



SAFETY DATA SHEET

NAUGALUBE® PANA FLAKE

Version: 1.1

Revision Date: 01/23/2015

Print Date: 05/27/2015

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: NAUGALUBE® PANA FLAKE

Product Use Description: Chemical intermediate

Company: Chemtura Corporation
199 Benson Road
Middlebury, CT
06749
United States of America

Telephone: (US) +1 866-430-2775

Emergency telephone number: CHEMTREC: (24 hours) 800-424-9300
:
Chemtura Corporation Emergency Response: CHEMTURA : 800-292-5898

For additional emergency telephone numbers see section 16 of the Safety Data Sheet.

Prepared by Product Safety Department
(US) +1 866-430-2775

MSDSRequest@chemtura.com

Recommended use of the chemical and restrictions on use

Recommended use : Chemical intermediate

Restrictions on use : Reserved for industrial and professional use.

SECTION 2. HAZARDS IDENTIFICATION

Form	granular
Colour	light brown to violet
Odour	No data available

GHS Classification

Combustible dust :
Acute toxicity (Oral) : Category 4
Skin sensitisation : Category 1
Carcinogenicity : Category 2
Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Liver, Kidney)
Acute aquatic toxicity : Category 1
Chronic aquatic toxicity : Category 1

GHS Label element



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Signal word : **Warning**

Hazard pictograms :



Hazard statements : May form combustible dust concentrations in air.
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
H410 Very toxic to aquatic life with long lasting effects.

Other hazards : None

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P281 Use personal protective equipment as required.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity:

IARC

Group 3: Not classifiable as to its carcinogenicity to humans

N-2-naphthylaniline 135-88-6
aniline 62-53-3



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OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
N-1-naphthylaniline	90-30-2	$\geq 90 - \leq 100$ %
N-2-naphthylaniline	135-88-6	$\geq 0.1 - < 1$ %
aniline	62-53-3	$\geq 0.1 - < 1$ %

SECTION 4. FIRST AID MEASURES

- If inhaled : Move to fresh air.
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.
- Most important symptoms and effects, both acute and delayed : sensitising effects
- Protection of first-aiders : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
- Notes to physician : The first aid procedure should be established in consultation with the doctor responsible for industrial medicine.

SECTION 5. FIREFIGHTING MEASURES



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- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Ensure adequate ventilation.
- Environmental precautions : Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Avoid formation of respirable particles.
Avoid exceeding the given occupational exposure limits (see section 8).
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
- Materials to avoid : Strong oxidizing agents



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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
N-1-naphthylaniline	90-30-2	TWA	10 ml/m3	ACGIH
aniline	62-53-3	TWA	2 ppm	ACGIH
		TWA	2 ppm 8 mg/m3	OSHA P0
		TWA	5 ppm 19 mg/m3	OSHA Z-1

Biological occupational exposure limits

Component	CAS-No.	Control parameters	Sampling time	Sampling time	Permissible concentration	Basis
aniline	62-53-3	Aniline	Urine	End of shift		ACGIH - Biological Exposure Indices (BEI)
		Aniline	Released from hemoglobin in blood	End of shift		ACGIH - Biological Exposure Indices (BEI)
		p-Aminophenol	Urine	End of shift	50 mg/l	ACGIH - Biological Exposure Indices (BEI)

Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
Dust safety masks are recommended when the dust concentration is more than 10 mg/m3.

Hand protection : Polyvinyl alcohol or nitrile- butyl-rubber gloves
Remarks : The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Before removing gloves clean them with soap and water.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Dust impervious protective suit
Choose body protection according to the amount and



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concentration of the dangerous substance at the work place.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : granular
Color : light brown to violet
Odor : No data available
Odour Threshold : No data available
pH : Not applicable
Melting point/range : 55 °C

Boiling point/boiling range : Not applicable
Evaporation rate : No data available
Flash point : 214 °C

Upper explosion limit : No data available
Lower explosion limit : No data available
Vapour pressure : Not applicable
Relative vapour density : No data available
Relative density : No data available
Density : 1.23 g/cm³

Solubility(ies)

Water solubility : insoluble
Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available
Auto-ignition temperature : No data available
Thermal decomposition : No data available

