

# Naphthalene

sc-215533



The Power is Question

## Material Safety Data Sheet

Hazard Alert Code Key: **EXTREME** **HIGH** **MODERATE** **LOW**

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Naphthalene

### STATEMENT OF HAZARDOUS NATURE

CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

### NFPA



### SUPPLIER

Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800

### EMERGENCY

ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### SYNONYMS

C<sub>10</sub>H<sub>8</sub>, "tar camphor", naphthalin, mothballs, "moth flake balls", naphthene, "Mosom naphthalene flakes", "misspelling as naphthalene", "naphthalene, crude"

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability:	2	
Toxicity:	2	
Body Contact:	3	
Reactivity:	1	
Chronic:	2	

Min/Nil=0  
Low=1  
Moderate=2  
High=3  
Extreme=4



### CANADIAN WHMIS SYMBOLS



## EMERGENCY OVERVIEW

### RISK

Harmful if swallowed.

Limited evidence of a carcinogenic effect.

Flammable.

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

## POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

#### SWALLOWED

■ Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

■ Ingestion of naphthalene and its congeners may produce abdominal cramps with nausea, vomiting, diarrhoea, headache, profuse perspiration, listlessness, confusion, and in severe poisonings, coma with or without convulsions.

Irritation of the urinary bladder may also occur (presumably due to the excretory products of naphthalene metabolism) and produce urgency, dysuria, and the passage of brown or black urine with or without albumin or casts.

#### EYE

■ If applied to the eyes, this material causes severe eye damage.

#### SKIN

■ The material is not thought to be a skin irritant (as classified using animal models).

Abrasive damage however, may result from prolonged exposures.

■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

■ Open cuts, abraded or irritated skin should not be exposed to this material.

■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

#### INHALED

■ Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.

■ There is some evidence to suggest that the material can cause respiratory irritation in some persons.

The body's response to such irritation can cause further lung damage.

■ Inhalation hazard is increased at higher temperatures.

■ Inhalation of naphthalene vapour has been associated with headache, loss of appetite and nausea.

Other conditions associated with exposure to the vapour include optic neuritis, corneal injury and kidney damage.

■ Acute effects from inhalation of high vapor concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.

### CHRONIC HEALTH EFFECTS

■ There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

There is limited evidence that, skin contact with this product is more likely to cause a sensitization reaction in some persons compared to the general population.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung.

In a two-year inhalation study, groups of mice were exposed at 0, 10 or 30 ppm naphthalene, 6 hours/day, 5 days/week for 103 weeks. Female mice showed an increase of pulmonary alveolar/bronchiolar adenomas at 30 ppm. There was no increase in the incidence of tumours in male mice. Naphthalene inhalation was associated with an increase in the incidence and severity of chronic inflammation, metaplasia of the olfactory epithelium, and hyperplasia of the respiratory epithelium in the nose, and chronic inflammation of the lungs of both sexes.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
naphthalene	91-20-3	100

## Section 4 - FIRST AID MEASURES

#### SWALLOWED

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY. · Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

#### EYE

■ If this product comes in contact with the eyes: · Immediately hold eyelids apart and flush the eye continuously with running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

#### SKIN

■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available). In case of burns: · Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth. · DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury. · DO NOT break blister or remove solidified material. · Quickly cover wound with dressing or clean cloth to help prevent infection and

to ease pain. · For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth. · DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances. · Water may be given in small quantities if the person is conscious. · Alcohol is not to be given under any circumstances. · Reassure. · Treat for shock by keeping the person warm and in a lying position. · Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.

#### **INHALED**

· If fumes or combustion products are inhaled remove from contaminated area. · Lay patient down. Keep warm and rested. · If dust is inhaled, remove from contaminated area. · Encourage patient to blow nose to ensure clear breathing passages. · Ask patient to rinse mouth with water but to not drink water. · Seek immediate medical attention.

#### **NOTES TO PHYSICIAN**

■ for naphthalene intoxication: Naphthalene requires hepatic and microsomal activation prior to the production of toxic effects. Liver microsomes catalyze the initial synthesis of the reactive 1,2-epoxide intermediate which is subsequently oxidized to naphthalene dihydrodiol and alpha-naphthol.

