

Chemical Safety Data Sheet MSDS / SDS

N-Phenyl-1-naphthylamine

Revision Date:2025-09-27 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product identifier**

Product name : N-Phenyl-1-naphthylamine
CBnumber : CB4322681
CAS : 90-30-2
EINECS Number : 201-983-0
Synonyms : N-Phenyl-1-naphthylamine,PANA

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification**GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Warning

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P321 Specific treatment (see ... on this label).
P333+P313 IF SKIN irritation or rash occurs: Get medical advice/attention.
P501 Dispose of contents/container to.....

Hazard statements

H302 Harmful if swallowed
H317 May cause an allergic skin reaction
H373 May cause damage to organs through prolonged or repeated exposure

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

SECTION 3: Composition/information on ingredients

Substance

Product name	: N-Phenyl-1-naphthylamine
Synonyms	: N-Phenyl-1-naphthylamine,PANA
CAS	: 90-30-2
EC number	: 201-983-0
MF	: C16H13N
MW	: 219.28

SECTION 4: First aid measures

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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

Flush eyes with water as a precaution.

If swallowed

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

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx) Combustible.

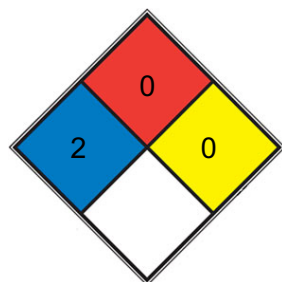
Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available

NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

SPEC.
HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

For personal protection see section 8.

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. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

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

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

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

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	dark red crystalline
Odour	pungent
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: 60 - 62 °C - lit.
Initial boiling point and boiling range	226 °C at 20 hPa - lit.
Flash point	>200°C
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	< 0,1 hPa at 20 °C
Vapour density	No data available
Relative density	1,16 g/cm ³ at 20 °C
Water solubility	2,76 g/l at 17 °C
Partition coefficient: n-octanol/water	log Pow: 4,28 - Potential bioaccumulation
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

Other safety information

Dissociation constant 4,93 at 25 °C

SECTION 10: Stability and reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

No data available

Incompatible materials

Strong oxidizing agents, Strong acids

Hazardous decomposition products

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

Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 1.625 mg/kg Remarks: (ECHA)

LD50 Dermal - Rabbit - male - > 5.000 mg/kg Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation (OECD Test Guideline 405)

Respiratory or skin sensitisation

(OECD Test Guideline 406)

Sensitisation test (Magnusson and Kligman): Result: positive

Remarks: (External MSDS)

Germ cell mutagenicity

In vitro mammalian cell gene mutation test mouse lymphoma cells

Result: negative

Chromosome aberration test in vitro Chinese hamster ovary cells

Result: negative Ames test

S. typhimurium Result: negative

OECD Test Guideline 478 Mouse - male - Embryo

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure. - Blood

Aspiration hazard

No data available

Additional Information

Repeated dose toxicity - Rat - male - Oral - 90 Days - No observed adverse effect level - 5 mg/kg - Lowest observed adverse effect level - 25 mg/kg

RTECS: QM4500000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Nausea, Dizziness, Headache

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

The following applies to aromatic amines in general: systemic effect: methaemoglobinaemia with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea, and spasms, principal symptom: cyanosis (blue discolouration of the blood). Under given conditions, contact with nitrites or nitric acid can lead to the formation of nitrosamines, which have shown themselves to be carcinogenic in animal experiments. Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Toxicity

LD50 orally in Rabbit: > 2000 mg/kg

SECTION 12: Ecological information

Toxicity

Toxicity to fish

semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 0,44 mg/l - 96 h
(US-EPA)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - *Daphnia magna* (Water flea) - 0,3 mg/l - 48 h (US-EPA)

Toxicity to algae

static test ErC50 - *Pseudokirchneriella subcapitata* - 0,93 mg/l - 96 h Remarks: (ECHA)

Toxicity to bacteria

static test EC50 - activated sludge - > 10.000 mg/l - 3 h (OECD Test Guideline 209)

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301C)

Bioaccumulative potential

Bioaccumulation *Cyprinus carpio* (Carp) - 56 d
(1-(Phenylamino)naphthalene)

Bioconcentration factor (BCF): 427 - 2.730 (OECD Test Guideline 305C)

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

Very toxic to aquatic life with long lasting effects. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

UN number

ADR/RID: 3077 IMDG: 3077 IATA: 3077

UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1-(Phenylamino)naphthalene)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1-(Phenylamino)naphthalene)

IATA: Environmentally hazardous substance, solid, n.o.s. (Phenylamino)naphthalene (1-

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9

IATA: 9

Packaging group

14.4

ADR/RID: III IMDG: III

IATA: III

Environmental hazards

14.5

ADR/RID: yes IMDG Marine pollutant: yes

IATA: yes

14.6 Special precautions for user

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

EC Inventory:Listed.

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

SECTION 16: Other information

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

ATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

References

【1】CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

【5】ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

Other Information

Depending on the degree of exposure, periodic medical examination is indicated. Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.