

## Chemical Safety Data Sheet MSDS / SDS

## RuBi-Nicotine

Revision Date:2026-03-20 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product identifier**

Product name : RuBi-Nicotine  
CBnumber : CB42603003  
CAS : 1256362-30-7  
Synonyms : RuBiNic;Bis(2,2'-bipyridine-N,N')bis(S-nicotine-N1) ruthenium(2+) dichloride

**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

Danger

**Precautionary statements**

P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P321 Specific treatment (see ... on this label).  
P330 Rinse mouth.  
P405 Store locked up.  
P501 Dispose of contents/container to....  
P262 Do not get in eyes, on skin, or on clothing.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P350 IF ON SKIN: Gently wash with plenty of soap and water.

P310 Immediately call a POISON CENTER or doctor/physician.

P322 Specific measures (see ...on this label).

P361 Remove/Take off immediately all contaminated clothing.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container to.....

#### **Hazard statements**

H411 Toxic to aquatic life with long lasting effects

H310 Fatal in contact with skin

H301 Toxic if swallowed

---

## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: RuBi-Nicotine
Synonyms	: RuBiNic;Bis(2,2'-bipyridine-N,N')bis(S-nicotine-N1) ruthenium(2+) dichloride
CAS	: 1256362-30-7
MF	: C40H44Cl2N8Ru
MW	: 808.807

---

## SECTION 4: First aid measures

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

#### **General advice**

no data available

#### **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**

no data available

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

no data available

---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

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

### 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.

---

## SECTION 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

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

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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

---

## SECTION 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**

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

---

## SECTION 9: Physical and chemical properties

**Information on basic physicochemical properties**

solid

---

**Color**

deep orange

**Odour**

no data available

**Melting point/ freezing point**

no data available

**Boilingpoint 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**

H<sub>2</sub>O: <40.44 mg/mL, Sonication is recommended.

#### **N-octanol-water partition coefficient**

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

#### **Water solubility**

Soluble to 50 mM in water

---

## SECTION 10: Stability and reactivity

### **10.1 Reactivity**

no data available

### **10.2 Chemical stability**

no data available

### **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

---

# SECTION 11: Toxicological information

## Acute toxicity

### Oral

Classified based on available data. For more details, see section 2

### Inhalation

Classified based on available data. For more details, see section 2

### Dermal

Classified based on available data. For more details, see section 2

## Skin corrosion/irritation

Classified based on available data. For more details, see section 2

## Serious eye damage/irritation

Classified based on available data. For more details, see section 2

## Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

## Germ cell mutagenicity

Classified based on available data. For more details, see section 2

## Carcinogenicity

Classified based on available data. For more details, see section 2

## Reproductive toxicity

Classified based on available data. For more details, see section 2

## STOT-single exposure

Classified based on available data. For more details, see section 2

## STOT-repeated exposure

Classified based on available data. For more details, see section 2

## Aspiration hazard

Classified based on available data. For more details, see section 2

## 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

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

---

## 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

no data available

### 14.2 UN Proper Shipping Name

no data available

### **14.3 Transport hazard class(es)**

no data available

### **14.4 Packing group, if applicable**

no data available

### **14.5 Environmental hazards**

no data available

### **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**

#### **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.

#### **Korea Existing Chemicals List (KECL)**

Not Listed.

---

## SECTION 16: Other information

### **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)

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/>

### 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.