### **Section 5 - FIRE FIGHTING MEASURES**

Vapor Pressure (mmHg):	0.098 @ 25 C
Upper Explosive Limit (%):	5.9
Specific Gravity (water=1):	1.145 @ 20 C
Lower Explosive Limit (%):	1

#### **EXTINGUISHING MEDIA**

· Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.

For SMALL FIRES:

Dry chemical, CO<sub>2</sub>, water spray or foam.

For LARGE FIRES:

Water-spray, fog or foam.

#### **FIRE FIGHTING**

· Alert Emergency Responders and tell them location and nature of hazard.

· Wear breathing apparatus plus protective gloves.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 1000 metres in all directions.

#### **GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS**

· Flammable solid which burns and propagates flame easily, even when partly wetted with water.

· Any source of ignition, i.e. friction, heat, sparks or flame, may cause fire or explosion.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.

NOTE: Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke.

CARE: Contamination of heated / molten liquid with water may cause violent steam explosion, with scattering of hot contents.

#### **FIRE INCOMPATIBILITY**

■ Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

#### **PERSONAL PROTECTION**

Glasses:

Safety Glasses.

Chemical goggles.

Gloves:

1.TEFLON

Respirator:

Type A-P Filter of sufficient capacity

### **Section 6 - ACCIDENTAL RELEASE MEASURES**

#### **MINOR SPILLS**

· Remove all ignition sources.

· DO NOT touch or walk through spilled material.

#### **MAJOR SPILLS**

· Clear area of personnel and move upwind.

· Alert Emergency Responders and tell them location and nature of hazard.

### **Section 7 - HANDLING AND STORAGE**

#### **PROCEDURE FOR HANDLING**

· Avoid all personal contact, including inhalation.

· Wear protective clothing when risk of overexposure occurs.

Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.

· Do NOT cut, drill, grind or weld such containers.

· In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

**RECOMMENDED STORAGE METHODS**

■ For low viscosity materials and solids: Drums and jerricans must be of the non-removable head type. Where a can is to be used as an inner package, the can must have a screwed enclosure.

**STORAGE REQUIREMENTS**

■ FOR MINOR QUANTITIES:

- Store in an indoor fireproof cabinet or in a room of noncombustible construction
- Provide adequate portable fire-extinguishers in or near the storage area.
- Molten naphthalene should be maintained at temperatures between 85 deg C. minimum, and 100 deg. maximum.
- Storages should be blanketed with inert gas to reduce fire hazard.
- Dedicated heated and vented tanks are required.
- Molten naphthalene must not be loaded into containers that contain hydrocarbons or moisture.

**Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**EXPOSURE CONTROLS**

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>	TWA F/CC	Notes
US - Minnesota Permissible Exposure Limits (PELs)	naphthalene (Naphthalene)	10	50	15	75				
US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)	naphthalene (NAPHTHALENE)	0.0007							
US NIOSH Recommended Exposure Limits (RELs)	naphthalene (Naphthalene)	10	50	15	75				
Canada - Alberta Occupational Exposure Limits	naphthalene (Naphthalene)	10	52	15	79				
Canada - British Columbia Occupational Exposure Limits	naphthalene (Naphthalene)	10		15					Skin; 2B
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	naphthalene (Naphthalene)	10	50	15	75				
US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants	naphthalene (Naphthalene)	10	50						
US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants	naphthalene (Naphthalene)	10	50	15	75				
US - California Permissible Exposure Limits for Chemical Contaminants	naphthalene (Naphthalene)	10	50	15	75				
US - Idaho - Limits for Air Contaminants	naphthalene (Naphthalene)	10	50						

US ACGIH Threshold Limit Values (TLV)	naphthalene (Naphthalene)	10		15		TLV Basis: hemotologic effects; upper respiratory tract & eye irritation; eye damage
US - Hawaii Air Contaminant Limits	naphthalene (Naphthalene)	10	50	15	75	
US - Alaska Limits for Air Contaminants	naphthalene (Naphthalene)	10	50	15	75	
US - Michigan Exposure Limits for Air Contaminants	naphthalene (Naphthalene)	10	50	15	75	
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	naphthalene (Naphthalene)	10	50	15	75	
US - Washington Permissible exposure limits of air contaminants	naphthalene (Naphthalene)	10		15		
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	naphthalene (Naphthalene)	10		15		Skin
US - Oregon Permissible Exposure Limits (Z-1)	naphthalene (Naphthalene)	10	50			
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	naphthalene (Naphthalene)	10	50			
Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)	naphthalene (Naphthalene)	10	52	15	79	
US OSHA Permissible Exposure Levels (PELs) - Table Z1	naphthalene (Naphthalene)	10	50			
Canada - Northwest Territories Occupational Exposure Limits (English)	naphthalene (Naphthalene)	10	52	15	79	
Canada - Nova Scotia Occupational Exposure Limits	naphthalene (Naphthalene)	10		15		TLV Basis: hemotologic effects; upper respiratory tract & eye irritation; eye damage

Canada - Prince  
Edward Island  
Occupational  
Exposure Limits

naphthalene  
(Naphthalene)

10

15

TLV Basis:  
hematologic  
effects; upper  
respiratory  
tract & eye  
irritation; eye  
damage

ENDOELTABLE

**PERSONAL PROTECTION**



**RESPIRATOR**

- type a-p filter of sufficient capacity.
- Consult your EHS staff for recommendations

**EYE**

- Safety glasses with side shields.
- Chemical goggles.

**HANDS/FEET**

■ NOTE: The material may produce skin sensitization in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.
- Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

- When handling hot materials wear heat resistant, elbow length gloves.
- Rubber gloves are not recommended when handling hot objects, materials.
- Protective gloves eg. Leather gloves or gloves with Leather facing.

Wear physical protective gloves, eg. leather.

**OTHER**

- When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.
- Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapor exposure. CAUTION: Vapors may be irritating.
- Overalls.
  - Eyewash unit.

**ENGINEERING CONTROLS**

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

**PHYSICAL PROPERTIES**

Solid.  
Does not mix with water.  
Sinks in water.

State	Divided solid	Molecular Weight	128.2 Pure
Melting Range (°F)	176	Viscosity	Not Applicable
Boiling Range (°F)	424	Solubility in water (g/L)	Immiscible
Flash Point (°F)	174	pH (1% solution)	Not applicable.
Decomposition Temp (°F)	Not available.	pH (as supplied)	Not applicable

Autoignition Temp (°F)	979	Vapor Pressure (mmHg)	0.098 @ 25 C
Upper Explosive Limit (%)	5.9	Specific Gravity (water=1)	1.145 @ 20 C
Lower Explosive Limit (%)	1	Relative Vapor Density (air=1)	4.4
Volatile Component (%vol)	100	Evaporation Rate	Extremely Slow
Gas group	IIA		

naphthalene			
	<b>log Kow (Prager 1995):</b>		3.01-3.59
	<b>log Kow (Sangster 1997):</b>		3.35

## APPEARANCE

Colourless, volatile, crystalline flakes or powder with mothball odour. Insoluble in water. Soluble in alcohol, ether, benzene, carbon tetrachloride

Limited data were located on transport and partitioning of methylnaphthalenes in the environment. The respective vapor pressures (0.054 and 0.068 mmHg), water solubilities (25.8 and 24.6 mg/L), and Henry's law constants ( $3.60 \times 10^{-4}$  and  $4.99 \times 10^{-4}$  atm-m<sup>3</sup>/mol) for 1-methylnaphthalene and 2-methylnaphthalene are of similar magnitude to these properties for naphthalene. Thus, it is likely that loss of methylnaphthalenes from ambient water occurs by volatilization. Based on the magnitude of log Kow for 1-methylnaphthalene and 2-methylnaphthalene (3.87 and 3.86, respectively) and the experimental log Koc for 2-methylnaphthalene (3.93), these chemicals may partition similarly to naphthalene in environmental media and are expected to be slightly mobile to immobile in soils. Log BCFs calculated for 2-methylnaphthalene range from 2 to 2.8 and measured log BCFs for 1-methylnaphthalene and 2-methylnaphthalene in oysters ranged from 2.7 to 4.1. Methylnaphthalenes are also metabolised and excreted rapidly by fish and shellfish when they are removed from polluted waters. log Kow 3.01-3.59

Material	Value
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## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.

