

SAFETY DATA SHEET

According to JIS Z 7253:2012
Revision Date 18-Mar-2019
Version 2.01

Section 1: PRODUCT AND COMPANY IDENTIFICATION

| | |
|--|---|
| Product name | Thyrotropin Releasing Hormone |
| Product code | 200-07941 |
| CAS No | 24305-27-9 |
| Formula | C ₁₆ H ₂₂ N ₆ O ₄ ·C ₄ H ₆ O ₆ ·H ₂ O |
| Manufacturer | FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-5964 |
| Supplier | FUJIFILM Wako Pure Chemical Corporation 1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan Phone: +81-6-6203-3741 Fax: +81-6-6203-2029 |
| Emergency telephone number | +81-6-6203-3741 / +81-3-3270-8571 |
| Recommended uses and restrictions on use | For research purposes |
| Announcement of company name change | Company name has changed since April 1, 2018. Former name was "Wako Pure Chemical Industries, Ltd." |

Section 2: HAZARDS IDENTIFICATION

GHS classification

Classification of the substance or mixture

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

Pictograms



Signal word

Warning

Hazard statements

H332 - Harmful if inhaled

Precautionary statements-(Prevention)

- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area

Precautionary statements-(Response)

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary statements-(Storage)

- Not applicable

Precautionary statements-(Disposal)

- Not applicable

Others**Other hazards** Not available**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****Single Substance or Mixture** Substance**Formula** C₁₆H₂₂N₆O₄·C₄H₆O₆·H₂O

| Chemical Name | Weight-% | Molecular weight | ENCS | ISHL No. | CAS No. |
|-------------------------------|---------------------------|------------------|------|----------|------------|
| Thyrotropin Releasing Hormone | 98.5 (as dehydrous basis) | 530.49 | N/A | N/A | 24305-27-9 |

Impurities and/or Additives : Not applicable**Section 4: FIRST AID MEASURES****Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediate medical attention is required.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required.

Section 5: FIRE FIGHTING MEASURES**Suitable extinguishing media**Water spray (fog), Carbon dioxide (CO₂), Foam, Extinguishing powder, Sand**Unsuitable extinguishing media**

No information available

Special extinguishing method

No information available

Specific hazards arising from the chemical product

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Protection of fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

For indoor, provide adequate ventilation process until the end of working. Deny unnecessary entry other than the people involved by, for example, using a rope. While working, wear appropriate protective equipments to avoid adhering it on skin, or

inhaling the gas. Work from windward, and retract the people downwind.

Environmental precautions

To be careful not discharged to the environment without being properly handled waste water contaminated.

Methods and materials for contaminant and methods and materials for cleaning up

Sweep up and gather scattered particles, and collect it in an empty airtight container.

Recovery, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE

Handling

Technical measures

Avoid contact with strong oxidizing agents. Use with local exhaust ventilation.

Precautions

Do not rough handling containers, such as upsetting, falling, giving a shock, and dragging. Prevent leakage, overflow, and scattering. Not to generate steam and dust in vain. Seal the container after use. After handling, wash hands and face, and then gargle. In places other than those specified, should not be smoking or eating and drinking. Should not be brought contaminated protective equipment and gloves to rest stops. Deny unnecessary entry of non-emergency personnel to the handling area.

Safety handling precautions

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Storage

Safe storage conditions

Storage conditions

Store away from sunlight in cold (-20°C). Keep container tightly closed.

Safe packaging material

vial

Incompatible substances

Strong oxidizing agents

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

In case of indoor workplace, seal the source or use a local exhaust system. Provide the safety shower facility, and hand- and eye-wash facility. And display their position clearly.

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Personal protective equipment

Respiratory protection

Dust mask

Hand protection

Protection gloves

Eye protection

protective eyeglasses or chemical safety goggles

Skin and body protection

Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form

Color

White - nearly white

Appearance

crystalline powder

Odor

No data available

pH

3.0 - 4.0 (10g/l, 25 °C)

Melting point/freezing point

187 °C (dec.)

