

## SAFETY DATA SHEET

According to JIS Z 7253:2019  
**Revision date** 27-Jan-2023  
 Revision Number 1.03

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

|   |   |
|---|---|
| <b>Product Name</b>                             | APDSTAG® Wako Amino Acids Mixture Standard Solution<br>No.1[CRM]  |
| <b>Product Code</b>                             | 017-27851   |
| <b>Manufacturer</b>                             | FUJIFILM Wako Pure Chemical Corporation<br>1-2 Doshomachi 3-Chome<br>Chuo-ku, Osaka 540-8605, Japan<br>Phone: +81-6-6203-3741<br>Fax: +81-6-6203-5964 |
| <b>Supplier</b>                                 | FUJIFILM Wako Pure Chemical Corporation<br>1-2 Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan<br>Phone: +81-6-6203-3741<br>Fax: +81-6-6203-2029   |
| <b>Emergency telephone number</b>               | +81-6-6203-3741 / +81-3-3270-8571   |
| <b>Recommended uses and restrictions on use</b> | For research use only   |

## Section 2: HAZARDS IDENTIFICATION

**GHS classification****Classification of the substance or mixture**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

**Pictograms**

**Signal word** None

**Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

**Precautionary statements-(Prevention)**

- Not applicable

**Precautionary statements-(Response)**

- Not applicable

**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** Mixture

| Chemical Name     | Weight-% | Molecular weight | ENCS    | ISHL No. | CAS RN    |
|-------------------|----------|------------------|---------|----------|-----------|
| Water             | 99       | 18.02            | N/A     | N/A      | 7732-18-5 |
| Hydrochloric Acid | 0.1823   | 36.46            | (1)-215 | *        | 7647-01-0 |

|  |        |        |                   |            |            |
|--|--------|--------|-------------------|------------|------------|
| L-Cystine                                | 0.0240 | 240.30 | (9)-1587,(2)-1468 | 2-(12)-135 | 56-89-3    |
| L(+)-Citrulline                          | 0.0175 | 175.19 | (9)-503,(9)-504   | 2-(4)-1071 | 372-75-8   |
| L-Methionine                             | 0.0149 | 149.21 | (2)-1254          | *          | 63-68-3    |
| L-Glutamic Acid                          | 0.0147 | 147.13 | (9)-1573          | *          | 56-86-0    |
| DL-2-Aminobutyric acid                   | 0.0052 | 103.12 | (2)-2482          | *          | 2835-81-6  |
| L-Anserine                               | 0.0048 | 240.25 | N/A               | N/A        | 584-85-0   |
| L-Carnosine                              | 0.0045 | 226.23 | (5)-409,(9)-1557  | *          | 305-84-0   |
| 1-Methyl-L-histidine<br>(IUPAC Name)     | 0.0034 | 169.18 | N/A               | N/A        | 332-80-9   |
| 3-Methyl-L-histidine<br>(IUPAC name)     | 0.0034 | 169.18 | N/A               | N/A        | 368-16-1   |
| 5-Hydroxy-DL-lysine                      | 0.0032 | N/A    | N/A               | N/A        | 6000-08-4  |
| L-Aspartic Acid                          | 0.0027 | 133.10 | (2)-1305          | *          | 56-84-8    |
| L-Proline, 4-hydroxy-,<br>(4R)-          | 0.0026 | 131.13 | (9)-1628          | *          | 51-35-4    |
| 4-Aminobutyric Acid                      | 0.0021 | 103.12 | (9)-114           | *          | 56-12-2    |
| (+/-)-3-Amino-2-methylpr<br>opionic acid | 0.0021 | N/A    | N/A               | N/A        | 10569-72-9 |
| Sarcosine                                | 0.0018 | 89.09  | (2)-1205          | *          | 107-97-1   |
| 2-Aminoethanol                           | 0.0012 | 61.08  | (2)-301           | *          | 141-43-5   |

**Note on ISHL No.:** \* in the table means announced chemical substances.

**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

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

### Unsuitable extinguishing media

No information available

### Specific hazards arising from the chemical product

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

### Special extinguishing method

No information available

### Special protective actions for 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**

Absorb dry sand, earth, sawdust and the waste. Collect empty container that can be sealed.