### STORAGE INCOMPATIBILITY

- Avoid reaction with oxidizing agents.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

naphthalene

### TOXICITY AND IRRITATION

NAPHTHALENE:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (child) LDLo: 100 mg/kg	Skin (rabbit): 495 mg (open) - Mild
Unrep. (human) LDLo: 29 mg/kg	Eye (rabbit): 100 mg - Mild
Unrep. (man) LDLo: 74 mg/kg	
Oral (rat) LD50: 490 mg/kg	
Dermal (rat) LD50: >2500 mg/kg	

- The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

### CARCINOGEN

Naphthalene	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	2B
Naphthalene	US EPA Carcinogens Listing	Carcinogenicity	C
Naphthalene	US EPA Carcinogens Listing	Carcinogenicity	CBD
Naphthalene	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	C

Naphthalene	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	CBD
Naphthalene	US ACGIH Threshold Limit Values (TLV) - Carcinogens	Carcinogen Category	A4
naphthalene	US - Rhode Island Hazardous Substance List	IARC	
NAPHTHALENE	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
NAPHTHALENE	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
POLYCYCLIC ORGANIC MATTER (POM)	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	EPA-HEN, P65-MC
naphthalene	US - Maine Chemicals of High Concern List	Carcinogen	C
naphthalene	US - Maine Chemicals of High Concern List	Carcinogen	CBD
TWAPPM~	US - Maine Chemicals of High Concern List	Carcinogen	A4
PBIT_(PERS~	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; NTP 11th ROC
PBIT_(PERS~	US - Maine Chemicals of High Concern List	Carcinogen	

#### SKIN

naphthalene	US ACGIH Threshold Limit Values (TLV) - Skin	Skin Designation	Yes
naphthalene	US AIHA Workplace Environmental Exposure Levels (WEELs) - Skin	Notes	TLV Basis: hemotologic effects; upper respiratory tract & eye irritation; eye damage
naphthalene	Canada - British Columbia Occupational Exposure Limits - Skin	Notation	Skin; 2B
naphthalene	Canada - British Columbia Occupational Exposure Limits - Skin	Notation	Skin
naphthalene	Canada - Alberta Occupational Exposure Limits - Skin	Substance Interaction	1

### Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
This material and its container must be disposed of as hazardous waste.  
Avoid release to the environment.  
Refer to special instructions/ safety data sheets.

#### Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
naphthalene	LOW	LOW	LOW	MED

#### GESAMP/EHS COMPOSITE LIST - GESAMP Hazard Profiles

Name / EHS TRN A1a A1b A1 A2 B1 B2 C1 C2 C3 D1 D2 D3 E1 E2 E3 Cas No / RTECS No \_\_\_\_\_  
Naphthale 1 493 3 3 NR 4 1 1 0 (2) 1 1 C T S 3 ne / CAS:91- 20- 3 /

Legend: EHS=EHS Number (EHS=GESAMP Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships)  
NRT=Net Register Tonnage, A1a=Bioaccumulation log Pow, A1b=Bioaccumulation BCF, A1=Bioaccumulation, A2=Biodegradation,  
B1=Acuteaquatic toxicity LC/ECIC50 (mg/l), B2=Chronic aquatic toxicity NOEC (mg/l), C1=Acute mammalian oral toxicity LD50 (mg/kg),  
C2=Acute mammalian dermal toxicity LD50 (mg/kg), C3=Acute mammalian inhalation toxicity LC50 (mg/kg), D1=Skin irritation & corrosion,  
D2=Eye irritation & corrosion, D3=Long-term health effects, E1=Tainting, E2=Physical effects on wildlife & benthic habitats, E3=Interference  
with coastal amenities, For column A2: R=Readily biodegradable, NR=Not readily biodegradable. For column D3: C=Carcinogen,  
M=Mutagenic, R=Reprotoxic, S=Sensitising, A=Aspiration hazard, T=Target organ systemic toxicity, L=Lunginjury, N=Neurotoxic,  
I=Immunotoxic. For column E1: NT=Not tainting (tested), T=Tainting test positive. For column E2: Fp=Persistent floater, F=Floater, S=Sinking  
substances. The numerical scales start from 0 (no hazard), while higher numbers reflect increasing hazard. (GESAMP/EHS Composite List  
of Hazard Profiles - Hazard evaluation of substances transported by ships)

