

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 7906-a
 Polychlorinated Biphenyl Mixture in Nonane
 Recommended Use of the Chemical and Restriction on Use : Intended use for this CRM is the calibration of instruments, or confirming the validity of analytical methods or instruments during analysis of polychlorinated biphenyls (PCBs) in mineral oil samples and similar materials. 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 : Flammable liquid : Hazard Category 3
 Acute Toxicity (Inhalation) : Hazard Category 4
 Serious Eye Damage/ Eye Irritation : Hazard Category 2A
 Skin sensitization. : Hazard Category 2
 Respiratory system toxicity, if inhaled : Hazard Category 1
 Specific Target Organ Toxicity/Systemic Toxicity (Single Exposure) : Hazard Category 3 (respiratory tract irritation, anesthetic action)

GHS Label Element :



Signal Word : Danger
 Hazards Statement : Flammable liquid and vapor
 Causes skin irritation
 Causes serious eye irritation

		Harmful if inhaled
		May cause respiratory irritation
		May cause drowsiness or dizziness
		May be fatal if swallowed and enters airways
Other hazard and toxicity	:	Watch out for fire as this reference material is combustible. PCB: Class 1 Specified Chemical Substances (Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc., Article 2-2, Enforcement Order: Article 1
Precautionary Statement	:	【Precaution】 Do not breathe dust, mist, vapors, and spray. Use protective gloves, protective glasses and face mask. Use only outdoors or in a well-ventilated area. Keep away from ignition sources such as heat/sparks/open flames/hot surfaces. No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Use explosion-proof electrical/ventilating/lighting equipment. Ground container and receiving equipment. Seal tightly after use. 【First-aid Action】 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If swallowed: Rinse mouth. Immediately get medical advice/attention. If you feel unwell: Get medical advice/attention. If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with plenty of soap and water/shower. If skin irritation occurs: Get medical advice/attention. Wash the contaminated clothing before re-used. If skin irritation occurs: Get medical advice/attention. Wash hands after use. 【Storage】 Store this CRM in dark, cool and well ventilated place, and seal tightly after use. Store in a locked area. 【Disposal】 Dispose of this reference material in accordance with applicable legislation (Wastes Disposal and Public Cleansing Act, Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes) and local government ordinance.
		Hazards not mentioned above are either not classifiable or not applicable.

3. Composition/Information on Ingredients

Substance/Mixture : Mixture

Ingredient 1

Chemical name : Nonane
 Synonym : n-nonane
 Chemical formula : $\text{CH}_3(\text{CH}_2)_7\text{CH}_3$
 Molecular weight : 128.26
 CAS number : 111-84-2
 Content : 98 % or above
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. : (2)-9
 Industrial Safety and Health Act : Published

Ingredient 2

Chemical name : Polychlorinated biphenyls
 Synonym : PCBs
 Chemical formula : -
 Molecular weight : -
 CAS number : 1336-36-3
 Content : About 200 mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. : -
 Industrial Safety and Health Act : -

Ingredient 3

Chemical name : 2,4'-Dichlorobiphenyl
 Synonym : CB8
 Chemical formula : $\text{C}_{12}\text{H}_8\text{Cl}_2$
 Molecular weight : -
 CAS number : 34883-43-7
 Content : 2.32mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. : -
 Industrial Safety and Health Act : -

Ingredient 4

Chemical name : 2,4,4'-Trichlorobiphenyl
 Synonym : CB28
 Chemical formula : $\text{C}_{12}\text{H}_7\text{Cl}_3$
 Molecular weight : -
 CAS number : 7012-37-5
 Content : 6.16mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. : -

Industrial Safety and Health Act :-

Ingredient 5

Chemical name : 2,2',5,5'-Tetrachlorobiphenyl
 Synonym : CB52
 Chemical formula : C₁₂H₆Cl₄
 Molecular weight : -
 CAS number : 35693-99-3
 Content : 7.5mg/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 6

