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
Emergency Contact	:	Same as above
		Prepared on : January 8, 2015
		Revised on : August 31, 2022
		ID Number : 3013001
Identity of Substance/Mixture	:	Reference material NMIJ CRM 3013-a Calcium Carbonate
Recommended applications and limitations of use	:	This reference material can be used for the standardization of EDTA, which is used in chelatometric titrations. This material shall not be used for purposes other than testing and research. This CRM is a reference material (specified in the Japanese Industrial Standard (JIS) Q 0030).

2. Hazards Identification

GHS classification	:	-
GHS-labeling Element	:	-
Signal word	:	-
Hazard and toxicity Information	:	-
Other toxicity Information	:	Fine particles irritate eyes and respiratory tract. Inhalation or ingestion in large quantities causes coughing, nausea, and vomiting, among others.
Cautionary statement	:	[Safety Measures] Wear appropriate protective equipment to avoid inhalation and contact with eyes, skin, and clothing. [Emergency Measures] Inhalation: Move to fresh air. Blow nose and gargle. Keep warm and rest. Skin contact: Immediately wash the affected area with plenty of water. In case of skin inflammation, seek medical attention. Eye contact: Carefully wash with water for several minutes. Ingestion: Drink plenty of water or salt water and induce vomiting. If necessary, seek medical attention.

[Storage]
Avoid direct sunlight. Store this reference material in a clean area between 15 °C and 35 °C and at a relative humidity of 60% or lower.
[Disposal]
Follow the pertinent regulations and ordinances established by the local government.
Use a waste-treatment firm certified by a prefectural governor.

Classification is impossible or not applicable for hazards not mentioned above.

3. Composition/Information on Ingredients

Substance or mixture	:	Single substance
Chemical name	:	Calcium Carbonate
Concentration	:	99.9% or higher
Chemical or structural formula	:	Molecular formula: $CaCO_3$
Molecular weight	:	100.09
Amount	:	Over 99.9 %
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (1)－122 Industrial Safety and Health Act : Published
CAS number	:	471-34-1

4. First-aid Measures

Eye contact	:	Wash carefully with water for several minutes. Then, if using contact lenses, remove if possible and continue rinsing.
Skin contact	:	Immediately wash the affected area thoroughly with plenty of water. In case of skin inflammation, seek medical attention.
Inhalation	:	Move to fresh air. Blow nose and gargle well with water. Keep warm and rest.
Ingestion	:	Drink plenty of water or salt water and induce vomiting. If necessary, seek medical attention.
Estimated acute and late symptom	:	-
Most important symptoms and effects	:	-
Protection of first-aiders	:	-

5. Fire-fighting Measures

Extinguishing media	:	As this material is incombustible, use extinguishing media suitable for peripheral fire.
Specific hazards with regard to fire-fighting	:	Immediately move containers to a safe place. If this proves impossible, cool the containers and peripheral areas with water

spray.

Specific methods of fire-fighting	:	Eliminate the origin of fire and put the fire out with extinguishing media. If possible, move containers to a safe place. If not, cool the peripheral areas with water spray.
Protection for firefighters	:	Work from the windward side to prevent the inhalation of toxic gas. Use fire-prevention clothing, fireproof clothing, fire-protection clothing, respirator, circulating oxygen breathing apparatus, rubber gloves, rubber boots, and other appropriate protective equipment.

6. Accidental Release Measures

Personal precautions	:	Wear appropriate protective equipment to avoid exposure to skin, eyes, and clothing.
Protective equipment and emergency measures	:	When accidental release takes place indoors, thoroughly clear the air until emergency measures are complete. Before beginning, wear appropriate protective equipment to protect skin from droplets and to prevent inhalation of dust and gas.
Environmental precautions	:	Prevent the released product from being drained into a river or other area that might cause environmental damage. Prevent the polluted discharge from being drained into the environment without being processed properly.
Recovery and neutralization	:	Sweep and collect. Wash the area with plenty of water.
Prevention of secondary accidents	:	Surround the area with a rope or some other barrier to prevent unauthorized people from entering the area. Work from the windward side and evacuate people to the leeward side.