### Section 13 - DISPOSAL CONSIDERATIONS

## US EPA Waste Number & Descriptions

### A. General Product Information

Ignitability characteristic: use EPA hazardous waste number D001 (waste code I)

### B. Component Waste Numbers

When naphthalene is present as a solid waste as a discarded commercial chemical product, off-specification species, as a container residue, or a spill residue, use EPA waste number U165 (waste code T).

## Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

! Puncture containers to prevent re-use and bury at an authorized landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

DO NOT allow wash water from cleaning equipment to enter drains. Collect all wash water for treatment before disposal.

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult Waste Management Authority for disposal if no suitable treatment or disposal facility can be identified.

## Section 14 - TRANSPORTATION INFORMATION



DOT:

Symbols: None Hazard class or Division: 4.1

Identification Numbers: UN1334 PG: III

Label Codes: 4.1 Special provisions: A1, IB8,

IP3, T1,

TP33

Packaging: Exceptions: 151 Packaging: Non- bulk: 213

Packaging: Exceptions: 151 Quantity limitations: 25 kg

Passenger aircraft/rail:

Quantity Limitations: Cargo 100 kg Vessel stowage: Location: A  
aircraft only:

Vessel stowage: Other: None

Hazardous materials descriptions and proper shipping names:

Naphthalene, crude or Naphthalene, refined

### Air Transport IATA:

UN/ID Number: 1334 Packing Group: III

Special provisions: None

Cargo Only

Packing Instructions: 100 kg Maximum Qty/Pack: 449

Passenger and Cargo Passenger and Cargo

Packing Instructions: 25 kg Maximum Qty/Pack: 446

Passenger and Cargo Limited Quantity Passenger and Cargo Limited Quantity

Packing Instructions: 10 kg Maximum Qty/Pack: Y443

Shipping Name: NAPHTHALENE, CRUDE

### Maritime Transport IMDG:

IMDG Class: 4.1 IMDG Subrisk: None

UN Number: 1334 Packing Group: III

EMS Number: F-A , S-G Special provisions: 948

Limited Quantities: 5 kg Marine Pollutant: Yes

Shipping Name: NAPHTHALENE, CRUDE or NAPHTHALENE, REFINED

## Section 15 - REGULATORY INFORMATION

**naphthalene (CAS: 91-20-3) is found on the following regulatory lists;**

"Canada - Alberta Occupational Exposure Limits","Canada - British Columbia Occupational Exposure Limits","Canada - Northwest Territories Occupational Exposure Limits (English)","Canada - Nova Scotia Occupational Exposure Limits","Canada - Prince Edward Island

