Safety Data Sheet

1. Identification of the Substance/Mixture and the Supplier

Organization Name	:	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 (NMIJ)
Person in Charge	:	Person in Charge of Certified Reference Materials
Telephone No	:	+81-29-861-4059 Fax No. : 029-861-4009
Emergency Contact	:	Same as above
		Prepared on : July 13, 2009
		Revised on : August 31, 2022
		Reference No. : 6007001
Identification of the Material	:	Certified Reference Material NMIJ CRM 6007-a Hydrocortisone
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 applicable
GHS label element	:	Not applicable
Signal work	:	-
Hazard and toxicity	:	-
Other hazards	:	Harmful if inhaled or swallowed in large amounts
Precautionary Statement	:	[Safety Precaution] Use appropriate personal protective equipment so as to avoid inhalation and contact with eyes, skin and clothing. Do not use this reference material for other purposes than testing/research. [First-Aid Measure] If ingested : Make victim drink one or two cups of water or milk to induce vomiting. Get medical advice/attention if there is any problem. If on skin : Get medical advice/attention if inflammation is observed.

[Storage]
Store in clean desiccator in a light-shielded environment at room temperature (15 °C to 25 °C). For prolonged storage, it is recommended to store in a refrigerator at about 5 °C.
[Disposal]
Entrust disposal of this reference material to a professional waste disposal company licensed by prefectural governor.

The other hazards than the above do not result in classification or are not covered by the GHS.

3. Composition/Information on Ingredients

Single or compound product	:	Single product
Chemical name	:	Hydrocortisone
Other name	:	11-β,17-α,21-Trihydroxypregn-4-ene-3,20-dione
Chemical or structural formula	:	$C_{21}H_{30}O_5$
Moledular weight	:	362.47
CAS No.	:	50-23-7
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : - Industrial Safety and Health Act : -
Content	:	99 % or over

4. First-aid Measures

◇If in eyes;
1. Rinse with clean water for more than 15 minutes. Keep the eyelids apart and rinse inside the eyes
2. Seek medical advice immediately

◇If on skin;
1. Rinse with a large amount of water and soap.
2. If developing some symptoms, seek medical advice as needed.

◇If inhaled;
1 Move to a fresh air, and rest. Seek medical advice.
2. Cover the body with a blanket, etc. to keep warm and place at rest.

◇If swallowed;
1. Rinse the mouth well with water
2. If unconscious, do not give anything
3. Seek medical advice

◇Measures to be taken to protect the person applying first aid;
1. Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing media	:	Water spray, powder, carbon dioxide, foam, dry sand.
Specific hazards at the	:	When involving in a fire extinguishing activity, use suitable

time of fire		protective equipment to avoid inhaling smoke containing toxic gases generated (carbon monoxide, etc.) at the time of fire
Specific extinguishing measure	:	Remove combustible sources from the seat of fire and extinguish using appropriate extinguishing agent. Transfer the movable container to a safe place promptly. If impossible to transfer, use water spray on the periphery to cool down. Extinguishing activities on windward side, avoid inhaling toxic gases
Protecting fire-fighting personnel	:	Protective clothing, respirator, self-contained compressed air breathing apparatus, rubber boots.

6. Accidental Release Measures

- Sweep up together the spilled material and collect it in an empty airtight container.
- Use suitable protective equipment to protect the skin from and avoid inhaling powder dust.
- Do not release the material into rivers, etc. and avoid negative environmental impact.

7. Handling and Storage

Handling

・Avoid contact with strong oxidizers
・Use suitable protective equipment to avoid contact with eyes, skin and clothing.
・No eating, drinking or smoking when handling
・Wash hands well after handling
・Entering the handling area only by the authorized persons
・Seal the container after handling

Storage

・Avoid direct sunlight and store in a well ventilated cool place in an airtight container.
・Keep away from oxidizers and other strong oxidizable substances.

※The precautions pertaining to an appropriate storage condition and handling as a reference material can be referred to the authentication certificate.

8. Exposure Controls/Personal Protection

Consideration for safety management

Not established

Occupational exposure level

Not established

Facility engineering

・Use local ventilation system when handling indoor
・Install safety shower, eye washer nearby, and indicate their location.

Protective equipment

・ Protective mask, protective gloves, protective eyeglasses, protective eyeglasses with side

shield, (goggles if necessary), protective clothing, protective boots.

9. Physical and Chemical Properties

・Appearance, etc.	:	Powder
・Color	:	White
・Odor	:	No data
・pH	:	No data
・Melting point	:	Approximately 220 °C (degradation)
・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	:	Poorly soluble in water, ether, chloroform, slightly soluble in ethanol (0.28 mg/ml), methanol, acetone
・*n*-Octanol/water partition coefficient (Log Po/w)	:	No data
・Auto-ignition temperature	:	No data

10. Stability and Reactivity

◇Stability

No data available

◇Reactivity

No data available

◇Conditions to avoid

Sunlight, heat, strong oxidizer

◇Hazardous decomposition products

Carbon monoxide

11. Toxicological Information

Acute toxicity	:	Oral human male	TDLo : 400 mg/kg/10D-I(RTECS)
		Abdominal cavity rat	LD50 : 150 mg/kg(RTECS)
		Subcutaneous rat	LD50 : 449 mg/kg(RTECS)
		Subcutaneous mouse	LD50 : >500 mg/kg(RTECS)

12. Ecological Information

Degradability, concentration

No data available

Bioaccumulation

No data available

Ecotoxicity

No data available

13. Disposal Considerations

・Disposal in compliance with the relevant laws and regulation as well as with the ordinances of the local government
・The container should be cleared and emptied completely before disposing of.

14. Transport Information

UN number	:	Not applicable
UN classification	:	Not applicable
ICAO/IATA	:	Not applicable
Container grade	:	-
Marine pollutant	:	Not applicable
Precautions	:	Transport carefully by avoiding direct sunlight. Prevent the container from falling, dropping, etc that cause spillage, and keep away from fire sources.

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

References
・Registry of Toxic Effects of Chemical Substances NIOSH (2004)

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.