

# 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 : Same as above  
 Contact

Prepared on : March 31, 2022

Revised on : —

Reference No. : 8156001

Identity of Substance/  
 Mixture : Certified reference material: NMIJ CRM 8156-a Polyvinyl Chloride  
 (Phthalate Esters in PVC Resin Pellet Low Concentration)

(Polyvinyl Chloride (Phthalate Esters in PVC Resin Pellet Low Concentration))

Recommended Use of the Chemical and Restriction on Use : This CRM is intended to be used for analytical quality control and validation of analytical methods and instruments in the quantification of phthalate esters in PVC resin. Do not use this CRM 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 Statement : -

Precautionary Statement : [Safety Precautions]

Use personal protective equipment.

[First-Aid Measures]

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a doctor/physician if you feel unwell.

If on skin or hair: Rinse with plenty of water.

If skin irritation occurs: Get medical advice/attention.

In in eyes: Rinse cautiously with water for several minutes. Remove contact lens, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

If swallowed: Rinse mouth. Call a doctor/physician if you feel unwell.

[Storage]

Protect from sunlight. Store in a clean place at temperatures of 15 °C to 35 °C. Do not keep PVC resin pellets in contact with other plastic such as lid for a prolonged time.

[Disposal]

Abide by applicable legislation and ordinances set by local governments.

Entrust disposal of this CRM to a professional waste disposal company licensed by prefectural governor.

The other hazards than the above do not result in classification or are not classifiable.

### 3 . Composition/Information on Ingredients

Substance/Mixture	: Mixture
Chemical Identity or trivial name	: Polyvinyl chloride
Ingredient (1)	Vinyl chloride resin
Synonym	: Chloroethene polymer
CAS Number	: 9002-86-2
Content	: about 96 %
Chemical Formula or Structural Formula	: (C <sub>2</sub> H <sub>3</sub> Cl) <sub>n</sub>
Molecular Weight	: 60,000 ~ 150,000 at maximum
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: 6-66
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: -
Ingredient (2)	: Zinc stearate
Synonym	Zinc distearate, Zinc salt stearate, Zincate octadecanoic acid
CAS Number	: 557-05-1
Content	: about 3.8%
Chemical Formula or Structural Formula	: C <sub>36</sub> H <sub>70</sub> O <sub>4</sub> Zn
Molecular Weight	: 632.34
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (2)-615
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: (2)-615
Ingredient (3)	Calcium stearate
Synonym	: Calcium bis-stearate, Calcium octadecanoate
CAS Number	: 1592-23-0
Content	: about 0.07 %

Chemical Formula or Structural Formula	: $C_{36}H_{70}CaO_4$
Molecular Weight	: 607.02
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (2)-611
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: (2)-611
Ingredient (4)	: Dimethyl terephthalate
Synonym	: 120-61-6
CAS Number	: 0.02%
Content	: $C_{10}H_{10}O_4$
Chemical Formula or Structural Formula	: 194.19
Molecular Weight	: (3)-1328
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1328
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: -
Ingredient (5)	: Diethyl phthalate
Synonym	:
CAS Number	: 84-66-2
Content	: 0.02 %
Chemical Formula or Structural Formula	: $C_{12}H_{14}O_4$
Molecular Weight	: 222.24
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1301
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: -
Ingredient (6)	: Dipropyl phthalate
Synonym	:
CAS Number	: 131-16-8
Content	: 0.02 %
Chemical Formula or Structural Formula	: $C_{14}H_{18}O_4$
Molecular Weight	: 250.29
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: Not applicable
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: 4-(7)-2329
Ingredient (7)	: Di-n-butyl phthalate
Synonym	: Dibutyl phthalate, DBP
CAS Number	: 84-74-2
Content	: 0.02 %
Chemical Formula or	: $C_{16}H_{22}O_4$

