guideline. Semi-static test. GLP: no

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
FISH	**AQ**	**FRESH**				**LC50**	LC50 for 24 hours = 620 mg/L (w/v); for 48 hours = 420 mg/L (w/v); for 72 hours = 300 mg/L (w/v); for 96 hours = 240 mg/L (w/v). (All values reported as ppm (w/v)).

References

Primary Reference	:	**#URTFM*** Unpublished Report on Toxicity of 3-Methoxyaniline to Fish
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 : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

Species/strain/system : Algae (Selenestrum capricornutum)

Test Substance

Purity Grade : **>98%**

Test Method and Conditions

Test method description : OECD Guideline. GLP: no

Exposure

Exposure Period : **72 h**

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	EC50				

EC50 for 72 hours = 10 mg/L (w/v). (Reported as EbC50 = 10 ppm (w/v)).

References

Primary Reference : **#URTAM***
Unpublished Report on Toxicity of 3-Methoxyaniline to Algae

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 : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

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

Test Substance

Purity Grade : **>98%**

Test Method and Conditions

Test method description : OECD Guideline. GLP: no. Calculation method: Probit method.

Exposure

Exposure Type : **ACUTE**
Exposure Period : **24 h**
Dose / Concentration : **0.1-560 mg/L**

Test Results

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

EC0

EC0 for 24 hours = 0.1 mg/L (w/v). (Reported as ppm (w/v))

EC50

EC50 for 24 hours = 100 mg/L (w/v). (Reported as ppm w/v))

EC100

EC100 for 24 hours = 560 mg/L (w/v). (Reported as ppm (w/v))

References

Primary Reference : **#URTDM***
Unpublished Report on Toxicity of 3-Methoxyaniline to Daphnids

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 : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

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

Test Substance

Purity Grade : **>98%**

Test Method and Conditions

Test method description : OECD Guideline. GLP: no. Static test.

Exposure

Exposure Type : **LONG**
Exposure Period : **21 d**
Dose / Concentration : **0.028-0.09 mg/L**

Test Results

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

No observed effect concentration (maximum) for 21 days = 0.028 mg/L (w/v). (Reported as ppm (w/v)).

First (lowest) observed effect concentration (minimum) for 21 days = 0.09 mg/L (w/v). (Reported as ppm (w/v)).

References

Primary Reference : **#URTDM***
Unpublished Report on Toxicity of 3-Methoxyaniline to Daphnids

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 : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**
Study type : **LAB**

Test Subject

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

Species/strain/system : Orange-red Killifish (Oryzias latipes)

Test Substance

Purity Grade : **98%**
Vehicle - Solvent : (DMSO: HCO = 4:1)

Test Method and Conditions

Test method description : OECD Guideline. Semi-static test. GLP: no

Exposure

Exposure Type : **ACUTE**
Exposure Period : **24-96 h**
Dose / Concentration : **100-1050 mg/L**
Exposure comments : Exposure doses also tested for 48 and 72 hours.

Test Results

Organ	*Effect*	*Rev.*	*OnSet*	*Sex*	*Affected in Exposed - Controls*
	LC0				

LC0 for 24 hours = 320 mg/L (w/v); for 48 hours = 100 mg/L (w/v); for 72 hours = 100 mg/L (w/v). (All values reported as ppm (w/v)).

LC100

LC100 for 24 hours, 48 hours, 72 hours and 96 hours = 1050 mg/L (w/v). (All values reported as ppm (w/v)).

References

Primary Reference : **#URTFM***
Unpublished Report on Toxicity of 3-Methoxyaniline to Fish

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

Study

End Point : **TERRESTRIAL ACUTE TOXICITY**

Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**

Species/strain/system : Birds, species unspecified
Dose / Concentration : **562 mg/kg**

Test Method and Conditions

Test method description : Not specified. GLP: no

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
BIRD			**ORL**			**LD50**	Oral LD50 for wild birds was established as 562 mg/kg.

References

Primary Reference : **AECTCV**
Archives of Environmental Contamination and Toxicology, 12, 355, (1983)

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

Study

End Point : **TERRESTRIAL ACUTE TOXICITY**

Chemical Name : **Benzenamine, 3-methoxy-**
CAS Number : **536-90-3**

Species/strain/system : Quail (Cotunix, sp.)
Dose / Concentration : **562 mg/kg**

Test Method and Conditions

Test method description : GLP: no

Test Results

Organism	*Medium*	*Spec.*	*Route*	*Lifestage*	*Sex*	*Effect*	*Effect Comments*
BIRD			**ORL**			**LD50**	Oral LD50 for quails was established as 562 mg/kg.

References

Primary Reference : **AECTCV**
Archives of Environmental Contamination and Toxicology, 12, 355, (1983)

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