

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 1-naphthylamine

### 1.2 Other means of identification

**Product number** -  
**Other names** 1-Naftylamine; Naphthalidine; 1-amino-naphthalene

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Warning  
**Hazard statement(s)** H302 Harmful if swallowed  
H411 Toxic to aquatic life with long lasting effects  
**Precautionary statement(s)**  
**Prevention** P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

<b>Response</b>	P273 Avoid release to the environment. P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P391 Collect spillage.
<b>Storage</b>	none
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1-naphthylamine	1-naphthylamine	134-32-7	205-138-7	100%

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## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

#### If inhaled

Fresh air, rest. Refer for medical attention.

#### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Refer for medical attention .

### 4.2 Most important symptoms/effects, acute and delayed

Inhalation may cause cyanosis (blue color in lips and under finger nails). Contact with liquid causes local irritation of eyes. Neither ingestion nor contact with skin produces any recognized immediate effects. (USCG, 1999)

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilation if necessary. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . Anticipate seizures and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 mg/kg up to 200 mL of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool. Administer activated charcoal . Cover skin burns with dry sterile dressings after decontamination . /Organic bases/Amines and related compounds/

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## SECTION 5: Fire-fighting measures

### 5.1 Suitable extinguishing media

Powder, alcohol-resistant foam, water spray, carbon dioxide.

### 5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic nitrogen oxides are produced in a fire. (USCG, 1999)

### 5.3 Special protective actions for fire-fighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. Carefully collect remainder. Then store and dispose of according to local regulations.

### 6.2 Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Sweep spilled substance into covered containers. Carefully collect remainder. Then store and dispose of according to local regulations.

### 6.3 Methods and materials for containment and cleaning up

Environmental considerations: Water spill: Use natural barriers or oil spill control booms to limit spill travel. Use natural deep water pockets, excavated lagoons, or sand bag barriers to trap material at bottom. Remove trapped material with suction hoses.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### 7.2 Conditions for safe storage, including any incompatibilities

Dry. Keep in the dark. Well closed. Keep well closed and protected from light.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure limit values

<b>Component</b>	1-naphthylamine			
<b>CAS No.</b>	134-32-7			
	<b>Limit value - Eight hours</b>		<b>Limit value - Short term</b>	
	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>
<b>Austria</b>	0,17	1 inhalable aerosol	0,68	4 inhalable aerosol
<b>Germany (AGS)</b>	0,17 (1)	1 (1)	0,68 (1)(2)	4 (1)(2)
<b>South Korea</b>		0,006		
	<b>Remarks</b>			
<b>Austria</b>	TRK value (based on technical feasibility)			
<b>Germany (AGS)</b>	(1) Inhalable aerosol and vapour (2) 15 minutes reference period			

#### Biological limit values

no data available

### 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear safety spectacles or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves. Protective clothing.

#### Respiratory protection

Use local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Alpha-naphthylamine is a crystalline solid or a solid dissolved in a liquid. Insoluble in water and denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.
<b>Colour</b>	Needles from ethanol (aq) or ether
<b>Odour</b>	Ammonia-like odor.
<b>Melting point/freezing point</b>	50 °C
<b>Boiling point or initial boiling point and boiling range</b>	300.8 °C
<b>Flammability</b>	Combustible Solid
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	157 °C
<b>Auto-ignition temperature</b>	905° F (NTP, 1992)
<b>Decomposition temperature</b>	no data available
<b>pH</b>	Weak base
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Insoluble in water
<b>Partition coefficient n-octanol/water</b>	log Kow = 2.25
<b>Vapour pressure</b>	0.00108mmHg at 25°C
<b>Density and/or relative density</b>	1.12
<b>Relative vapour density</b>	4.93 (NTP, 1992) (Relative to Air)
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

NIOSH considers alpha-naphthylamine to be a potential occupational carcinogen. Decomposes on burning. This produces nitrogen oxides and carbon monoxide. The substance is a weak base.

### 10.2 Chemical stability

Oxidizes in air

### 10.3 Possibility of hazardous reactions

ALPHA-NAPHTHYLAMINE is incompatible with oxidizing agents. It is also incompatible with nitrous acid. It reduces warm ammoniacal silver nitrate. (NTP, 1992).

#### **10.4 Conditions to avoid**

no data available

#### **10.5 Incompatible materials**

Oxidizes in air.

#### **10.6 Hazardous decomposition products**

The substance decomposes on burning producing nitrogen oxides and carbon monoxide.

