Material Safety Data Sheet
acc. to OSHA and ANSI

Printing date 07/14/2009 — Reviewed on 07/13/2009

1 Identification of substance:

Product details:

Product name: 2-Naphthol

Stock number:
A16054
100114

Manufacturer/Supplier:
Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Ward Road
Tel: +1(978) 521-6300
Emergency Phone: +1(800) 321-4300
CHEMTREC: (800) 424-9300
CANUTEC: (613) 996-6666

Information Department: Health, Safety and Environmental Department

Emergency information:
During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:
Description: (RAM)
2-Naphthol (RAM 130-19-3), 1204
CAS Number: 135-19-3
EINECS Number: 205-182-7
Index number: 604-007-00-8

3 Hazards identification

Hazard description:

Xn Harmful
N Dangerous for the environment

Information pertaining to particular dangers for man and environment
R 22 Harmful by ingestion. Harmful: May cause lung damage if swallowed.
R 50 Very toxic to aquatic organisms.
Classification system:
The data is based on the latest
Hazardous Material Identification System

HEALTH	2
FIRE	1
REACTIVITY	0

Health (acute effects) = 2
Flammability = 1
Reactivity = 0

GHS label elements

Warning

R:50 Very toxic to aquatic life.

Warning

S:2/4 Keep out of reach of children.
S:24 / Avoid contact with skin.
S:61 Avoid release to the environment.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Do not eat, drink, smoke when using this product.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Other hazards
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell;
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth.

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Collect spillage.
Avoid release to the environment.
Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures

After inhalation: If inspired, provide artificial respiration. Keep patient warm. Keep at rest. Immediately medical advice.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
Immediately medical advice.
After eye contact:
Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing: Immediately medical advice.

5 Fire fighting measures

Suitable extinguishing agents:
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
For safety reasons unsuitable extinguishing agents: Water jet
Special hazards caused by the material, its products of combustion or resulting gases:
Carbon monoxide and carbon dioxide
Protective equipment:
Wear self-contained respirator.
Wear fire protection / operation suit.

6 Accidental release measures

Person-related safety precautions:
Avoid formation of dust. Do not breathe vapors/dust/ gaseous/ mist.
Ensure adequate ventilation.
Measures for environmental protection:
Do not allow product to reach sewage system or the environment without proper governmental permits.
Measures for cleaning/collecting:
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Additional information: Dust formation.
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
Information for safe handling:
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires:
Keep away from ignition sources.
Keep ignition sources away.
Storage
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility:
Not required to be stored separately.
Store in the dark.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from sequence to light.

8 Exposure controls and personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with limit values that require monitoring at the workplace: Not required.

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Additional information: No data
Personal protective equipment
General protective and hygienic measures
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Breathing equipment: Use suitable respirator when high concentrations are present.
Protection of hands: Impervious gloves
Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties:

General Information

Form:	Flakes
Color:	Light brown
	Brown
Odor:	Phenol-like

Change in condition:

Melting point/Melting range:	120-124°C (248-255°F)
Boiling point/Boiling range:	295-297°C (565-567°F)
Sublimation temperature / start:	Sublimes when heated in air at normal pressure.

Flash point: 163°C (325°F)

Ignition temperature: 593°C (1102°F)

Decomposition temperature: Not determined

Danger of explosion: Product does not present an explosion hazard.

Density: 1.28 g/cm³

Bulk density: 48 g/m³
Vapor: Not determined

Vapor pressure at 147°C (297°F): 13.3 hPa (10 mm Hg)

Density at 20°C (68°F): 1.28 g/cm³

Solubility in / Miscibility with
in Water at 20°C (68°F): 0.76 g/l
Alcohol: Readily soluble
Organic solvents: Soluble in ether.
Soluble in chloroform.

pH-value (5.21 g/l) at 20°C (68°F): 5.77

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Conditions to be avoided:
Light
Oxidizing agents
Dangerous reactions No dangerous reactions known
Dangerous products of decomposition: Carbon monoxide and carbon dioxide

