Safety Data Sheet

1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
Address : 1-3-1 Kasumigaseki, Chiyoda, Tokyo, Japan
Office in Charge : Reference Materials Office, Center for Quality Management of Metrology, National Metrology Institute of Japan
Person in Charge : Certified Reference Material Staff
Telephone No. : +81-29-861-4059
Fax No. : +81-29-861-4009

Prepared on : December 27, 2017
Revised on : April 18, 2018
Reference No. : 3001003

Identity of Substance/Mixture : Certified reference material: NMIJ CRM 3001-c
Recommended Use of the Chemical and Restriction on Use : Potassium hydrogen phthalate
This CRM is intended to be used for standardizing titrants for acidimetry and other similar uses. This CRM is also intended to be used for standardizing determination of organic carbon. Do not use this reference material for other purposes than testing/research.

2. Hazards Identification

GHS classification : Not specified
GHS label element : Not specified
Signal word : -
Hazard and toxicity : -
Other hazard and toxicity : Harmful if swallowed.
Precautionary statement : [Precaution] Avoid any exposures. Wear appropriate personal protective equipment such as protective gloves and eye protection.
[Action] If swallowed: Drink lot of water and induce vomiting.
[Storage] Store in a clean environment at normal room temperature. Close cap tightly and hermetically after use. Avoid exposure to acids and alkalis.
[Disposal] Incinerate this reference material and its containers in an appropriate incinerator. Or entrust disposal of this reference material and its containers to a professional waste disposal company licensed by prefectural government.
The other hazards than the above do not result in classification or are not covered by the GHS.
3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substance or Mixture</th>
<th>Substance: Potassium hydrogen phthalate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
<td>Potassium biphthalate</td>
</tr>
<tr>
<td>Content</td>
<td>99.99 %</td>
</tr>
<tr>
<td>Chemical Formula</td>
<td>C₈H₅O₄K</td>
</tr>
<tr>
<td>Structural Formula</td>
<td>C₆H₄(COOK)(COOH)</td>
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<tr>
<td>Molecular Weight</td>
<td>204.22</td>
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<tr>
<td>Reference Number in Gazetted List in Japan</td>
<td>Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1342</td>
</tr>
<tr>
<td>CAS Number</td>
<td>877-24-7</td>
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</tbody>
</table>

4. First-aid Measures

If in eyes: Rinse cautiously with clean water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If on skin: Rinse thoroughly with clean water.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If swallowed: Rinse mouth thoroughly with water. Drink a lot of water then it induces vomiting. Seek medical attention, if necessary.

Expected Acute and Delayed Symptom: Eye, skin, mucous membrane irritation.

Most Critical Characteristic and Symptom: -

Protection of First-Aid Responder: Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing Media: Water, powder, foam and CO₂

Fire-Specific Hazards: In the case of fire, irritating or toxic fume (or gas) may be generated.

Specific Fire-Fighting Method: Remove any combustible sources from the seat of fire and extinguish using appropriate extinguishing agent.

Protection of Fire-Fighters: Use protective equipment such as fire-resistant clothing, air-breathing apparatus, etc.

6. Accidental Release Measures

Personal precautions: Remove ignition source from the vicinity immediately. Prepare fire-fighting equipment for the possibility of fires.

Equipment and Emergency Procedures: If an indoor environment, ventilate affected areas thoroughly until the clean-up operation is completed. Use appropriate personal protective equipment during the operation to avoid skin contact from splashes, etc., and inhalation of dust and gas.

Environmental Precautions: Take precautions to prevent spillage from draining into rivers etc. to avoid an adverse impact on the environment.
Appropriately treat contaminated wastewater to prevent untreated wastewater from being released into the surrounding environment.

**Recovery and Neutralization:**
AdSORb spillage with waste clothes, wiping cloths or dry sand, and collect in empty containers. Rinse away the remains with copious water.

**Prevention of Secondary Disaster:**
Mark the restricted area with rope etc. to keep out unauthorized personnel. Carry out the clean-up operation from the windward direction and evacuate people on the leeward side.

### 7. Handling and Storage

**Handling Engineering Precautions:**
Avoid the influence of acids and alkalis.

**Local and General Ventilation Precautions for Safe Handling:**
Avoid rough handling such as turning over, dropping, shocking, or dragging containers.
Prevent spill, overflow and scattering, and avoid vapor generation.
Keep container tightly closed after using this reference material.
Wash hands, face etc. thoroughly and gargle with water after handling this reference material.
Do not take gloves and other contaminated personal protective equipment into staff area.
Designate a restricted area for handling this reference material to keep out unauthorized personnel.
Use appropriate personal protective equipment to avoid inhalation and contact with eyes, skin and clothing.

