

# SAFETY DATA SHEETS

According to the UN GHS revision 8

Version: 1.0

Creation Date: July 15, 2024

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## 1. Identification

### 1.1 GHS Product identifier

Product name Nonanal

### 1.2 Other means of identification

Product number N70016

Other names

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

Identified uses Fragrances  
Uses advised against no data available

### 1.4 Supplier's details

Company Tianjin Psaitong Biomedical Technology Co., Ltd  
Beijing Psaitong Biotechnology Co., Ltd  
Address Building 145, Yougu New Science Park, Qingguang Town, Beichen District, Tianjin City  
Tel/Fax +86-10-60605840

### 1.5 Emergency phone number

Emergency phone number +86-10-60605840  
Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## 2. Hazard identification

### 2.1 Classification of the substance or mixture

Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3

### 2.2 GHS label elements, including precautionary statements

Pictogram(s) No symbol.  
Signal word No signal word  
Hazard statement(s) H412 Harmful to aquatic life with long lasting effects  
Precautionary statement(s)  
Prevention P273 Avoid release to the environment.  
Response none  
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

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### 3. Composition/information on ingredients

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Nonanal	Nonanal	124-19-6	204-688-5	100%

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### 4. First-aid measures

#### 4.1 Description of necessary first-aid measures

##### General advice

Medical attention is required. Consult a doctor. Show this safety data sheet (SDS) to the doctor in attendance.

##### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

##### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

##### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

##### Following ingestion

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

SYMPTOMS: This compound will cause skin and eye irritation; it is a strong irritant. ACUTE/CHRONIC HAZARDS: Local irritant. (NTP, 1992)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Aldehydes and Related Compounds

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### 5. Fire-fighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use water spray to cool unopened containers.

#### 5.2 Specific hazards arising from the chemical

This compound is combustible. (NTP, 1992)

#### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

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### 6. Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

## 6.2 Environmental precautions

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

## 6.3 Methods and materials for containment and cleaning up

ACCIDENTAL RELEASE MEASURES. Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.; Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains.; Methods and materials for containment and cleaning up: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.

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## 7. Handling and storage

### 7.1 Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure 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 tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

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## 9. Physical and chemical properties

#### Physical state

PHYSICAL DESCRIPTION: Clear brown liquid characterized by a rose-orange odor. Insoluble in water. Found in at least 20 essential oils, including rose and citrus oils and several species of pine oil.

#### Colour

Colorless liquid

#### Odour

Orange-rose odor

#### Melting point/ freezing point

240°C(lit.)

#### Boiling point or initial boiling point and boiling range

192°C(lit.)

<b>Flammability</b>	no data available
<b>Lower and upper explosion limit / flammability limit</b>	no data available
<b>Flash point</b>	71°C(lit.)
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	Insoluble (<1mg/ml) (NTP, 1992)
<b>Partition coefficient n-octanol/water</b>	log Kow = 3.27 (est)
<b>Vapour pressure</b>	~0.26 mm Hg ( 25 °C)
<b>Density and/or relative density</b>	0.827
<b>Relative vapour density</b>	no data available
<b>Particle characteristics</b>	no data available

## 10. Stability and reactivity

### 10.1 Reactivity

Sensitive to air. Insoluble in water.

### 10.2 Chemical stability

Chemical stability: Stable under recommended storage conditions. Contains the following stabiliser(s): alpha-Tocopherol (>=0 - <=0.1 %)

### 10.3 Possibility of hazardous reactions

Combustible liquid. NONANAL is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxy acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. Polymerizes readily with sulfuric acid and oxidized to nonanoic acid. (NTP, 1992)

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Incompatible materials: Strong oxidizing agents, Strong reducing agents, Strong bases

### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke, and irritating fumes

## 11. Toxicological information

### Acute toxicity

- Oral: LD50 Rat oral >5,000 mL/kg bw from table
- Inhalation: LC50 Rat inhalation >0.46 mg/L but <3.8 mg/L/4 hr Nonanoic acid, 97%
- 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**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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## 12. Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50; Species: Pimephales promelas (Fathead minnow) age 26-34 day juvenile; Conditions: continuous flow-through system; Concentration: 5.52 mg/L for 96 hr
- 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: Nonanal, present at 100 mg/L, reached 32% of its theoretical BOD after 28 days using an activated sludge inoculum 100 mg/L at 22 deg C(1). At 30 mg/L, nonanal reached 84% of its theoretical BOD after 28 days at 25 deg C (OECD Guideline No. 302C. Inherent OECD Test)(1). The first set of results indicate that nonanal, when present at 100 mg/L at 22 deg C, is not expected to biodegrade rapidly. However, when nonanal is present at a concentration of 30 mg/L at 25 deg C, the compound is expected to biodegrade rapidly. In Warburg respirometer tests using activated sludge from 3 treatment plants (2500 mg/L sludge solids), 500 mg/L test compound, and incubated 24 hr at 20 deg C, nonanal exhibited 8.4, 13.5, and 21.1 percent theoretical BODs after 6, 12, and 24 hours respectively(2). Nonanal, present at 100 mg/L, reached 44% of its theoretical BOD in 4 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test(3).

### 12.3 Bioaccumulative potential

An estimated BCF of 67 was calculated in fish for nonanal(SRC), using an estimated log Kow of 3.27(1) and a regression-derived equation(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is moderate(SRC).

### 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of nonanal can be estimated to be 40(SRC). According to a classification scheme(2), this estimated Koc value suggests that nonanal is expected to have very high mobility in soil.

### 12.5 Other adverse effects

no data available

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## 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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## 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: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

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## 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
Nonanal	Nonanal	124-19-6	204-688-5
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.

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## 16. Other information

### Information on revision

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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/>

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