Structural Formula	
Molecular Weight	: 278.348
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1303
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: Existing chemical substance
Ingredient (8)	: Diisobutyl phthalate
Synonym	
CAS Number	: 84-69-5
Content	: 0.02 %
Chemical Formula or Structural Formula	: $C_{16}H_{22}O_4$
Molecular Weight	: 278.35
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1303
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: Existing chemical substance
Ingredient (9)	: Dipentyl phthalate
Synonym	: Dipentyl=phthalate, Diamyl=phthalate, Diamyl phthalate
CAS Number	: 131-18-0
Content	: 0.02 %
Chemical Formula or Structural Formula	: $C_{18}H_{26}O_4$
Molecular Weight	: 306.41
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: -
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: -
Ingredient (10)	: Dihexyl phthalate
Synonym	: Dihexane-1-yl=phthalate
CAS Number	: 84-75-3
Content	: 0.02 %
Chemical Formula or Structural Formula	: $C_{20}H_{30}O_4$
Molecular Weight	: 334.45
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: 3-1307
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: -
Ingredient (11)	: Dichlorohexane-1-yl=phthalate
Synonym	: Dicyclohexyl phthalate
CAS Number	: 84-61-7
Content	: 0.02 %
Chemical Formula or Structural Formula	: $C_{20}H_{26}O_4$

Molecular Weight	:	330.4
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1311 (5)-165
Reference Number in Gazetted List in Japan	:	Industrial Safety and Health Act: -
Ingredient (12)	:	Di-n-heptyl phthalate
Synonym	:	Benzene-1,2-diheptyl dicarboxylate
CAS Number	:	3648-21-3
Content	:	0.02 %
Chemical Formula or Structural Formula	:	$C_{22}H_{34}O_4$
Molecular Weight	:	362.51
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1307
Reference Number in Gazetted List in Japan	:	Industrial Safety and Health Act: (3)-1307
Ingredient (13)	:	Di-n-octyl phthalate
Synonym	:	-
CAS Number	:	177-84-0
Content	:	0.02 %
Chemical Formula or Structural Formula	or	$C_{24}H_{38}O_4$
Molecular Weight	:	390.56
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: 3-1307
Reference Number in Gazetted List in Japan	:	Industrial Safety and Health Act: 3-1307
Ingredient (14)	:	Bis(2-ethylhexyl) phthalate
Synonym	:	DEHP
CAS Number	:	117-81-7
Content	:	0.02 %
Chemical Formula or Structural Formula	:	$C_{24}H_{38}O_4$
Molecular Weight	:	390.56
Reference Number in Gazetted List in Japan	:	Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1307
Reference Number in Gazetted List in Japan	:	Industrial Safety and Health Act: Existing chemical substance
Ingredient (15)	:	Diisooctyl phthalate
Synonym	:	
CAS Number	:	27554-26-3
Content	:	0.02 %
Chemical Formula or Structural Formula	:	$C_{24}H_{38}O_4$
Molecular Weight	:	390.56

Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: (3)-1307
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: Existing chemical substance
Ingredient (16)	: n-butyl=benzyl phthalate
Synonym	
CAS Number	: 85-68-7
Content	: 0.02 %
Chemical Formula or Structural Formula	: C <sub>19</sub> H <sub>20</sub> O <sub>4</sub>
Molecular Weight	: 312.36
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.: 3-1312
Reference Number in Gazetted List in Japan	: Industrial Safety and Health Act: -

#### 4 . First-aid Measures

If Inhaled	: Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.
If on Skin	: Rinse thoroughly with clean water. Remove/Take off all contaminated clothing, shoes, etc. If skin irritation or rash occurs: Get medical advice/attention.
If in Eyes	: Rinse cautiously with water for several minutes. Remove contact lens, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If Swallowed	: Rinse mouth thoroughly. Call a doctor/physician.
Precautions required to protect First-Aiders	: First-Aiders must use personal protective equipment.

#### 5 . Fire-fighting Measures

Suitable Extinguishing Media	: Use such extinguishing media as powder and carbon dioxide in early-stage fire-fighting. Foam extinguishing agent for water-soluble liquid (Alcohol- resistant foam), Carbon dioxide, Powder, Sand, Water, Extinguishing media appropriate for surrounding fire
Unsuitable Extinguishing Media	: No data available
Fire-Specific Hazards	: In case of fire: Emit toxic carbon oxides and hydrogen chloride
Specific Fire-Fighting Method	: Eliminate ignition sources at the origin of fire and put out fire by using extinguishing media. Move movable containers promptly to a safe place. If containers are immovable, cool their surroundings with water spray.
Special protection	: Fight fire from upwind to avoid breathing hazardous gas. Use

equipment and precaution for Fire-Fighters	personal protective equipment such as fire protection clothing, heat-resistant clothing, protective clothing, compressed air open-circuit self-contained breathing apparatus, circulating oxygen respirator, rubber gloves, and rubber boots.
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## 6 . Accidental Release Measures

Personal Precaution, Personal Protective Equipment and Emergency Procedures	: Eliminate things promptly which may catch fire. Make fire extinguishing media/equipment available to prepare for potential ignition. Ventilate the affected areas thoroughly, if it is in an indoor environment, until the clean-up operation is completed. Wear 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 spillages from draining into rivers etc. to adversely affect the environment. Take precautions to prevent untreated wastewater from being released into the surrounding environment.
Method and Tool for Confinement and Clean-up	: Collect spillages in empty containers by getting them adsorbed to wiping cloth, rag, or soil and sand, etc. Rinse away the remains with plenty of water.

## 7 . Handling and Storage Precautions

### Handling

Engineering Precautions (Local and General Ventilation, etc.)	: Handle in a well-ventilated area. Install facilities to rinse eyes and wash body near a handling place to prepare for emergency. Avoid rough handling such as knocking over, dropping, dragging, and giving a shock to container. Tightly close container after every use. Make a place handling this CRM a restricted area to keep out unauthorized people. Contaminated work clothing should not be allowed out of the workplace. Handle in a place equipped with local ventilation system or general ventilation system.
Precautions for Safe Handling	: Handle this CRM in a way to prevent aerosol and dust from being emitted.
Incompatible Materials	: No data available
Hygiene Controls	: Handle this CRM in accordance with industrial health and safety code. Restrict drinking, eating and smoking to a designated area. Wash hands, face, etc. thoroughly and gargle after handling. Do not bring gloves and other contaminated personal protective

equipment into staff room.

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

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

#### Storage

- Safe Storage : Protect from direct sunlight. Store in a well-ventilated cool area.  
 Conditions : Keep container tightly closed. Do not keep PVC resin pellets in contact with other plastic such as lid for a prolonged time.  
 Safe Container : Glass  
 Packaging Materials

※Refer to the Certificate for appropriate storage conditions and instructions for use as a reference material.

## 8 . Exposure Controls/Personal Protection

### Threshold Limit Value

No data available

### Permissible Concentration (Dimethyl terephthalate)

- ACGIH TLV-TWA : No data available  
 Values recommended by Japan Society for Occupational Health : 8 mg/m<sup>3</sup>  
 OSHA PEL TWA : No data available

### Permissible Concentration (Diethyl phthalate)

- ACGIH TLV-TWA : TLV-TWA 5 mg/m<sup>3</sup>  
 Values recommended by Japan Society for Occupational Health : 5 mg/m<sup>3</sup>  
 OSHA PEL TWA : No data available

### Permissible Concentration (Di-n-butyl phthalate)

- ACGIH TLV-TWA : TLV-TWA 5 mg/m<sup>3</sup>  
 Values recommended by Japan Society for Occupational Health : 5 mg/m<sup>3</sup>  
 OSHA PEL TWA : No data available

### Permissible Concentration (Bis(2-ethylhexyl) phthalate))

- ACGIH TLV-TWA : TLV-TWA 2 ppm  
 Values recommended by Japan Society for Occupational Health : 5 mg/m<sup>3</sup>  
 OSHA PEL TWA : No data available

### Permissible Concentration (Vinyl chloride resin)



ACGIH TLV-TWA	: TLV-TWA: 1 mg/m <sup>3</sup> (R) (Pneumoconiosis)
Values recommended by Japan Society for Occupational Health	: (Respirable fraction) 2 mg/m <sup>3</sup> (Total dust) 8 mg/m <sup>3</sup>
OSHA PEL TWA	: No data available
Permissible Concentration (Zinc stearate)	
ACGIH TLV-TWA	: TLV-TWA: 10 mg/m <sup>3</sup> Respirable particulate matter excluding stearate which is toxic metal TLV-TWA: 3 mg/m <sup>3</sup> Stearate which is toxic metal excluding respirable particulate matter
Values recommended by Japan Society for Occupational Health	: No data available
OSHA PEL TWA	: No data available
Permissible Concentration (Calcium stearate)	
ACGIH TLV-TWA	: TLV-TWA: 10 mg/m <sup>3</sup> Respirable particulate matter excluding stearate which is toxic metal TLV-TWA: 3 mg/m <sup>3</sup> Stearate which is toxic metal excluding respirable particulate matter
Values recommended by Japan Society for Occupational Health	: No data available
OSHA PEL TWA	: No data available
Engineering Controls	
Ventilation/Exhaust	: Local ventilation system or General ventilation system
Safety Control/Gas Detection	: Measuring equipment, Detecting tube
Storage Precautions	: Keep container tightly closed. Do not keep PVC resin pellets in contact with other plastic such as lid for a prolonged time. Right side up with care.
Personal Protective Equipment	
Respiratory System	: Appropriate protective equipment for respiratory system
Hands	: Protective gloves
Eyes and Face	: Eye protector, Eye protector with side plates, or Goggle for chemical products
Skin and Body	: Protective garment

## 9. Physical and Chemical Properties

• Physical State : Solid (Pellet)

- Color : Ash gray
- Odor : No data available
- Melting Point/Freezing Point : No data available
- Boiling Point or Initial Boiling Point and Boiling Point Range : No data available
- Flammability : No data available
- Lower Explosion Limit and Upper Explosion Limit/Flammability Limit : No data available
- Flashing Point : No data available
- Auto-Ignition Temperature : No data available
- pH : No data available
- Kinetic Viscosity : No data available
- Solubility : Insoluble in water
- Partition Coefficient: *n*-octanol/Water : No data available
- Vapor Pressure : No data available
- Density and/or Relative Density : No data available
- Relative Gas Density : No data available
- Particle Characteristics : No data available

## 10. Stability and Reactivity

- Reactivity : No data available
- Chemical Stability : Stable under recommended storage conditions
- Possibility of : No data available
- Hazardous Reactions
- Conditions to Avoid : Sunlight, Heat
- Incompatible Materials : No data available
- Hazardous : No data available
- Decomposition
- Products

## 11. Toxicological Information

- Acute Toxicity : (Dimethyl terephthalate)
  - Oral Rat LD<sub>50</sub> 4290 mg/kg
  - (Diisobutyl phthalate)
  - Oral Rat LD<sub>50</sub> > 5000 mg/kg
  - Dermal Guinea pig LD<sub>50</sub> > 10000 mg/kg
  - (Dihexyl phthalate)
  - Oral Rat LD<sub>50</sub> 29600 mg/kg
  - Dermal Rabbit LD<sub>50</sub> > 19800 mg/kg
  - (Di-n-octyl phthalate)
  - Dermal Guinea pig LD<sub>50</sub> 73350 mg/kg
  - (n-butyl=benzyl phthalate)
  - Oral Rat LD<sub>50</sub> 2330 mg/kg