7. Handling and Storage

Handling

Technical measures	:	None
Local ventilation and general ventilation	:	In case steam or mist is generated, seal the source and provide local exhaust ventilation.
Precautions for safe handling	:	Avoid rough handling such as dropping, shocking, dragging, or otherwise agitating the container. Do not cause the substance to leak, overflow, or drift, and prevent steam from being generated. Seal the container after use. Wash hands, face, and other necessary parts thoroughly, and gargle after handling. Do not eat, drink, or smoke in places other than the designated areas. Do not bring gloves and other contaminated protective equipment into the break area. Only authorized people should be allowed in the handling area. Wear appropriate protective equipment to prevent inhalation, or

contact with eyes, skin, or clothing.
When handling indoors, provide local exhaust ventilation.

Storage

Appropriate storage conditions	:	Avoid direct sunlight. Store this reference material in a clean area between 15 °C and 35 °C and at a relative humidity of 60% or lower.
Safe packaging materials	:	Place in a glass bottle with approximately 25 g of calcium carbonate and seal in a transparent and plain laminate bag.

8. Exposure Controls/Personal Protection

Standard control concentration	:	N/A
Threshold limit values		
・ACGIH TLV-TWA	:	TWA10 mg/m^3 (total dust)
・Value recommended by Japanese Society of Occupational Health	:	N/A
・OSHA PEL TWA	:	N/A
Engineering controls		
Ventilation and emission	:	Local ventilation equipment or general ventilation equipment
Safety management and gas detection	:	Measuring device, detection tube
Storage precautions	:	Store the containers in a dry area and seal them to avoid contact with air.
Protective equipment		
Respiratory protection	:	Dust mask, respirator
Hand protection	:	Protective gloves
Eye protection	:	Protective glasses
Skin and body protection	:	Protective long boots, long-sleeve protective clothing

Hygiene measures

Handle in accordance with industrial hygiene and safety standards.

9. Physical and Chemical Properties

・Appearance, etc.	:	Powder
・Color	:	White
・Odor	:	No smell
・pH	:	No data
・Melting point	:	825 °C (decomposition)
・Boiling point	:	No data
・Flashing point	:	Incombustible
・Explosive range	:	No data
・Vapor pressure	:	No data
・Relative vapor	:	No data

density(Air=1)

- Specific gravity or bulk specific gravity : 2.7 to 2.9
- Solubility : Solubility in solvent; barely soluble in water and ethanol
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data
- Other property : Decomposed by acid

10. Stability and Reactivity

◇Stability

- Stable under normal conditions.

◇Reactivity

- Generates carbon dioxide when exposed to acid.
- Generates corrosive calcium oxide fumes if heated to 825 °C or more.

◇Conditions to avoid

- Sunlight, heat, acid

◇Hazardous decomposition products

- No data

11. Toxicological Information

Acute toxicity	Oral rat LD_{50}: 6450 mg/kg
Skin corrosivity/irritation	Skin irritation (rabbit): medium level when exposed to under 500 mg in 24 h
Germ-cell mutagenicity	No data
Carcinogenicity	No data

12. Ecological Information

Degradability/Concentration

- No data

Bioaccumulation

- No data

Ecotoxicity

- Mosquitofish (fish) 96-hour TLm > 56000 mg/l

13. Disposal Considerations

Residues	:	Can be landfilled without additional treatment. Dispose in accordance with pertinent laws, regulations, and local ordinances. If it is impossible to dispose of the combine by the procedures described above, use a waste-treatment vendor certified by a prefectural governor.
Contaminated containers	:	To dispose of an empty container, completely remove the

and packaging contents.

14. Transport Information

UN Dangerous Goods Number	:	Not applicable
UN classification	:	Not applicable
Product name	:	-
Packing group	:	-
ICAO/IATA	:	-
Marine pollutant	:	Not applicable
Matters to be attended to	:	Avoid direct sunlight. Prevent leakage and fires caused by shock or agitation to the container, and transport with caution.

15. Regulatory Information

Not applicable

16. Other Information

Other

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.