SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.1
Creation Date: July 15, 2019
Revision Date: August 17, 2023

SECTION 1: Identification

1.1 GHS Product identifier

Product name 1,2,3,4-Tetrahydronaphthalene

1.2 Other means of identification

Product number 119-64-2
Other names 1,2,3,4-tetrahydro-1-naphthol; 1,2,3,4-tetrahydro-naphthalene; Naphthalene, 1,2,3,4-tetrahydro-

1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.
Uses advised against no data available

1.4 Supplier's details

Company Zhongshan Greenrock Technology Co., Ltd.
Address Jinsan Avenue, Sanjiao Town, Zhongshan City, Guangdong Province, China
Telephone +86-2087066781

1.5 Emergency phone number

Emergency phone number +86-2087066781
Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Skin irritation, Category 2
Eye irritation, Category 2
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) H315 Causes skin irritation
H319 Causes serious eye irritation
H411 Toxic to aquatic life with long lasting effects
Precautionary statement(s)
Prevention P264 Wash ... thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P273 Avoid release to the environment.
Response P302+P352 IF ON SKIN: Wash with plenty of water/...
P321 Specific treatment (see ... on this label).
P332+P317 If skin irritation occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391 Collect spillage.
Storage none
Disposal 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

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
1,2,3,4-Tetrahydronaphthalene	1,2,3,4-tetrahydronaphthalene	119-64-2	204-340-2	100%

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

Rinse skin with plenty of water or shower. Remove contaminated clothes.

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

Do NOT induce vomiting. Give one or two glasses of water to drink. Refer for medical attention .

4.2 Most important symptoms/effects, acute and delayed

Liquid may cause nervous disturbance, green coloration of urine, and skin and eye irritation (USCG, 1999)

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

Absorption, Distribution and Excretion

Absorbed vapor is excreted by kidneys as alpha- and beta-tetrahydronaphthols andtheir glucuronides .

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water may be ineffective on fire. cool exposed containers with water.

5.2 Specific hazards arising from the chemical

Excerpt from ERG Guide 128 [Flammable Liquids (Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For hybrid vehicles, ERG Guide 147 (lithium ion batteries) or ERG Guide 138 (sodium batteries) should also be consulted. If molten aluminum is involved, refer to ERG Guide 169. (ERG, 2016)

5.3 Special protective actions for fire-fighters

Use water spray, powder, foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit. Do NOT let this chemical enter the environment. Ventilation. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.2 Environmental precautions

Personal protection: chemical protection suit. Do NOT let this chemical enter the environment. Ventilation. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

NO contact with oxidizing agents. NO open flames. Above 77°C use a closed system and ventilation. Prevent build-up of electrostatic charges (e.g., by grounding). 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

Separated from strong oxidants. Keep in a well-ventilated room. Well closed.IN GENERAL MATERIALS ... TOXIC AS STORED OR WHICH CAN DECOMP INTO TOXIC COMPONENTS ... SHOULD BE STORED IN COOL ... VENTILATED PLACE, OUT OF ... SUN, AWAY FROM ... FIRE HAZARD ... BE PERIODICALLY INSPECTED & MONITORED. INCOMPATIBLE MATERIALS SHOULD BE ISOLATED.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

MAK: 11 mg/m3, 2 ppm; peak limitation category: I(1); pregnancy risk group: C

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.

Skin protection

Protective gloves.

