

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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Identity of Substance/Mixture : Certified Reference Material NMIJ CRM 6003-a
 Progesterone
 Recommended Use of the Chemical and Restriction on Use : This reference material is primary standard for use in 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 : -
 Signal word : -
 Hazard and toxicity : -
 Other hazard and toxicity : Irritating on contact with eyes, skin and mucous membrane. Oral ingestion may cause coughing, headache, dizziness, nausea, vomiting and abdominal pain, etc.
 Identified as a carcinogen (IARC:Group 2B, NTP:Group R)
 Precautionary statement : [safety measure]
 In the usual handling, risk is low.
 [Response]
 If swallowed: Induce vomiting by drinking water or saline solution and seek medical advice.
 [Storage]
 Protect from light, and store in a clean place at a temperature of about 15 °C to 25 °C
 [Disposal]
 Disposal of this material should be outsourced to a professional

industrial waste disposal contractor licensed by the prefectural governor.

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

3. Composition/Information on Ingredients

Single or compound product	: Single product
Chemical name	: Progesterone
Other name	: 4-pregnen-3,20-dione
Mass fraction (kg/kg)	: 99.3 %
Chemical formula	: $C_{21}H_{30}O_2$
Molecular weight	: 314.46
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 :-
CAS No.	: 57-83-0

4. Fire-fighting Measures

If in eyes	: Rinse with plenty of water immediately and seek medical advice.
If on skin	: Rinse with a large amount of water and soap. Seek medical advice as needed.
If inhaled	: Move to a fresh air, keep warm and rest. Seek medical advice
If swallowed	: Drink a large amount of water to induce vomiting. Seek medical advice.
Measures to be taken to protect the person applying first aid	: Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing media	: Water spray, fire extinguishing powder
Specific hazards at the time of fire	: When involving in extinguishing activity, use suitable protective equipment to avoid inhaling irritating or toxic gases generated at the time of fire.
Specific extinguishing measures	: 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 to cool the periphery.
Protecting fire-fighting personnel	: Extinguishing activities on windward side, avoid inhaling toxic gases Use protective equipment such as fireproof suit, heat-proof suit, security suit, self-contained compressed air breathing apparatus, circulated breathing apparatus, rubber gloves, rubber boots, etc. depending on the situation

6. Accidental Release Measures

- | | | |
|---|---|--|
| Personal precautions, protective equipment and emergency procedures | : | Removed promptly the neighboring ignition source. The equipment for digestion is prepared in the case of ignition. |
| | : | If released indoor, ventilate well until the treatment is completed. Use suitable protective equipment to protect the skin from and avoid inhaling the suspended solids, etc. |
| Environmental precautions | : | To prevent causing environmental impact, do not release the spilled material into rivers, etc. directly. Treat the contaminated waste water appropriately before discharging to the environment. |
| Recovery, neutralization | : | Sweep up together the spilled material and collect in an empty container. Wipe the spilled spot with waste cloth or wiper, etc. |
| Measures to prevent secondary accident | : | Rope-off the leaked area and restrict access only to the authorized person. Evacuate the people on the leeward and work on the windward side. |

7. Handling and Storage

Handling

- | | | |
|----------------------|---|--|
| •Technical measure | : | <ul style="list-style-type: none"> •Avoid exposure of a long period of time or a repetition. •Contact with a strong oxidizing reagent is avoided. •An eye shield, protective gloves, and a protective mask are used. •If it adheres, it washes well with soap. |
| •Safe handling notes | : | <ul style="list-style-type: none"> •Shocks, such as a turnover and fall down, are not given to a container •Rough treatment of dragging a container etc. is not given to a container •Take measures to prevent spill, overflow, and scatter, and control the dust from forming. •Seals a container after use. •Wash hands, face, etc. well and gargle after handling. •No eating, drinking, or smoking when handling •The protective equipment polluted is not carried in the rest room •Entering the handling area only by the authorized persons •Use suitable protective equipment to prevent contact with eyes, skin and clothing. •Use a local ventilation system in workroom |

Storage

- | | | |
|-------------------------|---|---|
| •Storage conditions | : | Sealed and kept in a cool place with the sufficient ventilation which intercepted sunlight. |
| •Technical measure | : | Kept in a place with cool sufficient ventilation interception from sunlight |
| •Incompatible substance | : | Storage with an oxidizing material and an oxidizing reagent is |

- avoided.
- Safe container : Polyethylene, Polypropylene
 - packaging material

8. Exposure Controls/Personal Protection

Administrative level

Not established

Occupational exposure level

- ACGIH TLV-TWA : Not established

- Japan Society for Occupational Health Recommended Reference Value : Not established

Health Recommended

Reference Value

- OSHA PEL TWA : Not established

Facility engineering

- Ventilation, exhaust : Enclose the source and install local ventilation system when handling indoor.

Protective equipment

- Respiratory organ : Particulate mask

- Hands : Protective gloves

- Eyes : Protective glasses

- Skin and body : Long sleeved protective clothing, safety boots

9. Physical and Chemical Properties

- Appearance, etc. : Powder
- Color : White
- Odor : No data
- pH : No data
- Melting point : 128 °C to 133 °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 : Miscible in ethanol, acetone, miscible in water,
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data
- Specific optical rotation [α]_{D20} : +176° to 184°(c=2, 1,4-dioxane)

10. Stability and Reactivity

- ◇Stability
 - deterioration with light
 - ◇reactivity
 - decomposed with light or strong oxidizing reagent
 - ◇Conditions to avoid
 - Sunlight, heat, contact with strong oxidizing reagent
 - ◇Hazardous decomposition products
 - Carbon monoxide
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11. Toxicological Information

- Acute toxicity : Abdominal cavity rat LD50:327 mg/kg(RTECS)
rat TDLo:20 mg/kg(RTECS)
mouse TDLo:5 µg/kg(RTECS)
mouse TDLo:16 µg/kg(RTECS)
vein mouse TDLo:100 mg/kg(RTECS)
muscle rat TDLo:1000 µg/kg(RTECS)
Subcutaneous rat TDLo:25 µg/kg(RTECS)
rat TDLo:2500 µg/kg(RTECS)
- Skin corrosivity/irritation : No data available
- Severe damage to eyes/
eye irritation : No data available
- Germ cell mutagenicity : No data available
- Carcinogenicity : Subcutaneous mouse TDLo:40 mg/kg(RTECS)
NTP: Group R (carcinogenic to humans)
IARC:Group 2B (carcinogenic to humans)
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12. Ecological Information

- Degradability, concentration
- No data available
- Bioaccumulation
- No data available
- Ecotoxicity
- No data available
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13. Disposal Considerations

- Residual waste : Incineration method
Destroys by fire with the incinerator equipped with the scrubber. Disposal in compliance with the relevant laws and regulations as well as the ordinances of the local government.
- A pollution container and packing : The container should be cleared and emptied completely before disposing of.
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14. Transport Information

UN No.	:	Not applicable
UN classification	:	Not applicable
Item	:	-
Bottle grade	:	-
Marine pollutant	:	Not applicable
Precautions	:	Do not handle roughly, no dropping, falling or damaging when loading. Ensure to prevent the container from collapsing. Avoid sunlight.

15. Regulatory Information

None

- ◎ **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.**
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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.
