

# 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  
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 Emergency Contact : Same as above

Prepared on : May 26, 2014  
 Revised on : August 31, 2022  
 ID Number : 8155001

Identity of Substance/Mixture : Certified reference material NMIJ CRM 8155-a  
 Perfluoroalkyl Substances in ABS Resin  
 Recommended Use of the Chemical and Restriction on Use : This reference material can be used, in quantification of perfluoro-octane-sulfonate (PFOS) or its salts, for quality control of analysis and validation of analysis method/equipment. 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 : -  
 Hazards Statement : -  
 Other Hazards Statement : Contains PFOS (perfluoro-octane-sulfonate) which is Class 1 Specified Chemical Substance stipulated in Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.  
 Precautionary Statement : [Precaution]  
 Do not eat, drink or smoke when using this reference material.  
 Wear protective gloves/eye protector.  
 Avoid release to the environment.  
 Wash hands thoroughly after handling.  
 [Action]  
 Get medical advice/attention as necessary.  
 [Storage]  
 Protect from direct sunlight. Store in a dark place at room temperature (15 °C to 25 °C).  
 Store in a locked area.  
 [Disposal]

This reference material contains PFOS (perfluoro-octane-sulfonate) which is Class 1 Specified Chemical Substance. Handle it in accordance with Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. and store and dispose it in accordance with Wastes Disposal and Public Cleansing Act. Abide by applicable legislation and local government ordinance. Entrust disposal of this reference material to a professional waste disposal company licensed by prefectural governor.

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

### 3. Composition/Information on Ingredients

Substance/Mixture	:	Mixture
• Ingredient 1		
Chemical Identity	:	Acrylonitrile-butadiene-styrene copolymer
Synonym	:	ABS resin
Content	:	99.8 % or more
Chemical Formula or Structural Formula	:	$(C_8H_8 \cdot C_4H_6 \cdot C_3H_3N)_x$
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (6)-176 Industrial Safety and Health Act : Published
CAS Number	:	9003-56-9
• Ingredient 2		
Chemical Identity	:	Pottasium perfluoro-octane-sulfonate
Content	:	about 0.005 %
Chemical Formula or Structural Formula	:	$C_8F_{17}KO_3S$
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (2)-2810 Industrial Safety and Health Act : Published
CAS Number	:	2795-39-3
• Ingredient 3		
Chemical Identity	:	Pottasium perfluoro-butane-sulfonate
Content	:	about 0.005 %
Chemical Formula or Structural Formula	:	$C_4F_9KO_3S$
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (2)-2810 Industrial Safety and Health Act : Published
CAS Number	:	29420-49-3
• Ingredient 4		
Chemical Identity	:	Sodium perfluoro-octoate
Content	:	about 0.005 %
Chemical Formula or Structural Formula	:	$C_8F_{15}NaO_2$

Structural Formula

Reference Number in : Act on the Evaluation of Chemical Substances and Regulation  
Gazetted List in Japan of Their Manufacture, etc. : (2)-1176  
Industrial Safety and Health Act : Published

CAS Number : 335-95-5

• Ingredient 5

Chemical Identity : Dechlorane plus

Content : about 0.05 %

Chemical Formula or :  $C_{18}H_{12}Cl_{12}$

Structural Formula

Reference Number in : Act on the Evaluation of Chemical Substances and Regulation  
Gazetted List in Japan of Their Manufacture, etc. : (4)-296  
Industrial Safety and Health Act : Published

CAS Number : 13560-89-9

• Ingredient 6

Chemical Identity : Tetra-bromo-bisphenol A

Content : about 0.1 %

Chemical Formula or :  $C_{15}H_{12}Br_4O_2$

Structural Formula

Reference Number in : Act on the Evaluation of Chemical Substances and Regulation  
Gazetted List in Japan of Their Manufacture, etc. : (4)-205  
Industrial Safety and Health Act : Published

CAS Number : 79-94-7

Hazardous Ingredient : Pottasium perfluoro-octane-sulfonate,  
Pottasium perfluoro-butane-sulfonate,  
Sodium perfluoro-octoate,  
Dechlorane plus,  
Tetra-bromo-bisphenol A

#### 4. First-aid Measures

If in eyes : Rinse thoroughly with clean water. Get medical advice/attention.  
If on skin : Rinse thoroughly with clean water. Get medical advice/attention.  
If inhaled : -  
If swallowed : Rinse mouth thoroughly with water. Call a doctor/physician.  
Expected Acute and : -  
Delayed Symptom : -  
Most Critical : -  
Characteristic and Symptom : -  
Protection of First- : Use personal protective equipment.  
Aid Responder

#### 5. Fire-fighting Measures

Extinguishing Media : Pouring water, Water injection, Fire extinguishers, etc.  
Fire-Specific Hazards : In case of fire, this resin emits intense heat, thick black smoke

- and gases containing carbon dioxide, carbon monoxide, nitrogen oxide, etc.
- Specific Fire-Fighting Method : Eliminate ignition sources at the origin of a fire and put out fire by using extinguishing media. Remove movable containers promptly to a safe place. In the case of immovable containers, cool their surroundings with sprayed water.
- Protection of Fire-Fighters : Carry out fire-fighting from the windward in order to avoid breathing hazardous gas. Use personal protective equipment such as fireproof clothing, heat-resistant clothing, protective clothing, compressed air open-circuit self-contained breathing apparatus, compressed oxygen closed-circuit self-contained breathing apparatus, rubber gloves and rubber boots.