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### **SECTION 11: Toxicological information**

#### **Acute toxicity**

- Oral: LD50 Rat oral 680 mg/kg bw
- Inhalation: LC50 Rat inhalation >0.056 mg/L/4 hr
- Dermal: no data available

#### **Skin corrosion/irritation**

no data available

#### **Serious eye damage/irritation**

no data available

#### **Respiratory or skin sensitization**

no data available

#### **Germ cell mutagenicity**

no data available

#### **Carcinogenicity**

Inadequate evidence of carcinogenicity in humans. Inadequate evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 3: The agent is not classifiable as to its carcinogenicity to humans.

#### **Reproductive toxicity**

no data available

#### **STOT-single exposure**

The substance is mildly irritating to the eyes and skin. The substance may cause effects on the blood. This may result in the formation of methaemoglobin. The effects may be delayed. Medical observation is indicated. See Notes.

#### **STOT-repeated exposure**

See Notes.

#### **Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

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### **SECTION 12: Ecological information**

#### **12.1 Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

## 12.2 Persistence and degradability

AEROBIC: Using activated sludge from both domestic and industrial sources and the Warburg technique, 1-naphthylamine depletion after 6 hrs at 25 deg C was measured to be 80-84% from an initial concn of 20 ppm(1). 1-Naphthylamine, at a concn of 500 ppm, was extensively oxidized by an aniline-acclimated activated sludge after 19 hrs in a Warburg respirometer(2). Over a 20-day period, no biodegradation of 200 ppm 1-naphthylamine as a sole carbon source was observed in a batch system containing an adapted activated sludge(3). 1-Naphthylamine at 500 ppm was found to inhibit oxygen uptake in a Warburg respirometer containing a municipal activated sludge(4). At 1000 ppm, 1-naphthylamine was toxic to an activated sludge(5). 1-Naphthylamine degradation in six different soils after 308 days of incubation at 23 deg C varied from 16.6-30.7% as measured by radio-labelled carbon dioxide evolution(6). Comparison of carbon dioxide evolution in sterilized (via gamma radiation) versus unsterilized soil suggested that the degradation was predominantly microbial in nature(6). Approximately 16, 28 and 33% of added 1-naphthylamine degraded in Russell soil at temperatures of 12, 23 and 30 deg C, respectively, indicating the effect of temperature on microbial degradation(6).

## 12.3 Bioaccumulative potential

An estimated BCF of 11 was calculated for 1-naphthylamine(SRC), using a log Kow of 2.25(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC), provided the compound is not altered physically or chemically once released into the environment.

## 12.4 Mobility in soil

Using a batch equilibrium technique, 1-naphthylamine Koc values of 2,688 and 3,173 were determined for two sandy-silt soils and a Koc value of 3,777 was determined for a silty-clay soil(1). According to a classification scheme(2), this estimated Koc value suggests that 1-naphthylamine is expected to have low mobility in soil. Results of a batch equilibrium study with various soils indicated that 1-naphthylamine binds to soil in two phases with an initial rapid and reversible equilibrium established between the amine and the inorganic and organic components of soil followed subsequently by a strong association with the humic fraction of soil via covalent binding(3,4). In laboratory study, 1-naphthylamine was found to have a relatively moderate tendency to adsorb to lignite coal in subsurface areas where it may be present as a contaminant from coal-gasification plants(5).

## 12.5 Other adverse effects

no data available

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# SECTION 13: Disposal considerations

## 13.1 Disposal methods

### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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# SECTION 14: Transport information

## 14.1 UN Number

ADR/RID: UN2077 (For reference only, please check.)

IMDG: UN2077 (For reference only, please check.)

IATA: UN2077 (For reference only, please check.)

## 14.2 UN Proper Shipping Name

ADR/RID: alpha-NAPHTHYLAMINE (For reference only, please check.)      IMDG: alpha-NAPHTHYLAMINE (For reference only, please check.)      IATA: alpha-NAPHTHYLAMINE (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 6.1 (For reference only, please check.)      IMDG: 6.1 (For reference only, please check.)      IATA: 6.1 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: III (For reference only, please check.)      IMDG: III (For reference only, please check.)      IATA: III (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: Yes      IMDG: Yes      IATA: Yes

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
1-naphthylamine	1-naphthylamine	134-32-7	205-138-7
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

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## SECTION 16: Other information

#### Information on revision

Creation Date      July 15, 2019  
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#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

## 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. Bladder cancers reported after occupational exposure to 1-naphthylamine may be due to contamination with 2-naphthylamine which is a human carcinogen.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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