Safety Data Sheet

National Institute of Advanced Industrial Science and Technology
AIST

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 : December 28, 2010
		Revised on : April 26, 2018
		ID Number : 7404001
Identity of Substance/Mixture	:	Certified reference material: NMIJ CRM 7404-a Organic Pollutants in Japanese Seabass Tissue
Recommended Use of the Chemical and Restriction on Use	:	This CRM is intended for use in controlling the precision of analysis or confirming the validity of analytical methods or instruments during analysis of polychlorinated biphenyls (PCBs) and organochlorine pesticides (OCPs) in fish tissue samples and similar materials. Do not use this reference material for other purposes than testing/research.

2. Hazards Identification

GHS Classification	:	No classification
GHS Label Element	:	-
Signal Word	:	-
Hazards Statement	:	-
Other Hazards Statement	:	In case one inhales a large amount of dust, it can accumulate in the respiratory system and cause damage.
Precautionary Statement	:	[Safety Precaution] Although the low risk in normal handling, wear a protective mask and protective gloves, to avoid the inhalation of dust. ［Action］ In case of inhalation of plenty amount of dust, get medical advice/attention. If in eyes: Rinse with plenty amount of water for several minutes. Get medical advice/attention. ［Storage］ Store this reference material in a light-shielded clean environment at 2 °C to 10 °C. Once the container of this CRM was opened, close the container

tightly as much as possible.
Store in a locked area.
［Disposal］
This CRM contains the class I specified chemicals, therefore handle this CRM in accordance with Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and Wastes Disposal and Public Cleansing Act.

Hazards not mentioned above are either not classifiable or not applicable.

3. Composition/Information on Ingredients

Single substance/Mixture	:	Mixture
Chemical name	:	Powder of Japanese Seabass Tissue
Synonym	:	-
Chemical formula	:	-
Molecular weight	:	-
CAS number	:	-
Content	:	-
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 : -

This CRM contains components shown below;

Ingredient 1

Chemical name	:	Polychlorinated biphenyls (Class I specified chemical substances, No.1)
Synonym	:	PCBs
Chemical formula	:	-
Molecular weight	:	-
CAS number	:	1336-36-3
Content	:	About 28 µg/kg
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (1)-306 Industrial Safety and Health Act : Published

Ingredient 2

Chemical name	:	1,1,1-Trichloro-2,2-bis [4-chlorophenyl] ethane (Class I specified chemical substances, No.7)
Synonym	:	4,4'-DDT
Chemical formula	:	$C_{14}H_9Cl_5$
Molecular weight	:	354.49
CAS number	:	50-29-3
Content	:	About 2 µg/kg

Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (4)-910 Industrial Safety and Health Act : Published

Ingredient 3

Chemical name	:	1,1-Dichloro-2,2-bis [4-chlorophenyl] ethylene
Synonym	:	4,4'-DDE
Chemical formula	:	$C_{14}H_8Cl_4$
Molecular weight	:	318.03
CAS number	:	72-55-9
Content	:	About 18 μg/kg
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 : -

Ingredient 4

Chemical name	:	1,1-Dichloro-2,2-bis [4-chlorophenyl] ethane
Synonym	:	4,4'-DDD
Chemical formula	:	$C_{14}H_{10}Cl_4$
Molecular weight	:	320.05
CAS number	:	72-54-8
Content	:	About 4 μg/kg
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 : -

Ingredient 5

Chemical name	:	(1aα,2β,2aα,3β,6β,6aα,7β,7aα)-3,4,5,6,9,9-hexachloro -1a, 2,2a, 3,6,6a, 7,7a- octahydro 2,7: 3,6 Jimetanonafuto [2,3-b] Oxirene (Class I specified chemical substances, No.5)
Synonym	:	Dieldrin
Chemical formula	:	$C_{12}H_8Cl_6O$
Molecular weight	:	380.91
CAS number	:	60-57-1
Content	:	About 2 μg/kg
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (4)-299 Industrial Safety and Health Act : Published

Ingredient 6

Chemical name	:	(1α,2β,3α,3aα,4β,7β,7aα)-1,2,3,4,5,6,7,8,8-Nonachlor-2,3,3a,4,7,7 a-Hexahydro-4,7-methano -1H- indene
Synonym	:	trans-Nonachlor
Chemical formula	:	$C_{10}H_5Cl_9$
Molecular weight	:	444.227
CAS number	:	39765-80-5

Content	:	About 6 μg/kg
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 : -

4. First-aid Measures

Eye contact	:	Wash eyes with plenty of clean water. Seek medical attention, if necessary.
Skin contact	:	Wash eyes with plenty of clean water.
Inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing and warm. Get medical advice/attention immediately.
Ingestion	:	Rinse mouth thoroughly with water.
Expected acute symptoms and delayed symptoms, most important signs and symptoms	:	-
Most Critical Characteristic and Symptom	:	-
Protection for first aid provider	:	Wear appropriate protective equipment to avoid any exposure.

5. Fire-fighting Measures

Extinguishing Media	:	Use a fire extinguishing agent suitable for surrounding fire.
Specific hazards with regard to fire-fighting	:	No information
Specific methods of fire-fighting	:	No information
Protection for firefighters	:	Use personal protective equipment such as fire protection clothing, heat-resistant clothing, protective clothing, breathing apparatus, circulating oxygen respirator, rubber gloves, and rubber boots.