Chemical name : 2,2',4,5,5'-Pentachlorobiphenyl
 Synonym : CB101
 Chemical formula : C₁₂H₅Cl₅
 Molecular weight : -
 CAS number : 37680-73-2
 Content : 6.61mg/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 7

Chemical name : 2,3',4,4',5-Pentachlorobiphenyl
 Synonym : CB118
 Chemical formula : C₁₂H₅Cl₅
 Molecular weight : -
 CAS number : 31508-00-6
 Content : 5.10mg/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 8

Chemical name : 2,2',3,4,4',5'-Hexachlorobiphenyl
 Synonym : CB138
 Chemical formula : C₁₂H₄Cl₆
 Molecular weight : -
 CAS number : 35065-28-2
 Content : 5.31mg/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 9

Chemical name : 2,2',4,4',5,5'-Hexachlorobiphenyl
 Synonym : CB153
 Chemical formula : C₁₂H₄Cl₆
 Molecular weight : -
 CAS number : 35065-27-1
 Content : 6.99mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 10

Chemical name : 2,2',3,4,4',5,5'-Heptachloro biphenyl
 Synonym : CB180
 Chemical formula : C₁₂H₃Cl₇
 Molecular weight : -
 CAS number : 35065-29-3
 Content : 6.2mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 11

Chemical name : 2,2',3,3',4,4',5,5'-Octachloro biphenyl
 Synonym : CB194
 Chemical formula : C₁₂H₂Cl₈
 Molecular weight : -
 CAS number : 35694-08-7
 Content : 1.52mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 12

Chemical name : 2,2',3,3',4,4',5,5',6-Nonachloro biphenyl
 Synonym : CB206
 Chemical formula : C₁₂HCl₉
 Molecular weight : -
 CAS number : 40186-72-9
 Content : 0.361mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 13

Chemical name : Chlorobiphenyls

Synonym : -
 Chemical formula : C₁₂H₉Cl
 Molecular weight : -
 CAS number : 27323-18-8
 Content : 0.016mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 14

Chemical name : Dichlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₈Cl₂
 Molecular weight : 237.13
 CAS number : 25512-42-9
 Content : 4.33mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 15

Chemical name : Trichlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₇Cl₃
 Molecular weight : 257.55
 CAS number : 25323-68-6
 Content : 32.1mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 16

Chemical name : Tetrachlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₆Cl₄
 Molecular weight : 291.99
 CAS number : 26914-33-0
 Content : 58.4mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 17

Chemical name : Pentachlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₅Cl₅

Molecular weight : 326.437
 CAS number : 25429-29-2
 Content : 40.2mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 18

Chemical name : Hexachlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₄Cl₆
 Molecular weight : 360.88
 CAS number : 26601-64-9
 Content : 35.4mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 19

Chemical name : Heptachlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₃Cl₇
 Molecular weight : 395.32
 CAS number : 28655-71-2
 Content : 23.7mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 20

Chemical name : Octachlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂H₂Cl₈
 Molecular weight : 429.77
 CAS number : 31472-83-0
 Content : 7.14mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan Their Manufacture, etc. :-
 Industrial Safety and Health Act :-

Ingredient 21

Chemical name : Nonachlorobiphenyls
 Synonym : -
 Chemical formula : C₁₂HCl₉
 Molecular weight : -
 CAS number : 53742-07-7

Content : 0.56mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. : -
 Industrial Safety and Health Act : -

Ingredient 22

Chemical name : Decachlorobiphenyl
 Synonym : CB209
 Chemical formula : C12Cl10
 Molecular weight : 498.66
 CAS number : 2051-24-3
 Content : 0.00512mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. : -
 Industrial Safety and Health Act : -

Ingredient 23

Chemical name : 4-chlorobiphenyl
 Synonym : CB3
 Chemical formula : C12H9Cl
 Molecular weight : 188.66
 CAS number : 2051-62-9
 Content : 0.00352mg/kg
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation of
 Gazetted List in Japan : Their Manufacture, etc. : -
 Industrial Safety and Health Act : -

4. First-aid Measures

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

If on skin : Wash with plenty of soap and water.
 If experiencing symptoms: Get medical advice/attention as necessary.

