

Material Safety Data Sheet

Version 4.1
Revision Date 04/08/2010
Print Date 04/09/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Naphthalene

Product Number : 184500

Brand : Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
OAKVILLE ON L6H 6J8
CANADA

Telephone : +19058299500

Fax : +19058299292

Emergency Phone # : 800-424-9300

2. HAZARDS IDENTIFICATION

Emergency Overview

Target Organs

Eyes, Blood, Kidney, Lungs, Central nervous system, Liver, Heart

WHMIS Classification

B4	Flammable solid	Flammable solid
D1A		Highly toxic by inhalation
D1B		Toxic by ingestion
D2A		Carcinogen
D2B		Moderate skin irritant

GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H228	Flammable solid.
H302	Harmful if swallowed.
H315 + H320	Causes skin and eye irritation.
H330	Fatal if inhaled.
H351	Suspected of causing cancer.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.
P284	Wear respiratory protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P501	Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health hazard: 3

Chronic Health Hazard: *

Flammability: 0
Physical hazards: 2

Potential Health Effects

Inhalation May be fatal if inhaled. Causes respiratory tract irritation.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₁₀H₈
Molecular Weight : 128.17 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Naphthalene			
91-20-3	202-049-5	601-052-00-2	-

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

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 and materials for containment and cleaning up

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

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Naphthalene	91-20-3	TWA	10 ppm	2006-11-29	Canada. British Columbia OEL
Remarks	IARC "2B" applies to substances deemed possibly carcinogenic to humans. Contributes significantly to the overall exposure by the skin route.				
		STEL	15 ppm	2006-11-29	Canada. British Columbia OEL
	IARC "2B" applies to substances deemed possibly carcinogenic to humans. Contributes significantly to the overall exposure by the skin route.				
		TWAE V	10 ppm 52 mg/m3	2005-12-17	Canada. Ontario OELs
		STEV	15 ppm 78 mg/m3	2005-12-17	Canada. Ontario OELs
		STEL	15 ppm 79 mg/m3	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin				
		TWA	10 ppm 52 mg/m3	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Substance may be readily absorbed through intact skin				
		TWAE V	10 ppm 52 mg/m3	2006-12-29	Canada. Quebec OELs
		STEV	15 ppm 79 mg/m3	2006-12-29	Canada. Quebec OELs

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air 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

solid

Safety data

pH	no data available
Melting point	80 - 82 °C (176 - 180 °F) - lit.
Boiling point	218 °C (424 °F) - lit.
Flash point	no data available
Flammability (solid, gas)	The substance or mixture is a flammable solid with the subcategory 1.
Ignition temperature	526 °C (979 °F)
Lower explosion limit	0.9 %(V)
Upper explosion limit	5.9 %(V)
Vapour pressure	1.3 hPa (1.0 mmHg) at 53.0 °C (127.4 °F) 0.04 hPa (0.03 mmHg) at 25.0 °C (77.0 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 3.30

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 490.0 mg/kg

LC50 Inhalation - rat - 1 h - > 340 mg/m³

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation. Behavioral:Somnolence (general depressed activity).

LD50 Dermal - rabbit - 20,000 mg/kg

Skin corrosion/irritation

Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Naphthalene)

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be fatal if inhaled. Causes respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

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., Naphthalene is retinotoxic and systemic absorption of its vapors above 15ppm, may result in: cataracts, optic neuritis, corneal injury, Eye irritation, Ingestion may provoke the following symptoms: hemolytic anemia, hemoglobinuria, Nausea, Headache, Vomiting, Gastrointestinal disturbance, Convulsions, anemia, Kidney injury may occur., Seizures., Coma.

Additional Information

RTECS: QJ0525000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 0.9 - 9.8 mg/l - 96.0 h
	LC50 - Pimephales promelas (fathead minnow) - 1 - 6.5 mg/l - 96.0 h
	NOEC - other fish - 1.8 mg/l - 3.0 d
	LOEC - other fish - 3.2 mg/l - 3.0 d
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 1.00 - 3.40 mg/l - 48 h
Toxicity to algae	EC50 - No information available. - 33.00 mg/l - 24 h

Persistence and degradability

Bioaccumulative potential

Bioaccumulation	Oncorhynchus mykiss (rainbow trout) - 28 d
	Bioconcentration factor (BCF): 13,000

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

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

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

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN-Number: 1334 Class: 4.1 Packing group: III

Proper shipping name: Naphthalene, refined

Reportable Quantity (RQ): 100 lbs

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN-Number: 1334 Class: 4.1 Packing group: III EMS-No: F-A, S-G

Proper shipping name: NAPHTHALENE, REFINED

Marine pollutant: No

IATA

UN-Number: 1334 Class: 4.1 Packing group: III

Proper shipping name: Naphthalene, refined

15. REGULATORY INFORMATION**DSL Status**

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

WHMIS Classification

B4	Flammable solid	Flammable solid
D1A		Highly toxic by inhalation
D1B		Toxic by ingestion
D2A		Carcinogen
D2B		Moderate skin irritant

16. OTHER INFORMATION**Further information**

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