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M-NITROANILINE
CAS N°: 99-09-2

Substance

<i>End Point</i>	:	IDENTIFIERS, PHYSICAL AND CHEMICAL PROPERTIES
<i>Chemical Name</i>	:	Benzenamine, 3-nitro-
<i>Common Name</i>	:	m-Nitroaniline
<i>CAS Number</i>	:	99-09-2
<i>RTECS Number</i>	:	BY6825000

Synonyms

Aniline, m-nitro-	Amarthol fast orange R base
m-Aminonitrobenzene	Azobase MNA
C.I. 37030	C.I. Azoic diazo component 7
Daito orange base R	Devol orange R
Diazo fast orange R	Fast orange base R
Fast orange M base	Fast orange MM base
Fast orange R base	Fast orange R salt
Hiltonil fast orange R base	MNA
Naphtoelan orange R base	Nitranilin
m-Nitroaminobenzene	meta-Nitroaniline
3-Nitroaniline	3-Nitrobenzenamine
m-Nitrophenylamine	Orange base irga I

Properties & Definitions

<i>Molecular Formula</i>	:	C6H6N2O2
<i>Molecular Weight</i>	:	138.14
<i>Melting Point</i>	:	114C
<i>Boiling Point</i>	:	306C
<i>State</i>	:	Solid
<i>Vapour Pressure</i>	:	3.1E-6 kPa(2.3E-5 mmHg)at 25C
<i>Octanol/Water Partition Coefficient</i>	:	log Pow = 1.54 at 25C calculated
<i>Water Solubility</i>	:	1.14 g/L
<i>Impurities</i>	:	The tested chemical could contain <1-3% impurities. Purity of industrial product unknown.
<i>General Comments</i>	:	For VP the value 1.7E-5 kPa at 40C was also reported (gas saturation method applied OECD Guideline 104, GLP: yes). For Log Pow the value 1.37 (measured) was also reported (OECD Guideline 107, GLP: yes). Non-volatile. Stable in neutral, acidic or alkaline solutions.

Overall Evaluation

NEEDS FURTHER WORK

SIDS INITIAL ASSESSMENT

3-Nitrobenzenamine is non-volatile stable solid, and the production volume is 13 tonnes/year for 1990, 16 tonnes for 1991, 7 tonnes for 1992 and 0 tonnes for 1993, respectively, in Japan. The production volume in Germany is 454 tonnes for 1972 and 2270 tonnes for 1976. Canada also produced less than 100 tonnes/year. This chemical is used as raw material for dyestuff in closed system.

This chemical is stable in neutral, acidic or alkaline solutions, and is classified as "not readily biodegradable" and "low bioaccumulation potential".

The fact that the chemical is moderately toxic to daphnids, slightly toxic to fish and algae, implies the environmental risk presumably to be low. The PEC is lower than the MTC.

The chemical showed genotoxic effects in bacterial test, non-bacterial test in vitro and micronucleus test, and I OAEI for repeated dose toxicity was 15 mg/kg/day and NOAEI for reproductive toxicity was 50 mg/kg/day in

male rats and 5 mg/kg/day in female rats.

Daily intake of 3-nitrobenzenamine was estimated as 8.17×10^{-7} mg/day from calculation using MNSEM 1451 exposure model.

ENVIRONMENTAL EXPOSURE

ESTIMATION OF ENVIRONMENTAL FATE, PATHWAY AND CONCENTRATION

Comparison of calculated environmental concentration using several models:

MNSEM Model:

Air: 2.64×10^{-12} ug/L; Water: 3.62×10^{-4} ug/L; Soil: 1.23×10^{-4} ug/kg; Sediment: 3.83×10^{-3} ug/kg

CHEMCAN2 Model:

Air: 6.05×10^{-13} ug/L; Water: 3.62×10^{-4} ug/L; Soil: 4.04×10^{-8} ug/kg; Sediment: 6.48×10^{-4} ug/kg

CHEMFRAN Model:

Air: 6.50×10^{-15} ug/L; Water: 3.62×10^{-4} ug/L; Soil: 1.99×10^{-9} ug/kg; Sediment: 6.48×10^{-4} ug/kg

UKMODEL Model:

Air: 5.41×10^{-11} ug/L; Water: 3.63×10^{-4} ug/L; Soil: 1.63×10^{-3} ug/kg; Sediment: 3.26×10^{-3} ug/kg

CONSUMER EXPOSURE

The chemical substance is fully changed to other substances (dyestuffs and m-nitrophenol). So, there are no actual use of this substance itself and there are no emission and no exposure to consumer.

OCCUPATIONAL EXPOSURE

Production is done through reaction and purification operation. Basically there are no emission and no exposure to workers except drying and packaging process. No data on work place monitoring have been reported. Occupational exposure seems to be low.

CONCLUSION

In conclusion, 3-nitrobenzenamine is persistent, and ecotoxicological tests showed moderate toxicity. In toxicology tests, the chemical showed genotoxic effects in bacterial test, non-bacterial test in vitro and micronucleus test. In the case of applying the OECD Provisional Guidance for Initial Hazard Assessment of Full SIDS, this chemical have to perform risk reduction. However, this chemical is used mainly as raw material for dyestuff materials at closed system, and there are no other information on exposure. Therefore, although exposure to general population through environment may be low, occupational risk should be considered from its genotoxic properties.

RECOMMENDATION

Based on the genotoxicity of the chemical, we concluded that further work should be considered. Monitoring and risk reduction in work place of the production site should be considered from its toxicological properties. Also, continuous international information gathering on exposure is recommended as further work.

Production-Trade

Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Geographic Area : **CAN**

Production

<u>Quantity</u>	<u>Year</u>
<100 t - P	

References

!SIDSP*

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

Production-Trade

Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Geographic Area : **JPN**

Production

<u>Quantity</u>	<u>Year</u>
0 t - P	1993
7 t - P	1992
24 t - IM	1992
16 t - P	1991
13 t - P	1990
21 t - IM	1990

References

!SIDSP*

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

Production-Trade

Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Geographic Area : **DEU**

Production

<u>Quantity</u>	<u>Year</u>
2270 t - P	1976
45100 t - IM	1975
454 t - P	1972
44200 t - IM	1972

References

ISIDSP*

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

Processes

Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Process

Process comments : In Japan: production is done through reaction and purification operation. Partial reduction of m-dinitrobenzene with Na₂S₂ to crude 3-nitroaniline. Followed by purification of 3-nitroaniline. In Germany: 1) Partial reduction of m-dinitrobenzene with sodium disulfide. 2) From aniline by nitration after acetylation, with subsequent removal of acetyl group by hydrolysis.

References

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

Uses

Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Use

<u>Quantity</u>	<u>Year</u>	<u>Comments</u>
		Used as raw material for dyestuffs in closed system. Chemical intermediate for azoic coupling component 17 and the dyes, disperse yellow 5 and acid blue 29. The chemical substance is fully changed to other substances (dyestuffs and m-nitrophenol). So, there are no actual use of this substance itself.

References

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

Study

End Point : **Pathway into the Environment and Environmental Fate.**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Quantity Transported

General Comments : As the chemical is used as an intermediate in closed system there is no emission to the environment.

References

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

Study

End Point : **CONCENTRATION**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Geographic Area : **JPN**

Test Subject

Organism Medium Specification Lifestage Sex

AIR
WATER
SOIL

Test Substance

Description of the test substance : 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. (Presented by Kikuo Yoshida).

Test Results

Matrix Concentrations Spec. Date

2.64E-15 mg/L

In air. 4.66E-13 ppm also reported. Steady state mass = 5.27E-3 g.

3.62E-7 mg/L

In water. Steady state mass = 7.24E+3 g.

1.23E-7 mg/kg

In soil. Steady state mass = 1.97E+2 g.

3.83E-6 mg/kg

In sediment. Steady state mass = 3.83E+2 g.

General Comments : Clearing time 28 days. All values are estimated.

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 : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **FIELD**
Geographic Area : **JPN**

Test Subject

Organism Medium Specification Lifestage Sex

AQ **SURF**
SOIL
SED

Test Results

<u>Matrix</u>	<u>Concentrations</u>	<u>Spec.</u>	<u>Date</u>
	0 ug/L		1978
Not detected in surface water in 8 areas in Japan. Detection limit 0.3 - 1 ug/L			
	0 ug/L		1978
Not detected in sediment/soil in 5 areas in Japan. Detection limit 0.01 - 0.0333 ug/g			

References

Primary Reference : **#MOREA***
 Environmental Monitoring of Chemicals, Environmental Survey Report
 (Office of Health Studies, Department of Environmental Health), 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 : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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.	4.41E-12 mg/L		
In milk.	3.64E-12-3.64E-10 mg/L		
In vegetation.	1.54E-7 mg/L		

General Comments : All above given values are calculated using MNSEM 1451 method.

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)
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Study

End Point : **HUMAN INTAKE AND EXPOSURE**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Geographic Area : **JPN**

Test Subject

Organism Medium Specification Route Lifestage Sex
HUMAN **AIR** **FRESH**
AQ **FRESH**
FOOD

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. (Presented by Kikuo Yoshida).

Test Results

<u>Intake</u>	<u>Spec.</u>	<u>Date</u>
5.22E-11 mg/d Through inhalation of air		
7.24E-7 mg/d Through drinking water		
3.48E-8 mg/d Through ingestion of fish		
3.27E-13 mg/d Through ingestion of meat		
4.45E-13 mg/d Through ingestion of milk		
5.75E-8 mg/d Through ingestion of vegetables		
8.17E-7 mg/d Total exposure dose		

General Comments : As there is no actual use of the substance itself, there is basically no exposure to man, except during drying and packaging process. No data on work place monitoring have been reported. Occupational exposure seems to be low.