**Storage**

**Appropriate Storage Conditions:**
Stored in a clean place at normal room temperature.

**Safe Container Packaging Material:**
Hard glass

※Please refer the certificate about the details of appropriate storage conditions and precautions for the use as reference material.

### 8. Exposure Controls/Personal Protection

**Threshold Limit Value**

Not established

**Occupational exposure limit**

- **ACGIH TLV-TWA:** Not established
- **Japan Society for Occupational Health Recommended Reference Value:** Not established
- **OSHA PEL TWA:** Not established

**Facility engineering control Ventilation/Exhaust:**
Local ventilation system or General ventilation system.
Provide a safety shower, a hand wash, eyewash facility close to the handling location. And, display the position clearly.
Safety Control/ Gas Detection
Storage Precaution : Keep away from strong oxidants.

Personal Protective Equipment (PPE)
Respiratory System : Protective mask, Self-contained compressed air breathing apparatus.
Hands : Protective gloves
Eyes : Safety google
Skin and Body : Protective clothing

Hygiene Controls
Handle this reference material in accordance with industrial health and safety standards.

9. Physical and Chemical Properties

- Appearance, etc. : Powder
- Color : White
- Odor : No data
- pH : Ca. 4.0
- Melting point : 295 °C to 300 °C ( Decomposition )
- Boiling point : No data
- Flashing point : No data
- Explosive range : No data
- Vapor pressure : No data
- Relative vapor density ( Air = 1 )
- Specific gravity or bulk specific gravity : No data
- Solubility : Soluble in water and insoluble in ethanol and diethyl ether.
- n-Octanol/water partition coefficient ( Log Po/w ) : No data
- Auto-ignition temperature : No data

10. Stability and Reactivity

Stability : Stable under normal storage conditions
Reactivity : No data available
Conditions to avoid : Sunlight, Heat, contact with oxidizing materials
Incompatible materials : Oxidizing materials
Hazardous decomposition products : Carbon monoxide

11. Toxicological information

Acute toxicity : Oral Rat LD50 : >3200 mg/kg ( RTECS )
Skin corrosivity/ irritation : -
Severe damage to eyes/ eye irritation : -
Respiratory sensitization : -
Skin sensitization : -
12. Ecological Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Data Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and Degradability</td>
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</tr>
<tr>
<td>Bioaccumulation</td>
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</tr>
<tr>
<td>Ecotoxicity</td>
<td>No data available</td>
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<tr>
<td>Mobility in soil</td>
<td>No data available</td>
</tr>
<tr>
<td>Ozone depletion potential</td>
<td>No data available</td>
</tr>
</tbody>
</table>

13. Disposal Considerations

| Residual waste             | Incinerate in an incinerator equipped with scrubber. Disposal should be in compliance with the related laws and regulations of the local government. |
| Contaminated container and package | Disposal of the empty container should only occur after complete removal of the content. |

※ Please refer to the certificate regarding details of appropriate storage conditions and precautions for use as reference material.

14. Transport Information

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Details</th>
</tr>
</thead>
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<td>UN Number</td>
<td>Not specified</td>
</tr>
<tr>
<td>UN Classification</td>
<td>Not specified</td>
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<tr>
<td>Shipping Name</td>
<td>Potassium hydrogen phthalate</td>
</tr>
<tr>
<td>Packing Group</td>
<td>-</td>
</tr>
<tr>
<td>ICAO/IATA</td>
<td>-</td>
</tr>
<tr>
<td>Marine Pollutant</td>
<td>-</td>
</tr>
<tr>
<td>Precautions</td>
<td>Transport this reference material carefully while keeping it away from direct sunlight and fire and preventing accidental release due to falling, overturning, etc.</td>
</tr>
</tbody>
</table>

15. Regulatory Information

- No applicable laws and regulations

◎ This SDS is originally prepared for the use of the material in Japan, thus the stated laws and regulations are stipulated and carried out in Japan. The use of the material in other countries should be referred to and by application of the relevant laws and regulations of the country in which the material will be used.

16. Other Information

Others
The information in this document is not intended to be exhaustive and is based on currently available information and data. The measures given in this document are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety measures appropriate to each specific application and context of use. This document is intended to provide information and not intended to guarantee anything in handling this reference material.