**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. To cut with care and wear protective gloves and protective goggles to ampoule time of the opening (Cutting method to check the label). 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** Keep container protect from light tightly closed. Store in a cool (2-10 °C) place.

**Safe packaging material** Ampoule

**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**

| Chemical Name                  | JSOH (Japan)                | ISHL (Japan) | ACGIH          |
|--------------------------------|-----------------------------|--------------|----------------|
| Hydrochloric Acid<br>7647-01-0 | 5ppm(7.5mg/m <sup>3</sup> ) | N/A          | Ceiling: 2 ppm |

**Personal protective equipment**

**Respiratory protection** Protective 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** colorless  
**Turbidity** clear  
**Appearance** liquid

|  |                   |
|--|-------------------|
| Odor   | no data available |
| Melting point/freezing point                           | no data available |
| Boiling point, initial boiling point and boiling range | no data available |
| Flammability   | 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 |
| Flash point  | no data available |
| Auto-ignition temperature:                             | no data available |
| Decomposition temperature:                             | no data available |
| pH   | no data available |
| Viscosity (coefficient of viscosity)                   | no data available |
| Dynamic viscosity                                      | no data available |
| Solubilities   | No data available |
| n-Octanol/water partition coefficient:(log Pow)        | no data available |
| Vapour pressure  | no data available |
| Specific Gravity / Relative density                    | no data available |
| Vapour density   | no data available |
| Particle characteristics                               | no data available |

## Section 10: STABILITY AND REACTIVITY

### Stability

|  |                          |
|--|--------------------------|
| Reactivity   | no data available        |
| Chemical stability   | May be altered by light. |
| <b>Hazardous reactions</b>   |                          |
| None under normal processing   |                          |
| <b>Conditions to avoid</b>   |                          |
| Extremes of temperature and direct sunlight  |                          |
| <b>Incompatible materials</b>  |                          |
| Strong oxidizing agents  |                          |
| <b>Hazardous decomposition products</b>  |                          |
| Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Nitrogen oxides (NO <sub>x</sub> ), Halides |                          |

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

| Chemical Name     | Oral LD50         | Dermal LD50            | Inhalation LC50      |
|-------------------|-------------------|------------------------|----------------------|
| Hydrochloric Acid | 238 mg/kg ( Rat ) | >5010 mg/kg ( Rabbit ) | 1411 ppm ( Rat ) 4 h |

| Chemical Name     | Acute toxicity -oral- source information      | Acute toxicity -dermal- source information    | Acute toxicity -inhalation gas-source information |
|-------------------|---|---|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. | Based on the NITE GHS classification results. | Based on the NITE GHS classification results.     |

| Chemical Name     | Acute toxicity -inhalation vapor- source information | Acute toxicity -inhalation dust-source information | Acute toxicity -inhalation mist-source information |
|-------------------|--|--|--|
| Hydrochloric Acid | Based on the NITE GHS classification results.        | Based on the NITE GHS classification results.      | Based on the NITE GHS Classification results.      |

### Skin irritation/corrosion

| Chemical Name     | Skin corrosion/irritation source information  |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

### Serious eye damage/ irritation

| Chemical Name     | Serious eye damage/irritation source information |
|-------------------|--|
| Hydrochloric Acid | Based on the NITE GHS classification results.    |

**Respiratory or skin sensitization**

| Chemical Name     | Respiratory or Skin sensitization source information |
|-------------------|--|
| Hydrochloric Acid | Based on the NITE GHS classification results.        |

**Reproductive cell mutagenicity**

| Chemical Name     | germ cell mutagenicity source information     |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

**Carcinogenicity**

| Chemical Name     | Carcinogenicity source information            |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

| Chemical Name                  | NTP | IARC               | ACGIH | JSOH (Japan) |
|--------------------------------|-----|--------------------|-------|--------------|
| Hydrochloric Acid<br>7647-01-0 | N/A | Group 1<br>Group 3 | N/A   | N/A          |