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-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Subject

Organism Medium Specification

MCR **AQ** **SLUDG**

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

Test Substance

Purity Grade : **98%**

Test Method and Conditions

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

(An)aerobic : **AEROB**

Exposure

Exposure Period : **14 d**
Dose / Concentration : **100 mg/L**

Test Results

<u>Quantity</u>		<u>Time</u>	<u>Comments on result</u>
0 %	AV	14 d	Degree of biodegradation from BOD 14
0 %	AV		Degree of biodegradation from DOC
3 %	AV		Degree of Biodegradation from UV
<i>General Comments</i>	:		Results indicate that the substance should be classified as "not readily biodegradable".

References

Primary Reference : **#MCIBD***
 Unpublished Report on Biodegradation Test of (specific chemical) conducted by MITI

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-nitro-**
CAS Number : **99-09-2**

Test Substance

Purity Grade : **99.6%**

Test Method and Conditions

Test method description : W. J. Lyman et al. Handbook of Chemical Properties Estimation Method. (McGraw Hill Book Co., 1981). GLP: no. Depth in the water body 500 cm. Quantum yield for disappearance of chemicals by photolysis under solar irradiation 0.01.

Exposure

Dose / Concentration : **6.9 g/L**

Test Results

<u>Quantity</u>	<u>Time</u>	<u>Comments on result</u>
50 %	AV	Half-life for photolysis = 1.26E-2 years. Photochemical degradation rate = 8.74E-11 mol/L/s.

References

Primary Reference : **#MCITH***
Unpublished Report on Hydrolysis and Photodegradation Test of (specific chemical), HPV/SIDS test conducted by MITI

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

Study

End Point : **HYDROLYSIS**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**
Medium : **AQ**
Specifications : **FRESH**

Test Substance

Purity Grade : **99.6%**

Test Method and Conditions

Test method description : OECD Guideline 111. Hydrolysis as a function to 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>
50 %	>1 y	Half-life at pH 4.0, 7.0, and 9.0 at 25C.

References

Primary Reference : **#MCITH***
Unpublished Report on Hydrolysis and Photodegradation Test of (specific chemical), HPV/SIDS test conducted by MITI

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

Study

End Point : **BIOCONCENTRATION**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Substance

Purity Grade : **99.6%**

Test Method and Conditions

Test method description : OECD Guideline 305C. GLP: yes. Flow-through test.

Exposure

Exposure Period : **6 wk**

Test Results

<i>Organ</i>	<i>Bioconcent. Factor</i>	<i>Calc Basis</i>	<i>Time</i>	<i>State</i>	<i>Comments on result</i>
	<1		6 wk		Log BCF level 1 exposure
	<1		6 wk		Log BCF level 2 exposure

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 : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Species/strain/system : Guinea pigs, strain not specified
Dose / Concentration : **450 mg/kg**

Test Method and Conditions

Test method description : No information was provided.

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>
GPIG			ORL	ADULT		LD50	Oral LD50 for guinea pigs was established as 450 mg/kg under the test conditions.

References

Primary Reference : **RTECS***
 Registry of Toxic Effects of Chemical Substances

Secondary Reference : **!SIDSP***
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **RAT**

Species/strain/system : Rat, strain not specified
Dose / Concentration : **535 mg/kg**

Test Method and Conditions

Test method description : No information provided.

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>
			ORL	ADULT		LD50	Oral LD50 for rats was established as 535 mg/kg under the test conditions.

References

- Primary Reference* : **RTECS***
Registry of Toxic Effects of Chemical Substances
- Secondary Reference* : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Species/strain/system : Mouse, strain not specified
Dose / Concentration : **308 mg/kg**

Test Method and Conditions

Test method description : No information was provided.

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>
MOUSE			ORL	ADULT		LD50	Oral LD50 for mice was established as 308 mg/kg under the test conditions.

References

- Primary Reference* : **RTECS***
Registry of Toxic Effects of Chemical Substances
- Secondary Reference* : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Species/strain/system : Rat, SD strain
Dose / Concentration : **540 mg/kg**

Test Method and Conditions

Test method description : No information was provided.

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	M	LD50	Oral LD50 for male rats(SD strain) was established as 540 mg/kg under the test conditions.

References

Primary Reference : **TXAPA9**
Vernot E. H. et al. Toxicology and Applied Pharmacology, 42, 417, (1972)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14, (1994)

Study

End Point : **MAMMALIAN ACUTE TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Species/strain/system : Mouse, CF-1 strain
Dose / Concentration : **310 mg/kg**

Test Method and Conditions

Test method description : No information was provided.

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>
MOUSE			ORL	ADULT	M	LD50	Oral LD50 for CF-1 male mice was established as 310 mg/kg under the test conditions.

References

Primary Reference : **TXAPA9**
Vernot E. H. et al. Toxicology and Applied Pharmacology, 42, 417, (1972)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14, (1994)

Study

End Point : **MAMMALIAN TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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	5/GROUP	5
					F	5/GROUP	5

Species/strain/system : Crj:F344

Test Substance

Purity Grade : **99.8%**
Vehicle - Solvent : Olive oil

Test Method and Conditions

Test method description : Japanese Guideline for 28 Day Repeated Dose Toxicity Test of Chemicals.
 GLP: no.

Exposure

Exposure Type : **SHORT**
Exposure Period : **28 d**
Dose / Concentration : **15-170 mg/kg**
Exposure comments : Doses of: 0, 15, 50, 170 mg/kg/day were given in gavage for 28 days.

Test Results

<u>Organ</u>	<u>Effect</u>	<u>Rev.</u>	<u>OnSet</u>	<u>Sex</u>	<u>Affected in Exposed - Controls</u>
SKN	COLOR				
BLOOD	CHEM				
LIVER	SIZE				
KIDNY	SIZE				
SPLN	SIZE				

Cyanosis was observed in the dose groups of 170 mg/kg/day.

Methemoglobinemia was observed in the dose groups of 170 mg/kg/day.

Increases of liver, kidney and spleen weights in a dose related fashion, were observed.

Hemolytic anemia was observed in a dose-related fashion in in both sexes.

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **BACT**

Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

VTR

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

Test Substance

Vehicle - Solvent : DMSO

Test Method and Conditions

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

Exposure

Dose / Concentration : **25-5000 ug/ PLATE**
Exposure comments : Doses of: 0, 25, 50, 100, 250, 500, 1000, 2500, 5000 ug/plate were utilised with and without metabolic activation. Positive control for -S9 strains TA98 and TA100 was AF-2, TA97 was ICR-191, TA102 was mitomycin C; for +S9 all strains it was 2-aminoanthracene.

Test Results

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

The results showed a positive mutagenic effect for the bacterial strains TA98 and TA100 under the test conditions.

NEF

There was no mutagenic effect observed in the strains TA97 and TA102.

References

Primary Reference : **#URMMT***
 Unpublished Report on Mutagenicity 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, 17-19, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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 and E. coli strain WP2 uvrA/pKM101

Test Substance

Vehicle - Solvent : DMSO

Test Method and Conditions

Test method description : Standard Preincubation Assay. GLP: no

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **25-5000 ug/ PLATE**
Exposure comments : Doses of: 0, 25, 50, 100, 250, 500, 1000, 2500, 5000 ug/plate were utilised in the preincubation assay with and without metabolic activation. Positive control: for -S9 was AF-2 for strains TA98 and TA100; for +S9 was 2-aminoanthracene.

Test Results

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

Mutagenic effect was observed in cultures with and without metabolic activation under the conditions of testing.

General Comments : No result given in SIDS dossier for E. coli.

References

Primary Reference : **SAIGBL**
Kawai, A. et al. Sangyo Igaku (Japanese Journal of Industrial Health), 29, 34, (1987)

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 17-19, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

BACT**VTR**

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

Test Substance

Purity Grade : **98%**
Vehicle - Solvent : **DMSO**

Test Method and Conditions

Test method description : Pour-plate Assay

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **25-5000 ug/ PLATE**
Exposure comments : Doses of: 0, 25, 50, 100, 250, 500, 1000, 2500, 5000 ug/plate were utilised with and without metabolic activation. Positive control: for -S9 was AF-2; for +S9 was 2-aminoanthracene. 3 plates/test, 2 replicates.

Test Results

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

Mutagenic effects were observed in all bacterial strain cultures without metabolic activation.

References

Primary Reference : **MUREAV**
 Shimizu, M. and Yano, E. Mutation Research, 170, 11, (1986)

Secondary Reference : **!SIDSP***
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 17-19, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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, TA1538

Test Substance

Vehicle - Solvent : DMSO

Test Method and Conditions

Test method description : Preincubation Assay

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **25-5000 ug/ PLATE**
Exposure comments : Doses of: 0, 25, 50, 100, 250, 500, 1000, 2500, 5000 ug/plate were utilised in cultures with and without metabolic activation. Positive control: for-S9 was AF-2 and for +S9 was 2-aminoanthracene. 3 plates/test, 2 replicates.

Test Results

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

There was a positive effect of mutagenesis in the cultures with and without metabolic activation on bacterial strains TA98, TA1535, TA1538 and negative effects on the strains TA100 and TA1537.

References

Primary Reference : **IJCMDW**
 Shahin, M. M. International Journal of Cosmetic Science, 7, 277, (1985)

Secondary Reference : **!SIDSP***
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 17-19, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

BACT**VTR**

Species/strain/system : Salmonella typhimurium TA98, TA100

Test Substance

Purity Grade : **97%**
Vehicle - Solvent : **DMSO**

Test Method and Conditions

Test method description : Modified Preincubation Assay. GLP: no

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **25-5000 ug/ PLATE**
Exposure comments : Doses of: 0, 25, 50, 100, 250, 500, 1000, 2500, 5000 were utilised with and without metabolic activation. Positive control: for -S9 was AF-2, for +S9 was 2-aminoanthracene. 3 plates/test in 2 replicates.

Test Results

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

There was a positive mutagenic effect observed in cultures with metabolic activation.

General Comments : In the test results with metabolic activation both positive and negative effects are marked.