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## 6. Accidental Release Measures

- Personal Precaution : Remove potential ignition sources from the vicinity promptly. Get fire-fighting kit ready to be prepared for ignition.
- Personal Protective Equipment and Emergency Procedures : Ventilate the affected areas thoroughly, if it is in an indoor environment, until the clean-up operation is completed. Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Environmental Precautions : Take precautions to prevent spillage from draining into rivers etc. to adversely impact the environment. Make it sure to appropriately treat contaminated wastewater in order to prevent untreated wastewater from being released into the surrounding environment.
- Recovery and Neutralization : Collect spillage in empty containers. Rinse away the remains with plenty of water.
- Prevention of Secondary Disaster : Mark the restricted area with rope etc. to keep out unauthorized people. Carry out the clean-up operation from the windward and make people on the leeward side evacuate.

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## 7. Handling and Storage

- Handling
- Engineering Precautions : Take precautionary measures to prevent accidents caused by static electricity.
- Local and General Ventilation : Keep container tightly closed and use local ventilation system if vapor/mist is generated.
- Precautions for Safe Handling : Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers. Wash hands, face etc. thoroughly and gargle after handling this reference material. Restrict drinking, eating and smoking to a designated area. Do not bring gloves and other contaminated personal protective equipment into staff room.

Make a place handling this reference material a restricted area to keep out unauthorized people.

Use appropriate personal protective equipment to avoid inhalation and contact with eyes, skin and clothing.

Use local ventilation system in indoor handling area.

#### Storage

- Appropriate Storage : Protect from direct sunlight.
- Conditions : Store in a dark place at 15 °C to 25 °C.  
Store in a locked area.
- Safe Container : Plastic container
- Packaging Material

## 8. Exposure Controls/Personal Protection

### Threshold Limit Value

Not specified

### Permissible Concentration

- ACGIH TLV-TWA : Not specified
- Value recommended by Japan Society for Occupational Health : Not specified
- OSHA PEL TWA : Not specified

### Engineering Controls

- Ventilation/Exhaust : Local ventilation system or General ventilation system
- Safety Control/ Gas Detection : -
- Storage Precaution : Protect from direct sunlight. Keep away from combustible substances, reducing substances and strong oxidizers.

### Personal Protective Equipment (PPE)

- Respiratory System : Gas mask for organic gases
- Hands : Protective gloves
- Eyes : Eye protector
- Skin and Body : Protective clothing

### Hygiene Controls

Handle this reference material in accordance with industrial health and safety standards.

## 9. Physical and Chemical Properties

- Appearance, etc. : Solid
- Color : Yellow
- Odor : No data
- pH : No data
- Melting point : No specific melting point  
Gets gradually soften in wide range of temperature (130 °C to 150 °C)
- Boiling point : No data
- Flashing point : 405 °C
- Explosive range : Explosion limit; Lower limit: 60 g/m<sup>3</sup> (Average particle size: 200 μm), Upper limit: none

- Vapor pressure : No data
- Relative vapor density(Air=1) : No data
- Specific gravity or bulk specific gravity : No data
- Solubility : Insoluble in water  
Partially soluble in methyl ethyl ketone, acetone, etc.
- *n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : Not ignited
- Self-reactivity : Not self-reactive at room temperature  
Cool down molten resin promptly with water, however, as the resin gets decomposed to generate decomposition gases at elevated temperature (250 °C to 400 °C).

## 10. Stability and Reactivity

- ◇Stability
  - Stable under normal conditions
- ◇Reactivity
  - No data available
- ◇Conditions to Avoid
  - Sunlight, Heat
- ◇Hazardous Decomposition Products
  - No data available

## 11. Toxicological Information

Acute Toxicity                      Oral    Rat LD50 > 5000 mg/kg (Estimated value)

## 12. Ecological Information

- Persistence and Degradability
  - No data available
- Bioaccumulative Potential
  - No data available
- Ecotoxicity
  - No data available

## 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 : Dispose of this CRM in accordance with applicable legislation and local government ordinance. Entrust disposal of this CRM to a

Package professional waste disposal company licensed by the prefectural governor.

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#### 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 fire and preventing accidental release due to falling, overturning, etc.

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#### 15. Regulatory Information

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

- Class 1 Specified Chemical Substances  
【17 Perfluoro (octane-1-sulfonate) or its salts】

Air Pollution Control Act

- Hazardous Air Pollutants (Central Environmental Council; the 9<sup>th</sup> Report)  
【210 Perfluoro (octane-1-sulfonate)】

Water Quality Pollution Control Act

- Hazardous Substances (Article 2, Enforcement Order: Article 2, Ministerial Ordinance stipulating Effluent Standards: Article 1)  
【25 Fluorine and its compounds】

Soil Contamination Countermeasures Act

- Specified Hazardous Substances (Article 2-1, Enforcement Order: Article 1)  
【21 Fluorine and its compounds】

◇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

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.

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