6. Accidental Release Measures

Personal precautions	:	–
Protective equipment and emergency measures	:	–
Environmental precautions	:	–
Recovery and	:	In case of leakage, retrieve and completely eliminate with tools

neutralization such as vacuum cleaner.
Prevention of secondary disaster : -

7.Handling and Storage

Handling

- Do not use this reference material for other purposes than testing/research.
- Avoid the inhalation of dust.
- Avoid any leakage into the environment.

Storage

- Store in a dark and clean environment at 2 °C to 10 °C.
- Once the container of this CRM was opened, stored at as much as possible a closed state.
- Store in a locked area.

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

8. Exposure Controls/Personal Protection

Threshold Limit Value

Polychlorinated biphenyl 0.1 mg/m^3

Permissible Concentration (Polychlorinated biphenyl)

- ACGIH TLV-TWA (2006) : 1 mg/m^3(skin, Cl 42%)
  0.5 mg/m^3(skin, Cl 54%)
- Value recommended by Japan Society for Occupational Health(2006) : 0.01 mg/m^3(skin)Provisional value

Permissible Concentration (4,4'-DDT)

- ACGIH TLV-TWA(2003) : 1 mg/m^3
- Value recommended by Japan Society for Occupational Health(2003) : Not specified

Permissible Concentration (Dieldrin)

- ACGIH TLV-TWA(2007) : 0.25 mg/m^3(percutaneous absorption)
- Value recommended by Japan Society for Occupational Health(2003) : Not specified

Engineering controls

- When dust is generated, seal the source and provide local exhaust ventilation.

Protective equipment

- Dust mask, protective gloves, and safety glasses

9. Physical and Chemical Properties

- Appearance, etc. : Powder
- Color : Brown

・Odor	:	No data
・pH	:	No data
・Melting point	:	No data
・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	:	Likely to be dissolved in water
・*n*-Octanol/water partition coefficient (Log Po/w)	:	No data
・Auto-ignition temperature	:	No data

10. Stability and Reactivity

◇Stability
・Stable in normal conditions
◇Reactivity
・No-data
◇Conditions to Avoid
・Sunlight, moisture.
◇Hazardous Decomposition Products
・No-data

11. Toxicological Information

Skin Corrosion/ Irritation	: No-data
Serious eye damage/ Eye irritation	: May cause eye irritation.
Respiratory system sensitization	: In case one inhales a large quantity of powder, it can cause problems due to accumulation in the respiratory system.

※Reference information

Acute toxicity	
(Polychlorinated biphenyl)	Oral Mouse LC50:1.9 g/kg
(4,4'-DDT)	Oral Mouse LC50:135 mg/kg
(4,4'-DDE)	Mouse Oral LC50:880 mg/kg
(4,4'-DDD)	Mouse Oral LC50 > 4000 mg/kg
(Dieldrin)	Mouse Oral LC50:38 mg/kg, Human oral LD50:5 mg/kg Rat inhalation LC50:0.013 mg/L Rat dermal LD50:50 mg/kg(Human oral LD50: 5 mg / kg
(trans-Nonachlor)	Rat inhalation LC50: 0.013 mg / L Rat dermal LD50: 50 mg / kg (calculated value) Rat oral LD50: 500 mg / kg) Rat oral LD50:500 mg/kg
Reproductive cell mutagenicity	・Chromosomal abnormality (rat, intraperitoneal): positive

(4,4'-DDT)	・Chromosomal abnormality (rat, intraperitoneal, oral): positive
Carcinogenicity(Polychlorinated biphenyl)	・LARC ; Group 2A ・Japan Society for Occupational Health ; Group 2A
(4,4'-DDT)	・LARC ; Group 2B ・ACGIH ; A3 ・Japan Society for Occupational Health ; Group 2B

12. Ecological Information

Degradability, bioaccumulation properties

・No data available

Bioaccumulation

・No data available

Ecotoxicity

・No data available

*Reference information

<Polychlorobiphenyl>

・Degree of decomposition: 13 %(BY BOD)

・Degree of concentration(multiplying factor): 1120-10300 (carp, 6.6μg/L)
600-160000 (carp, 2.2μg/L)

・Toxicity on killifish: LC50/48H (killifish) = 2.2 mg/L

<4,4'-DDT>

・Degree of decomposition: 0 % (BY BOD)

・Degree of concentration(multiplying factor): 5100 - 24400 (carp, 1 μg/L)
6080 - 25900 (carp, 0.1 μg/L)

・Toxicity on killifish: LC50/48H (killifish) = 33.5 μg/L

<Dieldrin>

・Degree of decomposition: 0 %(BY BOD)

・Toxicity on fish: LC50/48H (killifish) = 27.5 mg/L
LC50/96H (shellfish (brown shrimp))= 0.4 μg/L

13. Disposal Considerations

Residual Waste	:	Dispose of this CRM in accordance with applicable legislation and local government ordinance. Entrust disposal of this CRM to a professional waste disposal company licensed by the prefectural governor.
Contaminated Container and Package	:	Dispose of this CRM in accordance with applicable legislation and local government ordinance. Entrust disposal of this CRM to a professional waste disposal company licensed by the prefectural governor.

14. Transport Information

UN Number : Not applicable

UN Classification	:	-
Shipping Name	:	-
Packing Group		-
ICAO/IATA		Not applicable
Marine Pollutant	:	Not applicable
Precautions	:	Transport this reference material carefully while keeping it away from direct sunlight and preventing accidental release due to falling, overturning, etc.

15. Regulatory Information

◇Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.

・Class 1 Specified Chemical Substances, (No. 1,5,7)

◇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.