References

Primary Reference : **ENMUDM**
 Dellarco, V. L. and Prival, M. J. Environmental Mutagenesis, 213, 116, (1989)

Secondary Reference : **!SIDSP***
 OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 17-19, (1994)

Study

End Point : **MUTAGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

MOUSE

M
F

Species/strain/system : Crj:BDF1 strain

Test Substance

Purity Grade : **99.9%**
Vehicle - Solvent : 0.5% CMC sodium solution

Test Method and Conditions

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

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **75-300 mg/kg**
Exposure comments : Doses of: 0, 75, 150, 300 mg/kg were utilised for micronucleus test assay.

Test Results

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

The lowest concentration producing toxicity was 400 mg/kg/day under the test conditions.

MUT

There were mutagenic effects observed under the test conditions of the experiment.

General Comments : The test material was classified as "positive" under the experimental conditions used.

References

Primary Reference : **#URMMT***
 Unpublished Report on Mutagenicity 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, 20, (1994)

Study

End Point : **REPRODUCTION**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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	13/GROUP	13
					F	13/GROUP	13

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

Test Substance

Purity Grade : **99.9%**
Vehicle - Solvent : 5% CMC-sodium solution

Test Method and Conditions

Test method description : OECD Preliminary Reproductive/Developmental Toxicity Screening Test. GLP: yes

Exposure

Exposure Type : **SHORT**
Exposure Period : **42 d**
Dose / Concentration : **5-50 mg/kg/ day**
Exposure comments : Doses of: 0, 5, 15, 50 mg/kg/day were given in gavage for 42 days to male rats and from 14 day 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>
-----	-----	-----	-----	-----	-----

BW **DECR** **M**
 Body weight gain and food consumption during the first week of dosing were significantly suppressed in the high dose male rats.

SPLN **SIZE** **M**
SPLN **COLOR**
 All high-dose and 3 mid-dose male rats at the necropsy revealed enlarged and/or dark colored spleen.

LIVER **SIZE**
 Few of the high-dose-group animals showed an enlarged liver at the necropsy examination.

BW **DECR**
 Body weights of the high-dose groups during the dosing period were slightly but consistently lower than the controls. Results applied to both female and male rats.

SPLN **SIZE** **F**
SPLN **COLOR**

At the scheduled necropsy 8 high-dose and 1 mid-dose female rats revealed an enlarged and dark colored spleen.

DEATH **F**

1 of the high-dose group female died during delivery on the 23 day of gestation. There was no compound related clinical signs of toxicity before death of this animal.

NOAEL

No adverse effect level for P generation: male rats 50 mg/kg, female rats 5 mg/kg.

EDLC

Estimated dose of low concern was calculated as 0.01 mg/kg/day.

General Comments : 2 high-dose female rats and 1 of mid-dose females showed the signs of difficult labour and all of their offsprings died by the day of parturition. The mating performance and fertility were not affected by the test compound.

References

Primary Reference : **#MHRNB***
Unpublished Report on Preliminary Reproduction Toxicity Screening Test of (specific chemical)-HPV/SIDS test conducted by MHW

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 21-23, (1994)

Study

End Point : **TERATOGENICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

RAT

FETUS

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

Test Substance

Purity Grade : **99.9%**
Vehicle - Solvent : 5% CMC-sodium solution

Test Method and Conditions

Test method description : OECD Preliminary Reproductive/Developmental Toxicity Screening Test. GLP: yes

Exposure

Exposure Type : **SHORT**
Dose / Concentration : **5-50 mg/kg/ day**
Exposure comments : Doses of: 0, 15, 15, 50 mg/kg/day of maternal exposure from fertilization through day 3 of post-natal life were tested for the effects of teratogenicity.

Test Results

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

No adverse effect level for F-1 generation was established as 50 mg/kg.

DEATH

Considerable loss of offspring from dams in the high-dose and mid-dose groups was observed (tabulated data in Annex 6).

DEATH

All pups of 2 dams from the high-dose group and one from the mid-dose group died in connection with difficult labour.

General Comments : There was no mention of fetus malformation in the test results. The mating performance and fertility were not affected by the test compound. Signs of difficulty in labor and postnatal loss of offspring were observed in mid- and high-dose female groups. No remarkable histopathological change in the ovaries was observed in any of the non-pregnant females and in females which showed total litter loss after the parturition. The testicular and epididymal weights were comparable among all four groups. No compound-related histopathological changes in these organs were found in any of the males. Reproduction parameters (i.e., duration of gestation, number of corpora lutea, implantations and resorptions, litter size, and sex distribution) were comparable among all four groups including the control. Survival and body weights as well as the morphological development of pups were comparable among all groups.

References

Primary Reference : **#MHRNB***
Unpublished Report on Preliminary Reproduction Toxicity Screening Test of
(specific chemical)-HPV/SIDS test conducted by MHW

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High
Production Volume Chemicals Programme, 21-23, (1994)

Study

End Point : **AQUATIC ACUTE TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**

Species/strain/system : Orange-red Killifish (*Oryzias latipes*)
Exposure Period : **48 h**
Dose / Concentration : **96 mg/L**

Test Method and Conditions

Test method description : JIS K0102. 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>
FISH	AQ	FRESH				LC50	LC50 for 48 hours = 96 mg/L(w/v). (Reported as ppm(w/v)).

References

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-nitro-**
CAS Number : **99-09-2**
Study type : **LAB**

Test Subject

Organism Medium Specification Route Lifestage Sex Number exposed Number controls

ALGAE **FRESH**

Species/strain/system : Algae (Selenastrum capricornutum)

Test Substance

Purity Grade : **>99%**

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>
-----	-----	-----	-----	-----	-----
	EC50				

EC50 for 72 hours = 20 mg/L(w/v). (Reported as EbC50 = 20 ppm (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, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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 : **>99%**

Test Method and Conditions

Test method description : OECD Guideline. GLP: no. Probit method used to calculate values.

Exposure

Exposure Period : **24 h**

Test Results

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

EC0

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

EC50

EC50 for 24 hours = 36 mg/L (w/v). (Reported as ppm).

EC100

EC100 for 24 hours = 100 mg/L (w/v). (Reported as 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, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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 : **>99%**

Test Method and Conditions

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

Exposure

Exposure Period : **21 d**

Test Results

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

No observed effect concentration (maximum) for 21 days = 0.5 mg/L (w/v). (Reported as ppm (w/v)).

First observed effect concentration (minimum) for 21 days = 1.6 mg/L (w/v). (Reported as ppm (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, (1994)

Study

End Point : **AQUATIC TOXICITY**
Chemical Name : **Benzenamine, 3-nitro-**
CAS Number : **99-09-2**
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 : **>99%**
Vehicle - Solvent : (DMSO: HCO-40 = 4:1)

Test Method and Conditions

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

Exposure

Exposure Period : **24-96 h**

Test Results

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

LC0

LC0 for 24, 48 and 76 hours = 36 mg/L (w/v), for 96 hours = 20 mg/L. (All reported as ppm (w/v)).

LC50

LC50 for 24 hours = 158 mg/L, for 48 hours = 71 mg/L, for 72 hours = 69 mg/L, for 96 hours = 67 mg/L. (All reported as ppm (w/v)).

LC100

LC100 for 48, 72 and 96 hours = 117 mg/L. (All Reported as ppm (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, (1994)

Study

End Point : **TERRESTRIAL ACUTE TOXICITY**

Chemical Name : **Benzenamine, 3-nitro-**

CAS Number : **99-09-2**

Species/strain/system : Bird, Quail

Dose / Concentration : **562 mg/kg**

Test Method and Conditions

Test method description : No information was provided.

Test Results

Organism Medium Spec. Route Lifestage Sex Effect Effect Comments

BIRD			ORL	ADULT		LD50	Oral LD50 for birds was established as 562 mg/kg.
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References

Primary Reference : **RTECS***
Registry of Toxic Effects of Chemical Substances

Secondary Reference : **!SIDSP***
OECD/SIDS. Screening Information Data Set (SIDS) of OECD High Production Volume Chemicals Programme, 14, (1994)

Substance

Chemical Name :
 Reported Name : **m-Nitroaniline**
 CAS Number : **99-09-2**

Area Type Subject Spec. Description Level / Summary Information :

CAN	REG	USE STORE LABEL	OCC	RQR	
					INGREDIENT DISCLOSURE LIST CONCENTRATION 1% WEIGHT/WEIGHT. THE WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) IS A NATIONAL SYSTEM TO PROVIDE INFORMATION ON HAZARDOUS MATERIALS USED IN THE WORKPLACE. WHMIS IS IMPLEMENTED BY THE HAZARDOUS PRODUCTS ACT AND THE CONTROLLED PRODUCTS REGULATIONS (ADMINISTERED BY THE DEPARTMENT OF CONSUMER AND CORPORATE AFFAIRS). THE REGULATIONS IMPOSE STANDARDS ON EMPLOYERS FOR THE USE, STORAGE AND HANDLING OF CONTROLLED PRODUCTS AND ADDRESS LABELLING AND IDENTIFICATION, EMPLOYEE INSTRUCTION AND TRAINING, AS WELL AS THE UPKEEP OF A MATERIALS SAFETY DATA SHEET (MSDS). THE PRESENCE IN A CONTROLLED PRODUCT OF AN INGREDIENT IN A CONCENTRATION EQUAL TO OR GREATER THAN SPECIFIED IN THE INGREDIENT DISCLOSURE LIST MUST BE DISCLOSED IN THE SAFETY DATA SHEET.

Title :Reference _____ :Effective Date : 31DEC1987Last Amendment : CAGAAK, 122, 2, 551, 1988
CANADA GAZETTE PART IIEntry / Update : APR1991

Substance

Chemical Name :
 Reported Name : **nitroaniline,m-**
 CAS Number : **99-09-2**

Area Type Subject Spec. Description Level / Summary Information :

CSK	REG	CLASS	-	CLASS	
					THIS SUBSTANCE IS CLASSIFIED AS POISON.

