Material Safety Data Sheet

Version 3.1
Revision Date 06/20/2009
Print Date 07/28/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 1-Naphthylamine

Product Number : N9005
Brand : Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +18003255832
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1-Aminonaphthalene
α-Naphthylamine

Formula : $C_{10}H_9N$
Molecular Weight : 143.19 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
1-Naphthylamine			
134-32-7	205-138-7	612-020-00-2	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Target Organ Effect, Highly toxic by inhalation, Harmful by ingestion., Highly toxic by skin absorption, Carcinogen

Target Organs

Bladder

HMIS Classification
Health Hazard: 4
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

NFPA Rating
Health Hazard: 4
Fire: 1
Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be fatal if inhaled. May cause respiratory tract irritation.
Skin	May cause skin irritation. May be fatal if absorbed through skin.
Eyes	May cause eye irritation.
Ingestion	Harmful if swallowed.

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point	157 °C (315 °F) - closed cup
Ignition temperature	460 °C (860 °F)

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods for cleaning up
Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling
Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage
Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature: 2 - 8 °C

Air and light sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves.

Eye protection
Face shield and safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	flakes
Odour	Ammonia odor

Safety data

pH	7.1 at 1 g/l at 20 °C (68 °F)
Melting point	47 - 50 °C (117 - 122 °F) - lit.
Boiling point	301 °C (574 °F) - lit.
Flash point	157 °C (315 °F) - closed cup
Ignition temperature	460 °C (860 °F)
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	0.095 hPa (0.071 mmHg) at 50 °C (122 °F) 0.012 hPa (0.009 mmHg) at 30 °C (86 °F) 0.004 hPa (0.003 mmHg) at 20 °C (68 °F)
Density	1.114 g/mL at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 2.1

10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 680 mg/kg

LC50 Inhalation - rat - 4 h - 0.056 mg/m3

LD50 Dermal - rat - male - 447 mg/kg

LD50 Dermal - rat - female - 200 - 1,000 mg/kg

Irritation and corrosion

Skin - rabbit - No skin irritation - 24 h

Eyes - rabbit - Mild eye irritation

Sensitisation

no data available

Chronic exposure

This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (1-Naphthylamine)
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA:	1910.1003 (1-Naphthylamine)

Signs and Symptoms of Exposure

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

Potential Health Effects

Inhalation	May be fatal if inhaled. May cause respiratory tract irritation.
Skin	May cause skin irritation. May be fatal if absorbed through skin.
Eyes	May cause eye irritation.
Ingestion	Harmful if swallowed.
Target Organs	Bladder,

Additional Information
RTECS: QM1400000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability	Biotic/Aerobic Result: < 1 % - Not readily biodegradable.

Bioaccumulation	Cyprinus carpio (Carp) - Bioconcentration factor (BCF): 54

Ecotoxicity effects

Toxicity to fish	LC50 - Oryzias latipes - 7 mg/l - 48 h
	LC100 - Oncorhynchus mykiss (rainbow trout) - 6 - 8 mg/l - 48 h

Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 2077 Class: 6.1 Packing group: III
Proper shipping name: alpha-Naphthylamine
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN-Number: 2077 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: alpha-NAPHTHYLAMINE
Marine pollutant: No

IATA
UN-Number: 2077 Class: 6.1 Packing group: III
Proper shipping name: alpha-Naphthylamine

15. REGULATORY INFORMATION

OSHA Hazards
Target Organ Effect, Highly toxic by inhalation, Harmful by ingestion., Highly toxic by skin absorption, Carcinogen

DSL Status
All components of this product are on the Canadian DSL list.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

	CAS-No.	Revision Date
1-Naphthylamine	134-32-7	1994-04-24

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
1-Naphthylamine	134-32-7	1994-04-24

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
1-Naphthylamine	134-32-7	1994-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
1-Naphthylamine	134-32-7	1994-04-24

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known in the State of California to cause cancer. 1-Naphthylamine	134-32-7	1989-10-01

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.