	Dermal Rabbit LD <sub>50</sub> 2000 mg/kg
Skin Corrosion/ Irritation	: (Diethyl phthalate) Human Skin irritation
Serious Eye Damage/ Eye Irritation	: (Dimethyl terephthalate) Rabbit Mild irritation (Diethyl phthalate) Rabbit Mild irritation (Bis(2-ethylhexyl) phthalate) Rabbit Mild conjunctiva rubor
Sensitization – Respiratory or Sensitization - Skin	: No data available
Germ Cell Mutagenicity (Mutagenicity)	: No data available
Carcinogenicity	: [IARC] (Vinyl chloride) Group 3 : Not classifiable as to carcinogenicity to humans (Bis(2-ethylhexyl) phthalate) Group 2B : Possibly carcinogenic to humans (n-butyl=benzyl phthalate) Group 3 : Not classifiable as to carcinogenicity to humans [ACGIH] (Vinyl chloride resin) A4 : Not classifiable as a human carcinogen (Zinc stearate) A4 : Not classifiable as a human carcinogen (Calcium stearate) A4 : Not classifiable as a human carcinogen (Diethyl phthalate) A4 : Not classifiable as a human carcinogen (Bis(2-ethylhexyl) phthalate) A3 : Confirmed animal carcinogen with unknown relevance to humans [Japan Society for Occupational Health] (Bis(2-ethylhexyl) phthalate)
Reproductive Toxicity	: No data available
Specific Target Organ Toxicity (Single Exposure)	: (Vinyl chloride resin) Respiratory tract irritation (Dimethyl terephthalate) Respiratory tract irritation (Diethyl phthalate) Respiratory tract irritation, Narcotic action (n-butyl phthalate) Respiratory tract irritation (Dicyclohexane-1-yl=phthalate)

Respiratory tract irritation  
(Bis(2-ethylhexyl) phthalate)  
Respiratory tract irritation

Specific Target Organ Toxicity : (Vinyl chloride resin)  
(Repeated Exposure) Respiratory system  
Aspiration Hazard : No data available

※ Section “Toxicological Information” is prepared based on the information on the raw material because no information on the mixture is available.

This CRM is stable under conditions of normal handling and there is no risk of elution of hazardous additives. In case of handling this CRM under special conditions, such as high temperatures, however, it is recommended to take sufficient safety precautions.

## 12. Ecological Information

Ecotoxicity : Hazard to the Aquatic Environment  
(Bis(2-ethylhexyl) phthalate)  
Crustacea: Daphnia magna EC<sub>50</sub>/(48 h) 0.133 mg/L  
NOEC/(21days)0.077 mg/L  
(Di-n-octyl phthalate)  
Crustacea: Daphnia magna EC<sub>50</sub>/(48 h) 0.000669 mg/L  
Fish: Fathead minnow LC<sub>50</sub>/(96 h) 0.045 mg/L  
(Dimethyl terephthalate)  
Fish: Fathead minnow LC<sub>50</sub>/(96 h) 9.6 mg/L  
Crustacea: Daphnia magna NOEC/(21days) 1.72 mg/L  
(Di-n-heptyl phthalate)  
Crustacea: Daphnia magna NOEC/(21days) 0.040 mg/L  
(Zinc stearate)  
Crustacea: Daphnia magna EC<sub>50</sub>/(48 hours) 100 mg/L  
(Dicyclohexane-1-yl=phthalate)  
Crustacea: Daphnia magna EC<sub>50</sub>/(48 hours) 2.0 mg/L  
(Diethyl phthalate)  
Fish: Rainbow trout (Oncorhynchus mykiss) LC<sub>50</sub>/(96 h) 1.2 mg/L  
Crustacea: Daphnia magna NOEC/(21 days) 3.8 mg/L  
(Diisobutyl phthalate)  
Fish: Fathead minnow LC<sub>50</sub>/(96 h) 0.9 mg/L  
Crustacea: Daphnia magna NOEC/(21 days) 0.11 mg/L  
(Di-n-butyl phthalate)  
Fish: Yellow perch LC<sub>50</sub>/(96 h) 0.35 mg/L  
Crustacea: Gammaridae NOEC/(10 days) 0.10 mg/L  
(n-butyl=benzyl phthalate)  
Algae: EC<sub>50</sub>/(96 h) 0.11  
Fish: Rainbow trout (Oncorhynchus mykiss) NOEC/(35 days)  
0.095 mg/L