**Reproductive toxicity**

| Chemical Name     | Reproductive toxicity source information      |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

**STOT-single exposure**

| Chemical Name     | STOT -single exposure- source information     |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

**STOT-repeated exposure**

| Chemical Name     | STOT -repeated exposure- source information   |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

**Aspiration hazard**

| Chemical Name     | Aspiration Hazard source information          |
|-------------------|---|
| Hydrochloric Acid | Based on the NITE GHS classification results. |

**Section 12: ECOLOGICAL INFORMATION****Ecotoxicity**

| Chemical Name     | Algae/aquatic plants | Fish | Crustacea                                      |
|-------------------|----------------------|------|--|
| Hydrochloric Acid | N/A                  | N/A  | EC50 : <i>Daphnia magna</i><br>0.492 mg/L 48 h |

**Other data**

| Chemical Name     | Short-term (acute) hazardous to the aquatic environment source information | Long-term (chronic) hazardous to the aquatic environment source information |
|-------------------|--|---|
| Hydrochloric Acid | Based on the NITE GHS classification results.                              | Based on the NITE GHS classification results.                               |

|                                      |                          |
|--------------------------------------|--------------------------|
| <b>Persistence and degradability</b> | No information available |
| <b>Bioaccumulative potential</b>     | No information available |
| <b>Mobility in soil</b>              | No information available |
| <b>Hazard to the ozone layer</b>     | 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**

|                  |               |
|------------------|---------------|
| <b>ADR/RID</b>   | Not regulated |
| <b>UN number</b> | -             |

|  |                          |
|--|--------------------------|
| Proper shipping name:  |                          |
| UN classification  |                          |
| Subsidiary hazard class  |                          |
| Packing group  |                          |
| Marine pollutant   | Not applicable           |
| <b>IMDG</b>  | 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 |
| <b>IATA</b>  | 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 | - |
| TSCA          | - |

#### Japanese regulations

|   |   |
|---|---|
| Fire Service Act  | Not applicable  |
| Poisonous and Deleterious Substances Control Law                                      | Not applicable  |
| Industrial Safety and Health Act  | Notifiable Substances (Law Art.57-2, Enforcement Order Art.18-2 Attached Table No.9)No.98 |
| Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc | Priority Assessment Chemical Substances (Law Article 2, Para.5)                           |
| Regulations for the carriage and storage of dangerous goods in ship                   | Not applicable  |
| Civil Aeronautics Law   | Not applicable  |
| Marine Pollution Prevention Law   | Enforcement ordinance Appendix No. 1 Noxious liquid substance Category Z                  |
| Pollutant Release and Transfer Register Law (~2023.3.31)                              | Not applicable  |
| <u>Pollutant Release and Transfer Register Law (2023/4/1~)</u>                        | <u>Not applicable</u>   |
| Water Pollution Control Act   | Specified substances(Law Art.2 Para.4, Enforcement Order Art.3-3)                         |
| Export Trade Control Order  | Not applicable  |
| Air Pollution Control Law   | Specified Substances, Hazardous Air Pollutants  |

| Chemical Name     | Poisonous and Deleterious Substances Control Law | Industrial Safety and Health Act Substances (Law Art.57-2) (~2024.3.31) | Pollutant Release and Transfer Register Law (~2023.3.31) |
|-------------------|--|---|--|
| Hydrochloric Acid | -  | Applicable  | -  |

| Chemical Name        | Poisonous and Deleterious Substances Control Law | Industrial Safety and Health Act Substances (Law Art.57-2) (~2024.3.31) | Pollutant Release and Transfer Register Law (~2023.3.31) |
|----------------------|--|---|--|
| 7647-01-0 ( 0.1823 ) |  |   |  |

## 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 , SSOJ, Koudansha Scientific Co.Ltd.  
 Chemical Dictionary, Kyouritsu Publishing Co., Ltd.  
 etc

### Disclaimer

This SDS is according to JIS Z 7253: 2019. 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(2019). \*JIS: Japanese Industrial Standards

**End of Safety Data Sheet**