Occupational Exposure Limits", "Canada - Prince Edward Island Occupational Exposure Limits - Carcinogens", "Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English)", "Canada - Saskatchewan Industrial Hazardous Substances", "Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits", "Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances", "Canada Domestic Substances List (DSL)", "Canada Environmental Quality Guidelines (EQGs) Water: Aquatic life", "Canada Ingredient Disclosure List (SOR/88-64)", "Canada National Pollutant Release Inventory (NPRI)", "Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS (English)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Chemical Secretariat (ChemSec) REACH SIN\* List (\*Substitute It Now!) 1.1", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD Representative List of High Production Volume (HPV) Chemicals", "US - Alaska Limits for Air Contaminants", "US - California Air Toxics ""Hot Spots"" List (Assembly Bill 2588) Substances for which emissions must be quantified", "US - California Occupational Safety and Health Regulations (CAL/OSHA) - Hazardous Substances List", "US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs)", "US - California Permissible Exposure Limits for Chemical Contaminants", "US - California Proposition 65 - Carcinogens", "US - California Proposition 65 - No Significant Risk Levels (NSRLs) for Carcinogens", "US - California Toxic Air Contaminant List Category II", "US - Connecticut Hazardous Air Pollutants", "US - Hawaii Air Contaminant Limits", "US - Idaho - Limits for Air Contaminants", "US - Maine Chemicals of High Concern List", "US - Massachusetts Oil & Hazardous Material List", "US - Michigan Exposure Limits for Air Contaminants", "US - Minnesota Hazardous Substance List", "US - Minnesota Permissible Exposure Limits (PELs)", "US - New Jersey Right to Know Hazardous Substances", "US - Oregon Permissible Exposure Limits (Z-1)", "US - Pennsylvania - Hazardous Substance List", "US - Rhode Island Hazardous Substance List", "US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants", "US - Vermont Hazardous Constituents", "US - Vermont Hazardous wastes which are Discarded Commercial Chemical Products or Off-Specification Batches of Commercial Chemical Products or Spill Residues of Either", "US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants", "US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants", "US - Washington Dangerous waste constituents list", "US - Washington Discarded Chemical Products List - ""U"" Chemical Products", "US - Washington Permissible exposure limits of air contaminants", "US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants", "US ACGIH Threshold Limit Values (TLV)", "US ACGIH Threshold Limit Values (TLV) - Carcinogens", "US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)", "US CAA (Clean Air Act) - HON Rule - Organic HAPs (Hazardous Air Pollutants)", "US CERCLA Priority List of Hazardous Substances", "US Clean Air Act - Hazardous Air Pollutants", "US CWA (Clean Water Act) - List of Hazardous Substances", "US CWA (Clean Water Act) - Priority Pollutants", "US CWA (Clean Water Act) - Reportable Quantities of Designated Hazardous Substances", "US CWA (Clean Water Act) - Toxic Pollutants", "US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides", "US DOE Temporary Emergency Exposure Limits (TEELs)", "US EPA Carcinogens Listing", "US EPA High Production Volume Program Chemical List", "US EPA Master Testing List - Index I Chemicals Listed", "US EPA National Priorities List - Superfund Chemical Data Matrix (SCDM) - Hazard Ranking System - Hazardous Substance Benchmarks", "US EPCRA Section 313 Chemical List", "US List of Lists - Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112(r) of the Clean Air Act", "US National Toxicology Program (NTP) 11th Report Part B. Reasonably Anticipated to be a Human Carcinogen", "US NIOSH Recommended Exposure Limits (RELs)", "US OSHA Permissible Exposure Levels (PELs) - Table Z1", "US RCRA (Resource Conservation & Recovery Act) - Appendix IX to Part 264 Ground-Water Monitoring List 1", "US RCRA (Resource Conservation & Recovery Act) - Hazardous Constituents - Appendix VIII to 40 CFR 261", "US RCRA (Resource Conservation & Recovery Act) - List of Hazardous Inorganic and Organic Constituents 1", "US RCRA (Resource Conservation & Recovery Act) - List of Hazardous Wastes", "US RCRA (Resource Conservation & Recovery Act) - Phase 4 LDR Rule - Universal Treatment Standards", "US -Texas Air Monitoring Comparison Values for Evaluating PAHs", "US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory", "US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements", "US TSCA Section 4/12 (b) - Sunset Date/Status", "US TSCA Section 8 (a) - Preliminary Assessment Information Rules (PAIR) - Reporting List", "US TSCA Section 8 (d) - Health and Safety Data Reporting"

## Section 16 - OTHER INFORMATION

### LIMITED EVIDENCE

- Inhalation and/or skin contact may produce health damage\*.
- Cumulative effects may result following exposure\*.
- May produce discomfort of the respiratory system\*.
- Eye contact may produce serious damage\*.
- Possible skin sensitiser\*.

\* (limited evidence).

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- Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:  
[www.chemwatch.net/references](http://www.chemwatch.net/references).

- The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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