1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product name : Tyr-Gly-Gly-Phe-Met-OH
Catalog No. : HY-P0073
CAS No. : 58569-55-4

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, manufacture of substances.

1.3 Details of the supplier of the safety data sheet

Company: MedChemExpress USA
Tel: 609-228-6898
Fax: 609-228-5909
E-mail: sales@medchemexpress.com

1.4 Emergency telephone number

Emergency Phone #: 609-228-6898

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Respiratory sensitisation (Category 1), H334
Skin sensitisation (Category 1), H317
Germ cell mutagenicity (Category 2), H341
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - single exposure (Category 1), H370
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Chronic aquatic toxicity (Category 4), H413

2.2 GHS Label elements, including precautionary statements

Pictogram
Signal word Danger
Hazard statement(s)
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335: May cause respiratory irritation.
H341: Suspected of causing genetic defects.
H361: Suspected of damaging fertility or the unborn child.
H370: Causes damage to organs.
H413: May cause long lasting harmful effects to aquatic life

Precautionary statement(s)
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/ eye protection/ face protection.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.
P321: Specific treatment (see supplemental first aid instructions on this label).
P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.
P362: Take off contaminated clothing and wash before reuse.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards
None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms: Met-Enkephalin; Methionine enkephalin
Formula: C27H35N5O7S
Molecular Weight: 573.66
CAS No.: 58569-55-4

4. FIRST AID MEASURES

4.1 Description of first aid measures
Eye contact
Remove any contact lenses, locate eye-wash station, and flush eyes immediately with large amounts of water. Separate eyelids with fingers to ensure adequate flushing. Promptly call a physician.
Skin contact
Rinse skin thoroughly with large amounts of water. Remove contaminated clothing and shoes and call a physician.

**Inhalation**
Immediately relocate self or casualty to fresh air. If breathing is difficult, give cardiopulmonary resuscitation (CPR). Avoid mouth-to-mouth resuscitation.

**Ingestion**
Wash out mouth with water; Do NOT induce vomiting; call a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2).

### 4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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### 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

**Suitable extinguishing media**

Use water spray, dry chemical, foam, and carbon dioxide fire extinguisher.

#### 5.2 Special hazards arising from the substance or mixture

During combustion, may emit irritant fumes.

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective clothing.

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### 6. ACCIDENTAL RELEASE MEASURES

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

Use full personal protective equipment. Avoid breathing vapors, mist, dust or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Refer to protective measures listed in sections 8.

#### 6.2 Environmental precautions

Try to prevent further leakage or spillage. Keep the product away from drains or water courses.

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

Absorb solutions with finely-powdered liquid-binding material (diatomite, universal binders); Decontaminate surfaces and equipment by scrubbing with alcohol; Dispose of contaminated material according to Section 13.

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### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Avoid inhalation, contact with eyes and skin. Avoid dust and aerosol formation. Use only in areas with appropriate exhaust ventilation.

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

Keep container tightly sealed in cool, well-ventilated area. Keep away from direct sunlight and sources of ignition.

**Recommended storage temperature:**

- **Powder**
  - -80°C 2 years
  - -20°C 1 year

- **In solvent**
  - -80°C 6 months
  - -20°C 1 month

#### 7.3 Specific end use(s)

No data available.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters

Components with workplace control parameters

This product contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering controls

Ensure adequate ventilation. Provide accessible safety shower and eye wash station.

Personal protective equipment

- **Eye protection**: Safety goggles with side-shields.
- **Hand protection**: Protective gloves.
- **Skin and body protection**: Impervious clothing.
- **Respiratory protection**: Suitable respirator.
- **Environmental exposure controls**: Keep the product away from drains, water courses or the soil. Clean spillages in a safe way as soon as possible.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White to off-white (Solid)</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>No data available</td>
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<tr>
<td>Boiling point/range</td>
<td>No data available</td>
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<tr>
<td>Flash point</td>
<td>No data available</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>Flammability (solid, gas)</td>
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<tr>
<td>Upper/lower flammability or explosive limits</td>
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</tr>
<tr>
<td>Vapor pressure</td>
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<tr>
<td>Vapor density</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Water Solubility</td>
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<tr>
<td>Partition coefficient</td>
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</tr>
<tr>
<td>Auto-ignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other safety information

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
Strong acids/alkalis, strong oxidising/reducing agents.

10.6 Hazardous decomposition products
Under fire conditions, may decompose and emit toxic fumes.
Other decomposition products - no data available.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
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
IARC: No component of this product present at a level equal to or greater than 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at a level equal to or greater than 0.1% is identified as a potential or confirmed carcinogen by ACGIH.

NTP: No component of this product present at a level equal to or greater than 0.1% is identified as a anticipated or confirmed carcinogen by NTP.

OSHA: No component of this product present at a level equal to or greater than 0.1% is identified as a potential or confirmed carcinogen by OSHA.

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

Specific target organ toxicity - single exposure
Classified based on available data. For more details, see section 2

Specific target organ toxicity - 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

Additional information
RTECS No.: DA8340700
Alopecia., Liver injury may occur., Kidney injury may occur., Nausea, Headache, Vomiting, bone marrow depression
This information is based on our current knowledge. However the chemical, physical, and toxicological properties have not been completely investigated.
12. ECOLOGICAL INFORMATION

12.1 Toxicity
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 Results of PBT and vPvB assessment
PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

12.6 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Dispose substance in accordance with prevailing country, federal, state and local regulations.

Contaminated packaging
Conduct recycling or disposal in accordance with prevailing country, federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (US)
This substance is considered to be non-hazardous for transport.

IMDG
This substance is considered to be non-hazardous for transport.

IATA
This substance is considered to be non-hazardous for transport.

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

16. OTHER INFORMATION

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Tel: 609-228-6898  Fax: 609-228-5909  E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA