

[FOREWORD](#)

[INTRODUCTION](#)

***M-ANISIDINE***  
***CAS N°: 536-90-3***

## Substance

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

## Synonyms

<b>m-Aminoanisole</b>	<b>3-Aminoanisole</b>
<b>m-Aminomethoxybenzene</b>	<b>m-Anisylamine</b>
<b>m-Methoxyaniline</b>	<b>3-Methoxyaniline</b>
<b>3-Methoxybenzenamine</b>	<b>3-Methoxyphenylamine</b>

## Properties &amp; Definitions

<i>Molecular Formula</i>	:	<b>C7H9NO</b>
<i>Molecular Weight</i>	:	<b>123</b>
<i>Melting Point</i>	:	<b>&lt;-10C</b>
<i>Boiling Point</i>	:	<b>251C</b>
<i>State</i>	:	<b>Liquid</b>
<i>Vapour Pressure</i>	:	<b>3.1E-4 kPa(2.33E-3 mmHg)at 25C</b>
<i>Octanol/Water Partition Coefficient</i>	:	<b>log Pow = 1.01 at 25C</b>
<i>Water Solubility</i>	:	<b>20.5 g/L at 25C</b>
<i>General Comments</i>	:	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 biodegradation 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 µg/l ; Water: 3.62E-3 µg/l ; Soil: 5.95E-4 µg/l ; Sediment: 0.0218 µg/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.

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## Production-Trade

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

## Production

<u>Quantity</u>	<u>Year</u>
<b>0 t - P</b>	<b>1991-1993</b>
<b>0 t - IM</b>	<b>1991-1993</b>
<b>1300 t</b>	<b>1985</b>

*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)

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## Uses

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

## Use

<u>Quantity</u>	<u>Year</u>	<u>Comments</u>
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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)

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## 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

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

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

*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 1.4.5.1. 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 classified 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)
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## 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

<u>Quantity</u>		<u>Time</u>	<u>Comments on result</u>
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

<u>Quantity</u>		<u>Time</u>	<u>Comments on result</u>
<b>50 %</b>	LOSS	<b>&gt;1 y</b>	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)

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## 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

<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>RAT</b>			<b>ORL</b>	<b>ADULT</b>		<b>LD50</b>	Oral LD50 for male and female rats was estimated as 526 mg/kg using the test substance dissolved 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

<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 LD50 for male and female rats was estimated as >300 mg/kg using the test substance dissolved 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)
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## Study

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

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
<b>SPLN</b>	<b>SIZE</b>				
Increased weight and size of spleens in the parental animals of both sexes were observed at the dose level of 300 mg/kg/day.					
<b>LIVER</b>	<b>CELL</b>				
Presence of test substance in Kupffer cells was observed in the dose groups of 300 mg/kg/day in both sexes.					
<b>BLOOD</b>	<b>STRUC</b>				
Hemolytic anemia was observed in the animals of both sexes receiving 300 mg/kg/day.					
<b>BLOOD</b>	<b>BIOCH</b>				
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 cellularity (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 hematopoietic 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)
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## 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

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

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* : **#MHMS\***  
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

<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 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

<i>Organism</i>	<i>Medium</i>	<i>Specification</i>	<i>Route</i>	<i>Lifestage</i>	<i>Sex</i>	<i>Number exposed</i>	<i>Number controls</i>
<b>HAMST</b>			<b>VTR</b>				

*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

<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>CELL</b>					

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)

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## 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

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

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## 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

<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>MUT</b>				

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* : **!SIDS\***  
 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

<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	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

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

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)
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## 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

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

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

<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>FRESH</b>				<b>LC50</b>	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)

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## 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

<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>EC50</b>				

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

<i>Organ</i>	<i>Effect</i>	<i>Rev.</i>	<i>OnSet</i>	<i>Sex</i>	<i>Affected in Exposed - Controls</i>
	<b>EC0</b>				
	EC0 for 24 hours = 0.1 mg/L (w/v). (Reported as ppm (w/v))				
	<b>EC50</b>				
	EC50 for 24 hours = 100 mg/L (w/v). (Reported as ppm w/v))				
	<b>EC100</b>				
	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

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

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

<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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**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

<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>BIRD</b>			<b>ORL</b>			<b>LD50</b>	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

<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>BIRD</b>			<b>ORL</b>			<b>LD50</b>	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)

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