Boiling point, initial boiling point and boiling range

No data available

Flash point

No data available

| | |
|---|---|
| Evaporation rate: | No data available |
| Flammability (solid, gas): | No data available |
| Upper/lower flammability or explosive limits | |
| Upper : | No data available |
| Lower : | No data available |
| Vapour pressure | No data available |
| Vapour density | No data available |
| Specific Gravity / Relative density | No data available |
| Solubilities | water : free soluble . Ethanol : practically insoluble,or insoluble . |
| n-Octanol/water partition coefficient:(log Pow) | No data available |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | No data available |
| Viscosity (coefficient of viscosity) | No data available |
| Dynamic viscosity | No data available |

Section 10: STABILITY AND REACTIVITY

Stability

| | |
|------------|--|
| Stability | Stable under recommended storage conditions. |
| Reactivity | No data available |

Hazardous reactions

None under normal processing

Conditions to avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidizing agents

Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

Section 11: TOXICOLOGICAL INFORMATION

Acute toxicity

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|-------------------------------|------------------|-------------|-----------------|
| Thyrotropin Releasing Hormone | > 5 g/kg (Rat) | N/A | N/A |

| | |
|-----------------------------------|-------------------|
| Skin irritation/corrosion | No data available |
| Serious eye damage/ irritation | No data available |
| Respiratory or skin sensitization | No data available |
| Reproductive 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 |

Section 12: ECOLOGICAL INFORMATION

| | |
|-------------|--------------------------|
| Ecotoxicity | No information available |
|-------------|--------------------------|

| | |
|-------------------------------|--------------------------|
| Other data | No data available |
| Persistence and degradability | No information available |
| Bioaccumulative potential | No information available |
| Mobility in soil | No information available |
| Hazard to the ozone layer | No information available |

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

| | |
|--|--------------------------|
| ADR/RID | Not regulated |
| UN number | - |
| Proper shipping name: | |
| UN classification | |
| Subsidiary hazard class | |
| Packing group | |
| Marine pollutant | Not applicable |
| IMDG | Not regulated |
| UN number | - |
| Proper shipping name: | |
| UN classification | |
| Subsidiary hazard class | |
| Packing group | |
| Marine pollutant (Sea) | Not applicable |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | No information available |
| IATA | Not regulated |
| UN number | - |
| Proper shipping name: | |
| UN classification | |
| Subsidiary hazard class | |
| Packing group | |
| Environmentally Hazardous Substance | Not applicable |

Section 15: REGULATORY INFORMATION

International Inventories

| | |
|---------------|--------|
| EINECS/ELINCS | Listed |
| TSCA | - |

Japanese regulations

| | |
|--|----------------|
| Fire Service Act | Not applicable |
| Poisonous and Deleterious Substances Control Law | Not applicable |
| Industrial Safety and Health Act | Not applicable |
| Regulations for the carriage and | Not applicable |

storage of dangerous goods in
ship

Civil Aeronautics Law

Not applicable

Pollutant Release and Transfer
Register Law

Not applicable

Export Trade Control Order

Not applicable

Section 16: OTHER INFORMATION

Key literature references and sources for data etc.

NITE: National Institute of Technology and Evaluation (JAPAN)

<http://www.safe.nite.go.jp/japan/db.html>

IATA dangerous Goods Regulations

RTECS:Registry of Toxic Effects of Chemical Substances

Japan Industrial Safety and Health Association GHS Model SDS

Dictionary of Synthetic Organic Chemistry, SSOCJ, Koudansha Scientific Co.Ltd.

Chemical Dictionary, Kyouritsu Publishing Co., Ltd.

etc

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GHS Classification is according to JIS Z7252(2014). *JIS: Japanese Industrial Standards

Product information

You might get a product which indicates a former company name, during the period of transition.

End of Safety Data Sheet