11 Toxicological information

Acute toxicity:
LD/LC50 values that are relevant for classification:

Oral	LD50	1320 mg/kg (guinea pig)
		1960 mg/kg (rat)
	LD$_{Lo}$	100 mg/kg (cat)
		500 mg/kg (mouse)
		1000 mg/kg (rabbit)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC_{50}/12	>770 mg/m³/12 (rat)

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Irritation of skin mild	500 mg/24H (rabbit)
Irritation of eyes moderate	100 mg (rabbit)

Primary irritant effect:
on the skin: Irritant to skin and mucous membrane.
on the eye: Irritant effect.
Sensitization: Sensitization possible through skin contact.
Other information (about experimental toxicology):
Mutagenic effects have been observed in tests with Bacteria.
Toxic for human blood and kidney.
Ingestion of substance may cause vertigo, vomiting, diarrhea, circulatory collapse, anemia, convulsions and death. It may be absorbed through the skin and kidney injury may result from ingestion. Irritant effect on mucous membrane and will injure the eyes on contact.
Additional toxicological information:
Danger through skin absorption.
Toxic: Risk of irreversible effects
The toxic properties of the material and the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

Ecotoxical effects:
Remark: Very toxic for fish
General notes:
Danger of reaching water in much ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Do not allow product to reach sewage system or to the environment without proper governmental permits.
Very toxic for aquatic organisms

13 Disposal considerations

Product:
Recommendation Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:

Hazard class: 9
Identification number: UN3077
PG: III
Proper shipping name (technical name): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Naphthol)
Label

Land transport ADR/RID (cross-border)

ADR/RID class: 9 (M7) Miscellaneous dangerous substances and articles
Danger code (Kemler): 90
UN-Number: 3077
Packaging group: III
Marine pollutant: Yes (P)
Symbol (fish and tree)
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Naphthol)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 9
UN/ID Number: 3077
Label 9
Packaging marking: Symbol (fish and tree)
Packaging group: III
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Naphthol)

IMO "Model Regulations": (UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III)
Environmental hazards: Environmentally hazardous substance, solid. Marine Pollutant

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Description of goods: 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Naphthol)

Maritime transport IMDG:

IMDG Class: 9
UN Number: 3077
Label 9
Packing group: III
Marine pollutant: Yes (P)
Symbol (fish and tree)
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Naphthol)

ICAO/IATA Class: 9
UN/ID Number: 3077
Label 9
Packaging marking: Symbol (fish and tree)
Packaging group: III
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Naphthol)

IMO "Model Regulations": (UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III)
Environmental hazards: Environmentally hazardous substance, solid. Marine Pollutant

15 Regulations

Product related hazard information:
Hazard symbols:
Xn Harmful
N Dangerous for the environment
Risk phrases:
20/22 Harmful by inhalation and if swallowed.
50 Very toxic to aquatic organisms.
Safety phrases:
24/25 Avoid contact with skin and eyes.
61 Avoid release to the environment. Refer to special instructions/Safety data sheets
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL)
Information about limitation of use: For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.
Contact person: Safety Department
Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par route (European Agreement concerning the international carriage of dangerous goods by road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the international carriage of dangerous goods by rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: Department of Transportation (USA)
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
ADNR: Accord européen sur le transport des marchandises dangereuses par voie de navigation intérieure (European Agreement concerning the international carriage of dangerous goods by inland waterways)
HMIS: Hazardous Materials Identification System (USA)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European INventory of Existing Commercial chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstract Service (division of the American Chemical Society)
LD/LC50: Lethal dose/lethal concentration 50 percent
LL/EL: Lethal concentration, or percent
NOEC: Lethal dose, or percent

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IMDG: International Maximum Dangerous Goods
DOT: Department of Transportation (USA)
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
ADNR: Accord européen sur le transport des marchandises dangereuses par voie de navigation intérieure (European Agreement concerning the international carriage of dangerous goods by inland waterways)
HMIS: Hazardous Materials Identification System (USA)
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