

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
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ID Number : 6005001

Identity of Substance/Mixture : Certified reference material NMIJ CRM 6005-a Creatinine
Recommended Use of the Chemical and Restriction on Use : This CRM is intended for use in the calibration of analytical instruments, quality control of analytical instruments, and validation of analytical techniques and instruments. Do not use this reference material for other purposes than testing/research.
This CRM is a reference material (specified in the Japanese Industrial Standard (JIS) Q 0030).

2. Hazards Identification

GHS Classification : Not Classifiable
GHS label element : Not Classifiable
Signal word : -
Hazard and toxicity : -
Other hazard and toxicity : Creatinine is found in animal urine and has no specific toxicity, but if taken orally, may induce nausea, vomit, etc.
Precautionary statement : [Preventive Measures]
Low in harm in normal handling condition
[Handling]
If swallowed: Induce vomit by drinking water or salted water .
Get medical assistance
[Storage]
Protect from light, clean place at normal temperature 15 °C to 25 °C
[Disposal]

Hazardous and toxic properties not specified in the above are neither the object of classification nor classifiable

3. Composition/Information on Ingredients

Substance or mixture	: Single product
Chemical name	: Creatinine
Synonym	: 2-imino-1-methyl-4-imidazolidinone
Content	: 99.9 %
Chemical or structural formula	: $C_4H_7N_3O$
Molecular weight	: 113.12
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (9)-408 Industrial Safety and Health Act : Published
CAS No.	: 60-27-5

4. First-aid Measures

If in eyes	: Rinse off with plenty of clean water, get medical assistance
If on skin	: Rinse off with plenty of clean water, take off the contaminated clothing or shoes, etc. get medical assistance
If inhaled	: Move to fresh air area, rest and keep warm. Get medical assistance
If swallowed	: Drink a lot of water to induce vomit. If abnormality arises, get medical assistance
Anticipated acute & delayed symptoms	: No data available
Most significant characteristics & symptoms	: No data available
Measures to be taken to protect the person applying first aid	: Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing media	: Water, powder, carbon dioxide, foam, dry sand
Specific hazards at the time of fire	: May generate irritant, toxic fume (or gas) if burned
Specific extinguishing measure	: Immediately remove fire source materials around and start extinguishing. Transfer movable containers promptly to safe place. If impossible to transfer, cool down around the container with water spray.
Fire fighting personnel protection	: Avoid inhaling toxic gas by extinguishing from windward. Use protective equipment such as breathing apparatus, etc.

6. Accidental Release Measures

- | | | |
|---|---|--|
| Personal precaution | : | Remove ignition source around the material promptly. Have fire extinguisher ready in case of fire. |
| Protective equipment and emergency procedures | : | If indoor, ventilate well until the treatment is completed. Use appropriate protective equipment to protect the skin from spattering droplets and prevent inhaling dust/particulate or gas |
| Environmental precautions | : | Prevent the environment from being contaminated by the spilled products or material discharged to rivers, etc. Contaminated waste water must be treated appropriately before discharging. |
| Recovery, neutralization | : | Recover the leakage in an empty container and clean the contaminated area with waste cloth, scrubbing cloth, etc. |
| Secondary disaster prevention | : | Rope off the leakage area and prohibit unauthorized persons' entrance. Work on the windward and evacuate people on the leeward. |

7. Handling and Storage

Handling

- | | | |
|--------------------------------------|---|---|
| Technical measures | : | Avoid contact with eye and skin |
| Local exhaust or central ventilation | : | When handling indoor, use local exhaust ventilation |
| Safe handling precautions | : | <p>Handle the container with care and avoid knocking over, dropping or dragging.</p> <p>Prevent leakage, overflow or spatter and control dust generation.</p> <p>Seal-up the container after use</p> <p>Wash hands, face etc. thoroughly and gargle after handling</p> <p>Eating, drinking or smoking restricted in designated areas only</p> <p>Take off contaminated gloves and protective equipment when taking a break outside the handling area.</p> <p>Entrance to the handling area is restricted to authorized persons only</p> |

Storage

- | | | |
|-------------------------|---|--|
| Safe storage condition | : | Protect from light, clean place at normal temperature (15 °C to 25 °C) |
| Safe packaging material | : | Glass |

8. Exposure Controls/Personal Protection

Standard control concentration

Not established

Maximum permissible concentration

(Threshold limit value)

- | | | |
|---|---|-----------------|
| • ACGIH TLV-TWA | : | Not established |
| • Japan Society for Occupational Health | : | Not established |
| Recommended value | | Not established |

• OSHA PEL TWA	:	
Facility engineering control		
Ventilation, exhaust	:	If generating dust, seal up the source and install local exhaust equipment Install eye washer and shower facility close to the handling area and indicate the facility conspicuously with signage.
Safety control, detection	:	-
Storage precaution	:	Protect from light, store in clean place at normal temperature (15 °C to 25 °C)
Protective equipment		
Respirators	:	Dust protective mask
Hand protection	:	Protective gloves
Eye protection	:	Safety goggle
Skin and body protection	:	Long sleeved protective wear

9. Physical and Chemical Properties

• Appearance, etc.	:	Powder
• Color	:	White
• Odor	:	Odorless
• pH	:	Water solution is basic
• Melting point	:	Degradation (280 °C to 295 °C)
• Boiling point	:	No data
• Flashing point	:	No data
• Explosive range	:	No data
• Vapor pressure	:	No data
• Relative vapor density(Air=1)	:	No data
• Specific gravity or bulk specific gravity	:	No data
• Solubility	:	Easily dissolves in water, slightly soluble in ethanol, poorly soluble in ether
• <i>n</i> -Octanol/water partition coefficient (Log Po/w)	:	No data
• Auto-ignition temperature	:	No data

10. Stability and Reactivity

◇Stability

- Light sensitivity

◇Reactivity

- Strong base, reacts to form acid and salt. Adduct-induced with Zinc Chloride. Reacts with alkaline and changes to Creatinine. Hydrolyze to sarcosine, methylhydantoin, urea and ammonia by strong alkali.

◇Condition to avoid

- Sunlight, heat

- ◇Hazardous toxic decomposition products
- Carbon monoxide, nitrogen oxide

11. Toxicological Information

- No data available

12. Ecological Information

Degradability, concentration

- No data available

Bioaccumulation

- No data available

Ecotoxicity

- No data available

13. Disposal Considerations

- | | | |
|---------------------------------------|---|--|
| Residues | : | Incineration
Incinerate in the incinerator with a scrubber system.
Dispose the contents and container in accordance with related regulations and ordinances of the local government.
If disposal according to the above method is not possible, use a waste-treatment firm certified by prefectural governor. |
| Contaminated containers and packaging | : | To dispose of an empty container, completely remove the contents. |

14. Transport Information

- | | | |
|-------------------|---|---|
| UN number | : | Not applicable |
| UN classification | : | Not applicable |
| Name | : | - |
| Marine pollutant | : | Not applicable |
| Precautions | : | Transfer with care avoiding direct sunlight, leakage or spill due to fall etc., keep away from fire sources |

15. Regulatory Information

- None applicable
- © 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 Safety Data Sheet is not intended to be exhaustive and is based on

currently-available information and data. The precautions given in this data sheet are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety precautions appropriate to each specific application and context of use. This Safety Data Sheet (SDS) is intended to provide information and not intended to guarantee anything in handling the reference material.