Respiratory protection

Use ventilation, local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid.
Colour	Clear.
Odour	ODOR RESEMBLING MIXTURE OF BENZENE & MENTHOL
Melting point/freezing point	-35.8 °C. Atm. press.:Ca. 1 013 hPa.
Boiling point or initial boiling point and boiling range	207.57 °C. Atm. press.:1 013.25 hPa. Remarks:207.57 ± 0.10 °C.
Flammability	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit	UPPER FLAMMABLE LIMIT: 5.0% BY VOL @ 302 DEG F; LOWER FLAMMABLE LIMIT 0.8% BY VOL @ 212 DEG F
Flash point	77 °C. Atm. press.:Ca. 1 013 hPa.
Auto-ignition temperature	385 °C. Atm. press.:Ca. 1 013 hPa. Remarks:Pressure not stated. Atmospheric pressure can be assumed.
Decomposition temperature	no data available
pH	ACIDITY NEUTRAL
Kinematic viscosity	dynamic viscosity (in mPa s) = 2.2. Temperature:20°C.
Solubility	MISCIBLE WITH ETHANOL, BUTANOL, ACETONE, BENZENE, PETROLEUM ETHER, CHLOROFORM, &PETROLEUM ETHER, DECALIN; SOL IN METHANOL: 50.6% WT/WT; INSOL IN WATER.
Partition coefficient n-octanol/water	log Pow = 3.78. Temperature:23 °C. Remarks:PH not stated (not relevant due to absence of acidic or basic functions).
Vapour pressure	0.34 hPa. Temperature:20 °C.
Density and/or relative density	970.2 kg/m³. Temperature:20 °C.;970.2 kg/m³. Temperature:20 °C.;966.2 kg/m³. Temperature:25 °C.
Relative vapour density	4.55 (vs air)
Particle characteristics	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

The substance can form explosive peroxides. Decomposes on heating. This produces irritating fumes. Reacts vigorously with oxidants.

10.2 Chemical stability

Prolonged, intimate contact with air may cause the formation of tetralin peroxide; volatile with steam

10.3 Possibility of hazardous reactions

MODERATE, WHEN EXPOSED TO HEAT OR FLAME; CAN REACT WITH OXIDIZING MATERIALS. SPONTANEOUS HEATING: NO.As a result of flow, agitation, etc., electrostatic charges can be generated.TETRAHYDRONAPHTHALENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154].

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Prolonged, close contact with air may cause an explosion.

10.6 Hazardous decomposition products

Under ... pyrolysis at 700 deg c, tetralin ... yields tars that contain appreciable quantities of 3,4-benzopyrene.

SECTION 11: Toxicological information

Acute toxicity

- Oral: LD50 - rat (male) - ca. 2 860 mg/kg bw.
- Inhalation: LC50 - rat (male) - > 1.8 mg/L air.
- Dermal: LD50 - rabbit (male) - ca. 16 800 mg/kg bw.

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

no data available

Reproductive toxicity

no data available

STOT-single exposure

The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system. If this liquid is swallowed, aspiration into the lungs may result in chemical pneumonitis.

STOT-repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the kidneys.

Aspiration hazard

A harmful contamination of the air will not or will only very slowly be reached on evaporation of this substance at 20°C; on spraying or dispersing, however, much faster.

SECTION 12: Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - 3.2 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 9.5 mg/L - 48 h.
- Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - 7 mg/L - 72 h.
- Toxicity to microorganisms: EC10 - Pseudomonas putida - 16 mg/L - 5 h.

12.2 Persistence and degradability

Degradation in sea water by oil oxidizing microorganisms: 31% breakdown after 21 days at 22 deg c in stoppered bottles containing a 1000 ppm mixtures of alkanes, cycloalkanes, and aromatics.

12.3 Bioaccumulative potential

A measured BCF in fish was reported to be about 200(1); this experimental BCF suggests that bioconcentration in aquatic organisms will be important environmentally(SRC).

12.4 Mobility in soil

A Koc for tetralin of about 1,800 can be estimated using a structure activity relationship(1). Based on a suggested classification scheme(2),

this Koc value suggests that tetralin has low mobility in soil.

12.5 Other adverse effects

no data available

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.

SECTION 14: Transport information

14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (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

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
1,2,3,4-tetrahydronaphthalene	1,2,3,4-tetrahydronaphthalene	119-64-2	204-340-2
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			Not 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.

SECTION 16: Other information

Information on revision

Creation Date	July 15, 2019
Revision Date	August 17, 2023

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
- 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

Check for peroxides prior to distillation; eliminate if found.

Any questions regarding this SDS, Please send your inquiry to export@greenrockchem.com

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