Viscosity
Viscosity, kinematic : Not applicable



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SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if used as directed.
Conditions to avoid	: Contamination Dust
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition products	: No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (Product)	: LD50: 1,625 mg/kg Species: Rat
Acute inhalation toxicity (Product)	: Acute toxicity estimate: > 10 mg/l Exposure time: 4 h Method: Calculation method
Acute dermal toxicity (Product)	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Skin irritation (Product)	: Remarks: Not classified due to data which are conclusive although insufficient for classification.
Eye irritation (Product)	: Remarks: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
Sensitisation N-1-naphthylaniline (Component)	: Maximisation Test (GPMT) Species: Guinea pig Classification: May cause sensitisation by skin contact. Result: May cause sensitisation by skin contact. Patch Test Species: Human Classification: May cause sensitisation by skin contact. Result: May cause sensitisation by skin contact.



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Aspiration toxicity (Product) : No aspiration toxicity classification

Toxicology Assessment

CMR effects (Product) : Mutagenicity:
Not mutagenic in Ames Test.

Further information (Product) : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish
N-1-naphthylaniline (Component) : LC50: 0.44 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
semi-static test Analytical monitoring: yes

aniline (Component) : LC50: 134 mg/l
Exposure time: 96 h
Species: Pimephales promelas (fathead minnow)
LC50: 8.2 mg/l
Exposure time: 168 h
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates

N-1-naphthylaniline (Component) : EC50: 0.68 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
semi-static test Analytical monitoring: yes

aniline (Component) : LC50: 0.65 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)

Toxicity to bacteria
N-1-naphthylaniline : EC50: 2 mg/l



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(Component)

Exposure time: 48 h

Species: Protozoa

EC50: > 10,000 mg/l

Exposure time: 3 h

Species: Bacteria

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

N-1-naphthylaniline : NOEC: 0.02 mg/l

(Component)

Exposure time: 21 d

Species: Daphnia magna (Water flea)

Analytical monitoring: yes

Elimination information (persistence and degradability)

Bioaccumulation

N-1-naphthylaniline

(Component)

: Species: Cyprinus carpio (Carp)

Exposure time: 56 d

Temperature: 25 °C

Concentration: 0.1 mg/l

Bioconcentration factor (BCF): 427 - 2,730

Mobility (Product)

: Remarks:

No data available

Biodegradability

N-1-naphthylaniline

(Component)

: aerobic

Result: According to the results of tests of biodegradability this product is not readily biodegradable.

0 %

Method: OECD Test Guideline 301

Further information on ecology

Ecotoxicology Assessment

Results of PBT assessment (Product)

This substance is not considered to be persistent, bioaccumulating and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Additional ecological

information (Product)

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

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues

: The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Offer surplus and non-recyclable solutions to a licensed disposal company.



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Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT

UN number : 3077
Description of the goods : Environmentally hazardous substances, solid, n.o.s.
(Phenyl-alpha-naphthylamine)
Class : 9
Packing group : III
Environmentally hazardous : yes
Phenyl-alpha-naphthylamine

IATA

UN number : 3077
Description of the goods : Environmentally hazardous substance, solid, n.o.s.
(Phenyl-alpha-naphthylamine)
Class : 9
Packing group : III
Environmentally hazardous : no

IMDG

UN number : 3077
Description of the goods : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,
N.O.S.
(Phenyl-alpha-naphthylamine)
Class : 9
Packing group : III
EmS Number 1 : F-A
EmS Number 2 : S-F
Marine pollutant : yes
Phenyl-alpha-naphthylamine

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity



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Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
2-naphthylamine	91-59-8	10	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
aniline	62-53-3	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:
aniline 62-53-3 0.2499

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65 WARNING! This product contains a chemical known to the State of California to cause cancer.

aniline 62-53-3
1-naphthylamine 134-32-7
2-naphthylamine 91-59-8

The components of this product are reported in the following inventories:

US.TSCA On TSCA Inventory
DSL All components of this product are on the Canadian DSL.
AICS On the inventory, or in compliance with the inventory
NZIoC On the inventory, or in compliance with the inventory
ENCS On the inventory, or in compliance with the inventory
KECI On the inventory, or in compliance with the inventory
PICCS On the inventory, or in compliance with the inventory
IECSC On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

Other Emergency Phone Number

<u>Latin America:</u>	Brazil	+55 113 711 9144
	All other countries	+44 (0) 1235 239 670
<u>Mexico:</u>		+52 555 004 8763



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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.