Title : GOVERNMENT PROVISION NO. 192 ON POISONS AND A NOTHER SUBSTANCES HARMFUL TO HUMAN HEALTH

Reference _____ : SZCSR*, 42, 1217, 1988 Effective Date : MAY1990
 SBIRKA ZAKONU CESKOSLOVENSKE SOCIALISTICKE REPUBLIKY (COLLECTION OF THE LAW OF CZECHOSLOVAK SOCIALIST REPUBLIC)

Last Amendment : SZCSR*, 33, 762, 1990 Entry / Update : DEC1991
 SBIRKA ZAKONU CESKOSLOVENSKE SOCIALISTICKE REPUBLIKY (COLLECTION OF THE LAW OF CZECHOSLOVAK SOCIALIST REPUBLIC)

Substance

Chemical Name :
 Reported Name : **3-NITROANILINE**
 CAS Number : **99-09-2**

Area Type Subject Spec. Description Level / Summary Information :

DEU REC AQ - CLASS
 USE INDST RQR
 THIS SUBSTANCE IS CLASSIFIED AS HAZARDOUS TO WATER (WATER-HAZARD CLASS: WGK 2). (THE DIFFERENT CLASSES ARE: WGK 3 = VERY HAZARDOUS; WGK 2 = HAZARDOUS; WGK 1 = SLIGHTLY HAZARDOUS; WGK 0 = IN GENERAL NOT HAZARDOUS.) THE CLASSIFICATION FORMS THE BASIS FOR WATER-PROTECTION REQUIREMENTS FOR INDUSTRIAL PLANTS IN WHICH WATER-HAZARDOUS SUBSTANCES ARE HANDLED.
Title : ADMINISTRATIVE RULES CONCERNING WATER-HAZARDOUS SUBSTANCES (VERWALTUNGSVORSCHRIFT WASSERGEFAEHRDENDE STOFFE)
Reference : GMSMA6, 8, 114, 1990 Effective Date :
 Gemeinsames Ministerialblatt. Joint Ministerial Papers
Last Amendment : Entry / Update : DEC1991

Substance

Chemical Name :
 Reported Name : (m)-aniline
 CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

DEU REG CLASS - CLASS
 LABEL PACK RQR
 CLASSIFICATION AND LABELLING IN GERMANY IS GENERALLY THE SAME AS FOR THE EEC (SEE OJEC** L 180, 1991). HOWEVER, SLIGHT MODIFICATIONS MAY BE INTRODUCED FOR SOME SUBSTANCES IN THE GERMAN LEGISLATION.
Title : ORDINANCE ON HAZARDOUS SUBSTANCES. (GEFAHRSTOFFVERORDNUNG)
Reference : BGZBAD, I, 1931, 1991 Effective Date : 15JUN1991
 Bundesgesetzblatt. Federal Law Gazette
Last Amendment : Entry / Update : APR1992

Substance

Chemical Name :
 Reported Name : m-nitroaniline
 CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

RUS REG AIR AMBI PSL 0.01MG/M3 1X/D
Title :
Reference : Effective Date : DEC1983
Last Amendment : OBUAV*, 2947-83, 1983 Entry / Update : SEP1985
 Orientivovochnye bezopasnye urovni vozdeystviya (OBUV) zagryaznyayushchikh veshchestv v atmosfernom vozdukhe naselennykh mest (Tentative Safe Exposure Limits (TSEL) of contaminants in Ambient Air of Residential Areas)

Substance

Chemical Name :
 Reported Name : m-nitroaniline
 CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

RUS REG AQ SURF MAC CLASS 0.15MG/L HAZARD CLASS: III
Title :
Reference : **Effective Date :** 1JAN1989
Last Amendment : SPNPV*, 4630-88, 1988 **Entry / Update :** JUL1990
 SANITARNYE PRAVILA I NORMY OKHRANY POVERKHNOSTNYKH VOD OT ZAGRIAZNENIA (HEALTH REGULATION AND STANDARDS OF SURFACE WATER PROTECTION FROM CONTAMINATION)

Substance

Chemical Name :
Reported Name : 3-NITROANILINE
CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

USA REG MANUF USE SAFTY REQ OCC OCC PRMT PRMT MXL ; Summary - THE FOLLOWING CHEMICAL IS INCLUDE D ON A LIST OF CHEMICALS AND MIXTURES FOR WHI CH REPORTING IS CURRENTLY REQUIRED UNDER THE TOXIC SUBSTANCES CONTROL ACT SECTION 2607A. T HIS TOXIC SUBSTANCE IS SUBJECT TO PRELIMINARY ASSESSMENT INFORMATION RULES ON PRODUCT ION QUANTITIES, USES, EXPOSURES, AND ADVERSE EFFE CTS. MANUFACTURERS INCLUDING IMPORTERS MUST S UBBMIT A REPORT FOR THIS LISTED CHEMICAL MANUF ACTURED AT EACH SITE.
Title : PRELIMINARY ASSESSMENT INFORMATION RULES
Reference : FEREAC, 47, 26998, 1982 **Effective Date :** 1982
 Federal Register
Last Amendment : CFRUS*, 40, 712, 30, 1990 **Entry / Update :** OCT1991
 Code of Federal Regulations