If Inhaled : Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.

If swallowed : Rinse mouth thoroughly with water. Have victim drink a couple of glasses of water or milk. Get medical advice/attention immediately. Do not induce vomiting. Do not give anything orally to an unconscious person.

Measures to be : Use personal protective equipment.
 taken to protect the
 person applying first
 aid

5. Fire-fighting Measures

- Extinguishing Media : Powder, foam, carbon dioxide, dry sand, (rod-like water injection prohibited).
- Unsuitable Extinguishing Media : It is allowed to spray water for the purpose of cooling. Do not use direct water jets to extinguish fire.
- Fire-Specific Hazards : Extremely flammable. Get ignited easily by heat, sparks and flames. May generate irritating, toxic or corrosive gases in the case of fire. Container may be exploded if it is heated.
- Specific Fire-Fighting Method : Eliminate ignition sources at the origin of a fire and put out fire by using appropriate extinguishing media. Carry out fire-fighting from the windward as much as possible. Take appropriate precautions to prevent substances affecting the environment from leaking out when spraying water etc. to extinguish fire.
- 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.

6. Accidental Release Measures

- Personal Precaution Personal Protective Equipment and Emergency Procedures : Remove ignition source in the vicinity immediately. Prepare fire-fighting equipment for the possibility of fires.
- Environmental Precautions : 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.
- Recovery and Neutralization : 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.
- Prevention of Secondary Disaster : Strict ban on fire. Adsorb spillage with dry sand or non-active adsorbent, and collect in empty containers. Rinse away the remains with plenty of water. Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Prevention of Secondary Disaster : Remove ignition source in the vicinity immediately. Prepare fire-fighting equipment for the possibility of fires. Use only non-sparking safe tools. 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.

7. Handling and Storage

Handling

- Engineering : Strict ban on fire.
- Precautions : Keep away from hot surfaces and sparks. Do not allow contact with strong oxidizer.
- Precautions for Safe Handling : Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers.
- Prevent spill, overflow and scattering, and avoid vapor generation.
- Keep container tightly closed after using this reference material.
- 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 during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Use local ventilation system in indoor handling areas.
- Electrical equipment to be used in the storage location should be explosion-proof structure, and grounded, if necessary.

Storage

- Appropriate Storage Conditions : Protect from direct sunlight. Store in a closed container in a cool and well-ventilated place.
- Use explosion-proof electrical equipment and ground all equipment in storage area.
- Store in a locked area.
- Incompatible materials : Avoid storing together with oxidizers and strongly oxidizing substances.
- Safe Container : Glass
- Packaging Material : Glass
- ※ 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 (Nonane)

Not specified

Threshold Limit Value (polychlorinated biphenyl)

0.01 mg/m³

Permissible Concentration (Nonane)

- ACGIH TLV-TWA : 200 ppm
- Value recommended by Japan Society for Occupational Health : 200 ppm, 1050 mg/m³

- OSHA PEL TWA : Not specified
- Permissible Concentration (polychlorinated biphenyl)
- ACGIH TLV-TWA : (42%Cl)[53469-21-9] TWA 1 mg/m³ Skin
(54%Cl)[11097-69-1] TWA 0.5 mg/m³
 - Value recommended by : 0.01 mg/m³
Japan Society for
Occupational Health
- Engineering Controls
- Ventilation/Exhaust : Local ventilation system or General ventilation system
 - Safety Control/ : Measuring equipment, Detecting tube
 - Gas Detection
 - Storage Precaution : Ventilate along floor surface. Seal. Keep away from flammable substances, reducing agents and strong oxidizers.
- Personal Protective Equipment (PPE)
- Respiratory System : Protective gas mask for organic vapors, Self-contained compressed air breathing apparatus.
 - Hands : Protective gloves
 - Eyes : Eye protector with side plates (or Goggle type)
 - Skin and Body : Protective clothing, protective face mask etc.
- Hygiene Controls
- Replace adsorbent of masks etc. regularly or before use.

9. Physical and Chemical Properties

- Appearance, etc. : Liquid
- Color : Colorless and clear
- Odor : Gasoline odor
- 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 : 0.7179 g/mL (20 °C), 0.7140 g/mL (25 °C)
specific gravity
- Solubility : No data
- *n*-Octanol/water partition : No data
coefficient (Log Po/w)
- Auto-ignition temperature : No data

10. Stability and Reactivity

- ◇Stability

Stable under recommended storage conditions.

◇Reactivity

- It reacts with strong oxidizing materials.

◇Conditions to Avoid

- Sunlight, Heat, open flame, high temperature material, spark, static electrical charge, and other fire sources.

◇Hazardous Decomposition Products

- Carbon monoxide (CO), Carbon dioxide (CO₂), Hydrogen chloride

11. Toxicological Information

Acute Toxicity

【Nonane】

Inhalation Rat LC50: 17000 mg/m³/4 hours (RTECS)

Intravenous Rat LD50: 218 mg/kg (RTECS)

Inhalation Rat LC50 value (4 hours): 3200 ppm (Converted value: 16.75 mg/L) (ACGIH 7th (2001), PATTY 4th (1994) and Recommendation of Japan Society for Occupational Health (1993))

【Polychlorobiphenyl】

Oral Rat LD50 1057 mg/kg (Calculated value) Harmful if swallowed

Dermal Rabbit LD50 800 mg/kg

Skin Corrosion/
Irritation

【Nonane】

Skin irritation (ICSC (J) (1995), HSDB (2005), HSFS (2000) and SITTING (4th (2002))

Rat 300 µL/4D Moderate (RTECS)

【Polychlorobiphenyl】

Human occupational exposure case (Exposure to vapor): Skin lesion including chloracne was observed.

Skin irritation if in direct contact with skin: No data available

Serious Eye Damage/
Eye Irritation

【Nonane】

Eye irritation (ICSC (J) (1995)), HSDB (2005), HSFS (2000) and SITTING (4th (2002))

【Polychlorobiphenyl】

Human occupational exposure case (Exposure to vapor): Eye irritation is reported.

Cases of direct contact of PCB with eye surface: No data available for either animal tests or human cases.

Germ Cell Mutagenicity

【Polychlorobiphenyl】

Negative in the dominant lethal test using rats. Negative in the chromosome abnormality test using spermatogonia of mammals. Negative in the chromosome abnormality test and micronucleus test using marrow cells of mammals. Positive in the chromosome abnormality test using marrow cells of rats.

Carcinogenicity

【Polychlorobiphenyl】

ACGIH: Group A3 (Confirmed animal carcinogen with unknown

	relevance to humans) IRIS: Group B2 IARC: Group 2A Japan Society for Occupational Health: Group 2A (Probably carcinogenic to humans; The agents with more sufficient evidence) NTP: R (Reasonably anticipated to be human carcinogens) May cause cancer
Reproductive Toxicity	【Polychlorobiphenyl】 In human exposure cases, female reproductive toxicity including menstrual cycle abnormality, decline of male fertility, development abnormality of unborn children, etc. were observed. May damage fertility or the unborn child.
Specific Target Organ Toxicity/Systemic Toxicity (Single Exposure)	【Nonane】 Airways irritation (ICSC (J) (1995)), HSDB (2005), HSFS (2000) and SITTIG (4 th (2002)) Effects on central nerve system (ICSC (J) (1995)) Anesthetic action at high concentration (SITTIG (4 th (2002))
Specific Target Organ Toxicity/Systemic Toxicity (Repeated Exposure)	【Polychlorobiphenyl】 In the single-dose administration test using rats, hepatic enzyme induction was observed at the doses within the range of the Guidance values for Category 1. May cause respiratory irritation.
Specific Target Organ Toxicity/Systemic Toxicity (Repeated Exposure)	【Polychlorobiphenyl】 In human exposure cases, liver damage, symptoms on skin including chloracne, symptoms in eyes including excessive secretion from eyelid meibomian gland, reduction of thyroid gland function, symptoms in central nerve system, symptoms in respiratory organ, decline in immune function, damage of digestive organs and adrenal cortical insufficiency were observed. Causes damage to liver, skin and immune system through prolonged or repeated exposure.
Toxicity to Respiratory Organ (Aspiration)	【Nonane】 Hydrogen carbide. Kinematic viscosity is 20.5 mm ² /s or less at 40 °C (Kinematic viscosity is 0.8 mm ² /s when it is obtained by converting absolute viscosity at 40 °C, 0.55 cP, by using density of 0.7176 to 0.7192 g/cm ³).

12. Ecological Information

Persistence and Degradability

【Nonane】

Degradability: 96 % by BOD (METI, “Existing Chemical Substance Safety Check”)

【Polychlorobiphenyl】

Degradability: 13 % by BOD (METI, “Existing Chemical Substance Safety Check”)

Concentration (rate): Carp 1120 ~10300 times (6.6 µg/L)

Carp 600 ~16000 times (2.2 µg/L)

Bioaccumulative Potential

【Nonane】

No data

【Polychlorobiphenyl】

Acute toxicity: Category 1, Stable in the environment, Not degraded rapidly,

Bioaccumulated (BCF=270000)

Very toxic to aquatic life with long lasting effects

Ecotoxicity

【Nonane】

Fish toxicity: No data available

Other data: log Po/w : 5.65

【Polychlorobiphenyl】

Fishes (Fathead minnow) LC50 0.008 mg/L/96 hours

Oryzias latipes LC50 2.2 mg/L/48 hours

Very toxic to aquatic life

13. Disposal Considerations

- Residual Waste : Dispose in accordance with applicable legislation (Waste Disposal and Public Cleaning Act and Act on Special Measures Concerning the Proper Treatment of Polychlorobiphenyl Wastes) and local government codes.
- Contaminated Container and Package : Dispose in accordance with applicable legislation (Waste Disposal and Public Cleaning Act and Act on Special Measures Concerning the Proper Treatment of Polychlorobiphenyl Wastes) and local government codes.

14. Transport Information

- Road Traffic Act : Enforcement Ordinance Article 19 of 13, Restriction of vehicle traffic
- UN Number : 1920
- UN Classification : Class 3 (Flammable Liquid)
- Shipping Name : Nonane
- Packing Group : PG III
- ICAO/IATA : Class 3, Type III
- 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.
Load dangerous goods in a way to avoid falling, overturning and being broken and to prevent their containers from falling.
Transport in a way to prevent dangerous goods or their containers from significantly frictioning or swaying.
If something to potentially trigger a disaster occurs during transportation of dangerous goods, e.g. massive leakage, take

appropriate measures to prevent the disaster and notify local fire departments and other relevant bodies.
Required to carry Yellow Card during transport.

15. Regulatory Information

- ◇ Fire Service Act
 - Hazardous Materials 4 Class 2 petroleum (insoluble in water) Danger Rating 3
- ◇ Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
 - Class 1 Specified Chemical Substances, (PCBs, No.1)
- ◇ Industrial Safety and Health Act
 - Article 57-2 (Enforcement Order: Article 18) Hazardous substance whose name, etc. must be labeled.
 - Article 57-2 (Enforcement Order: Article 18-2) Hazardous substance whose name, etc. must be notified No.432
 - Dangerous goods/Flammable materials (Enforcement Order Appendix 1-4)
- ◇ Ship Safety Law (Dangerous Material Rule)
 - Flammable Liquids
- ◇ Civil Aeronautics Act
 - Flammable Liquid
- ◇ Act for the Prevention of Marine Pollution and Maritime Disasters
 - Enforcement Order Appendix 1 Hazardous Liquid Substance Class X Substance
- ◇ 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.