Persistence and Degradability : (Bis(2-ethylhexyl) phthalate)  
Rapidly degradable (BOD: 69 %)

	(Di-n-octyl phthalate)
	BOD : 67 %
	(Dimethyl terephthalate)
	Rapidly degradable (Readily degradable BOD: 84 %/14 days ;
	HPLC: 100 %/14 days)
	(Di-n-heptyl phthalate)
	BOD : 85.2 % (Hydrolyzed phthalate)
	(Zinc stearate)
	Not rapidly degradable (OECD: 5 %)
	(Dicyclohexane-1-yl=phthalate)
	BOD : 68.5 %/4 week
	(Diethyl phthalate)
	Rapidly degradable BOD: 88 %
	(Diisobutyl phthalate)
	Rapidly degradable BOD: 98 %
	(Di-n-butyl phthalate)
	BOD: 69 % ; BOD5: COD ratio=0.63
	(n-butyl=benzyl phthalate)
	Rapidly degradable (BOD= 80.9 %/14 days)
Bioaccumulation Potential	: (Bis(2-ethylhexyl) phthalate)
	log Pow=5.03 ; BCF=840
	(Di-n-octyl phthalate)
	log Pow=8.1
	(Dimethyl terephthalate)
	log Pow=2.25
	(Diisooctyl phthalate)
	log Pow=3 through 4 (estimated)
	(Di-n-heptyl phthalate)
	log Pow=ca.7.6 ; BCF=16.7
	(Zinc stearate)
	log Pow=1.2
	(Dicyclohexane-1-yl=phthalate)
	log Pow=5.6
	(Diethyl phthalate)
	log Pow=2.42
	(Diisobutyl phthalate)
	log Pow=4.11
	(Di-n-butyl phthalate)
	log Pow=4.72
	(n-butyl=benzyl phthalate)
	log Pow=4.77
	(Vinyl chloride resin)
	BCF=50
Mobility in Soil	: No data available
Harmful Effects on	: No data available

Ozone Layer

### 13. Disposal Considerations

- Residual Waste : Dispose of this CRM in accordance with applicable legislation and local government ordinance.  
Entrust disposal of residual waste to a professional waste disposal company licensed by prefectural governor etc., or to a local government if it provides disposal services.  
If entrusting disposal of residual waste, make a waste disposal company etc. fully understand relevant risks and hazards.
- Contaminated Container and Package : Dispose of containers after thoroughly removing their contents.

### 14. Transport Information

#### International Regulations

- UN Number : Not applicable  
Shipping Name : Not applicable  
UN Classification : -  
Packing Group : -

#### Japanese Regulations

- Land Transportation : Comply with Fire Service Act, Poisonous and Deleterious Substances Control Act, and High-Pressure Gas Safety Act  
Marine Transportation : Comply with Ship Safety Act and Act on Port Regulations  
Air Transportation : Comply with Civil Aeronautics Act

### 15. Regulatory Information

- ◇ Industrial Safety and Health Act
  - Enforcement Order: Article 18, Appended Table 9 (Dangerous and hazardous substances whose name, etc. must be labeled) "Zinc stearate"
  - Enforcement Order: Article 18-2, Appended Table 9 (Dangerous and hazardous substances whose name, etc. must be notified) "Zinc stearate"
  - Article 57-3: Dangerous and hazardous substances for which risk assessment must be conducted)
- ◇ Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
  - Priority assessment chemical substances
    - Bis(2-ethylhexyl) phthalate No. 66
    - Dimethyl terephthalate No. 67
    - Diethyl phthalate No. 253
- ◇ Air Pollution Control Act
  - Hazardous air pollutants
    - Zinc stearate
    - Dimethyl terephthalate
- ◇ Water Pollution Prevention Law
  - Designated substances

Bis(2-ethylhexyl) phthalate Decree No. 40  
Zinc stearate Decree No. 54

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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 precautions given in this document are applicable only to conditions of normal handling. When handling this CRM under special conditions etc., it is recommended to take safety precautions 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 CRM.

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