# SAFETY DATA SHEETS

**According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition**

Version: 1.0
Creation Date: Aug 14, 2017
Revision Date: Aug 14, 2017

## 1.Identification

### 1.1 GHS Product identifier

**Product name** PUTRESCINE DIHYDROCHLORIDE, [2,3-3H(N)]

### 1.2 Other means of identification

**Product number** -
**Other names** PUTRESCINE [2,3-3H(N)] DIHYDROCHLORIDE

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

**Identified uses** For industry use only.
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Echemi.com
**Address** Echemi.com
**Telephone** Echemi.com
**Fax** Echemi.com

### 1.5 Emergency phone number

**Emergency phone number** Echemi.com
**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

no data available

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)** no data available
**Signal word** no data available
**Hazard statement(s)** no data available
**Precautionary statement(s)**
**Prevention** no data available
**Response** no data available
**Storage** no data available
**Disposal** no data available

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

no data available

## 3.Composition/information on ingredients

### 3.1 Substances

| Chemical name | Common names and synonyms | CAS number | EC number | Concentration |
|---|---|---|---|---|
| PUTRESCINE DIHYDROCHLORIDE, [2,3-3H(N)] | PUTRESCINE DIHYDROCHLORIDE, [2,3-3H(N)] | 92915-83-8 | none | 100% |

## 4.First-aid measures

### 4.1 Description of necessary 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**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

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

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

no data available

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

no data available

## 5.Fire-fighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

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

### 5.2 Specific hazards arising from the chemical

no data available

### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## 6.Accidental release measures

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2 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.

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

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

## 7.Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

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

## 8.Exposure controls/personal protection

### 8.1 Control parameters

**Occupational Exposure limit values**

no data available

**Biological limit values**

no data available

### 8.2 Appropriate engineering controls

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

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

**Eye/face protection**

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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 EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Respiratory protection**

Wear dust mask when handling large quantities.

**Thermal hazards**

no data available

## 9.Physical and chemical properties

| | |
|---|---|
| **Physical state** | no data available |
| **Colour** | no data available |
| **Odour** | no data available |
| **Melting point/ freezing point** | no data available |
| **Boiling point or initial boiling point and boiling range** | no data available |
| **Flammability** | no data available |
| **Lower and upper explosion limit / flammability limit** | no data available |
| **Flash point** | no data available |
| **Auto-ignition temperature** | no data available |
| **Decomposition temperature** | no data available |
| **pH** | no data available |
| **Kinematic viscosity** | no data available |
| **Solubility** | no data available |
| **Partition coefficient n-octanol/water (log value)** | no data available |
| **Vapour pressure** | no data available |
| **Density and/or relative density** | no data available |
| **Relative vapour density** | no data available |
| **Particle characteristics** | no data available |

## 10.Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

## 11.Toxicological information

**Acute toxicity**

- Oral: no data available
- Inhalation: no data available
- 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

## 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

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

## 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.

## 14.Transport information

### 14.1 UN Number

ADR/RID: no data available IMDG: no data available IATA: no data available

### 14.2 UN Proper Shipping Name

ADR/RID: no data available
IMDG: no data available
IATA: no data available

### 14.3 Transport hazard class(es)

ADR/RID: no data available IMDG: no data available IATA: no data available

### 14.4 Packing group, if applicable

ADR/RID: no data available IMDG: no data available IATA: no data available

### 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

## 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 |
|---|---|---|---|
| PUTRESCINE DIHYDROCHLORIDE, [2,3-3H(N)] | PUTRESCINE DIHYDROCHLORIDE, [2,3-3H(N)] | 92915-83-8 | none |
| **European Inventory of Existing Commercial Chemical Substances (EINECS)** | | | Not Listed. |
| **EC Inventory** | | | Not Listed. |
| **United States Toxic Substances Control Act (TSCA) Inventory** | | | Not Listed. |
| **China Catalog of Hazardous chemicals 2015** | | | Not Listed. |
| **New Zealand Inventory of Chemicals (NZIoC)** | | | Not Listed. |
| **Philippines Inventory of Chemicals and Chemical Substances (PICCS)** | | | Not Listed. |
| **Vietnam National Chemical Inventory** | | | Not Listed. |
| **Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)** | | | Not Listed. |

## 16.Other information

**Information on revision**

**Creation Date** Aug 14, 2017
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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
- 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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*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*