Substance

Chemical Name :
Reported Name : m-nitroaniline
CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

USA REG AQ AQ GRND GRND MONIT MXL ; Summary - THIS LIST IS REQUIRED ONLY FOR GR OUND-WATER MONITORING AT RCRA LAND BASED HAZA RDOUS WASTE DISPOSAL UNITS. THIS FINAL RULE W ILL REQUIRE THAT AN ANALYSIS OF ALL THE CONST ITUENTS OF THIS LIST BE PERFORMED ON THE GROU ND WATER TAKEN FROM WELLS SURROUNDING TH OSE UNITS. THIS ANALYSIS TAKES PLACE WHEN GROUND- WATER CONTAMINATION IS FIRST DETECTED, AND TH EN AGAIN ONCE PER YEAR 40 CFR 264. WHEN A LIS TED CONSTITUENT IS FOUND TO BE PRESENT A BACK GROUND VALUE MUST BE SET IN COMPLIANCE WITH 4 0 CFR 264.98(H)(2) UNLE SS OTHERWISE STATED.
Title : LIST (PHASE 1) OF HAZARDOUS CONSTITUENTS FOR GROUND-WATER MONITORING FINAL RULE: INCLUDING MAXIMUM CONCENTRATION OF CONSTITUENT: FOR GR OUNDWATER PROTECTION.
Reference : FEREAC, 52, 25947, 1987 **Effective Date :** 1987
 Federal Register
Last Amendment : CFRUS*, 40, 264, 1990 **Entry / Update :** SEP1991
 Code of Federal Regulations

Substance

Chemical Name :
 Reported Name : (m)-aniline
 CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

EEC	REG	CLASS LABEL PACK	-	CLASS RQR RQR	<p>CLASS: T - TOXIC; TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED (R 23/24/25). DANGER OF CUMULATIVE EFFECTS (R 33). LABEL: T - TOXIC; TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED (R 23/24/25); DANGER OF CUMULATIVE EFFECTS (R 33); AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF... (TO BE SPECIFIED BY THE MANUFACTURER) (S 28); WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES (S 36/37); IF YOU FEEL UNWELL, SEEK MEDICAL AID (SHOW THE LABEL WHERE POSSIBLE) (S 44). IT MUST BE STATED ON THE LABEL WHETHER IT IS A SPECIFIC ISOMER OR A MIXTURE OF ISOMERS.</p> <p>Title : COUNCIL DIRECTIVE 67/548/EEC OF 27 JUNE 1967 ON THE APPROXIMATION OF THE LAWS, REGULATIONS AND ADMINISTRATIVE PROVISIONS RELATING TO THE CLASSIFICATION, PACKAGING AND LABELLING OF DANGEROUS SUBSTANCES</p> <p>Reference : OJEC**, 196, 1, 1967 Effective Date : 1JUL1992 Official Journal of the European Communities</p> <p>Last Amendment : OJEC**, L 180, 79, 1991 Entry / Update : APR1992 Official Journal of the European Communities</p>
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Substance

Chemical Name :
 Reported Name : m-nitroaniline
 CAS Number : 99-09-2

Area Type Subject Spec. Description Level / Summary Information :

IMO	REC	TRNSP LABEL PACK	MARIN	CLASS	<p>HAZARD CLASS: 6.1 = POISONOUS SUBSTANCE. PACKING GROUP: II = MEDIUM DANGER (I=GREAT DANGER -III=MINOR DANGER). (APPLIES TO NITROANILINES (O-, M-, P-)). UN NO. 1661</p> <p>Title :</p> <p>Reference : Effective Date :</p> <p>Last Amendment : I, IMCOC*, 10004, 1990 Entry / Update : JAN1991 INTERNATIONAL MARITIME DANGEROUS GOODS CODE</p>
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Substance

Chemical Name :
 Reported Name : m-nitroaniline
 CAS Number : 99-09-2

<u>Area</u>	<u>Type</u>	<u>Subject</u>	<u>Spec.</u>	<u>Description</u>	<u>Level / Summary Information :</u>
UN	REC	TRNSP LABEL PACK	-	CLASS	HAZARD CLASS: 6.1 = POISONOUS SUBSTANCE. PACK ING GROUP: II = MEDIUM DANGER (I=GREAT DANGER -III=MINOR DANGER). (APPLIES TO NITROANILINES (O-, M-, P-)). UN NO. 1661 <u>Title :</u> <u>Reference</u> _____ : _____ <u>Last Amendment :</u> _____
					<u>Effective Date :</u> _____ <u>Entry / Update :</u> _____
				!, UNTDG*, 15, 1989	AUG1990
				UN TRANSPORT OF DANGEROUS GOODS, RECOMMENDATION PREPARED BY THECOMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS	