

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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Identification of the Material : Certified Reference Material NMIJ CRM 4022-b
 Diethyl Phthalate
 Recommended Use of the Chemical and Restriction on Use : This CRM is primarily intended for use in calibrating analytical instruments. It is also intended for quality control of analytical instruments, and validation of analytical techniques and instruments.
 Do not use this reference material for other purposes than testing/research.

2. Hazards Identification

GHS classification: Skin corrosivity/irritant : Class 2
 Serious damage to eyes/eye irritant : Class 2B
 Particular target organ/systemic toxicity (Single exposure) : Class 3 (Respiratory tract irritant)
 Class 3 (Anesthetic action)
 Skin sensitization : Class 1
 Water environment toxicity(Acute) : Class 2

GHS label element:



Signal word: Warning
 Hazard and toxicity: Skin irritation
 Eye irritation
 May irritate respiratory organs
 May cause drowsiness or dizziness

May cause allergic dermatitis
 Harmful to aquatic organisms

Other hazard and toxicity : -

Precautionary statement : [Preventive measures]
 No eating, drinking or smoking when handling
 Read and understand the safety precautions fully before handling
 Handling only in outside areas or in well ventilated places
 Avoid discharging to the environment
 Wash hands well after handling
 Avoid inhaling gas/mist/vapor/spray
 Use protective eyeglasses/protective mask/protective gloves. Use suitable personal protective equipment when necessary.

[Response]
 If swallowed : If feeling unwell, seek medical advice
 If in eyes : Rinse with water carefully for several minutes Then if contact lenses are inserted, take them out if possible and continue to rinse. If the irritation persists, seek medical advice
 If inhaled : Move to get a fresh air, take a comfortable posture to ease breathing and rest
 If on skin : Rinse with plenty of water and soap. Seek medical advice
 If exposed or possible exposure : Seek medical advice
 Take off all the contaminated clothing and wash them if reusing them Collect the leaked material promptly

[Storage]
 Keep in a locked safety cabinet
 Store in a dark clean place at the temperature of about -20 °C

[Disposal]
 This material or its container should be incinerated in an appropriate incinerator, or 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 : Diethyl phthalate

Other name :

Content : 99.74 %

Chemical formula or structural formula : $C_6H_4(COOC_2H_5)_2$

Molecular weight : 222.24
 Reference Number in : Act on the Evaluation of Chemical Substances and Regulation
 Gazetted List in Japan of Their Manufacture, etc. : (3) -1301
 Industrial Safety and Health Act : Published
 CAS No. : 84-66-2

4. First-aid Measures

If in eyes : Rinse well with clean water. Seek medical advice
 If on skin : Rinse well with clean water. Take off the contaminated clothing
 and shoes, etc. Seek medical advice
 If inhaled : Move to get a fresh air, rest, keep warm. Seek medical advice
 If swallowed : Wash the mouth well with water. Drink a large amount of water
 to induce vomiting. Seek medical advice.
 Measures to be taken : Use personal protective equipment.
 to protect the person
 applying first aid
 Anticipated acute and delayed symptoms : -
 Most important characteristics and symptoms : -
 Measures to be taken to protect the person applying first aid : -

5. Fire-fighting Measures

Extinguishing media : Powder, foam, carbon dioxide, sand
 Specific hazards at the : Possibly forms irritating or toxic hydrogen bromide, bromine,
 time of fire bromine oxide, etc. at the time of fire.
 Specific extinguishing : Remove fire sources and extinguish using appropriate
 measures 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 : Extinguishing activities on windward side, avoid inhaling toxic
 personnel gases. Use protective equipment such as air-breathing
 apparatus, etc.

6. Accidental Release Measures

Personal precautions : Promptly remove any fire source from around the material. Ready
 for a fire by keeping an appropriate extinguisher at hand.
 Protective equipment : If released indoor, ventilate well until the treatment is completed.
 and emergency Use suitable protective equipment to protect the skin from the
 procedure airborne droplets and avoid inhaling dust and gas.
 Environmental : To prevent causing environmental impact, do not release the
 precaution spilled material into rivers, etc. directly. Treat the contaminated
 waste water appropriately before discharging to the environment.
 Recovery, : Adsorb the spilled liquid to waste cloth or to sand and soil and
 neutralization wipe off completely. Collect everything used to clean up the
 spillage in an airtight container.

Measures to prevent secondary accident : Rope-off the leaked area and restrict access only to the authorized persons. Evacuate the people on the leeward and work on the windward side.

7. Handling and Storage

Handling

Technological counter measures : Avoid contact with high temperature matters, sparks, strong oxidizers. Fire sources prohibited.

Local ventilation/general ventilation : Use local exhaust ventilation system when handling indoor

Precautions for safe handling : Do not treat the container roughly, no dropping, knocking down or dragging
 Prevent leakage, spill or overflow that causes the fume to form.
 Keep the container tightly closed after using.
 Wash hands and face, etc. well and gargle after the handling
 Eating, drinking or smoking only at the designated areas.
 Entering the handling area only by the authorized persons only.
 Use suitable protective equipment to prevent inhaling,, coming in contact with eyes, skin and the clothing

Storage

Appropriate condition : Store in a dark clean place at the temperature of about -20 °C
 Keep away from strong oxidizers and fire sources.

Safe packing material : Glass

8. Exposure Controls/Personal Protection

Administrative levels

Not established

Occupational exposure levels

•ACGIH TLV-TWA : TWA , 5 mg/m³
 •Japan Society for Occupational Health : 5 mg/m³

Occupational Health

Recommended

Reference Value

•OSHA PEL TWA : Not established

Facility engineering

Ventilation, exhaust : Local exhaust ventilation system or general ventilation system
 Install safety shower, hand/eye washer, and indicate their location conspicuously.

Safety management, gas detection : -

Storage precaution : -

Protective equipment

Respiratory organ : Chemical cartridge respirator for organic gas, breathing

	apparatus
Hand	: Protective gloves
Eyes	: Safety goggles
Skin and body	: Protective clothes

9. Physical and Chemical Properties

•Appearance, etc.	: Liquid
•Color	: Clear and transparent
•Odor	: Odorless
•pH	: No data
•Melting point	: -5 °C
•Boiling point	: 298 °C (101.3 kPa)
•Flashing point	: 163 °C (Cleveland open cup tester)
•Explosive range	: No data
•Vapor pressure	: 0.07 hPa (70 °C)
•Relative vapor density(Air=1)	: 7.66
•Specific gravity or bulk specific gravity	: 1.121 (20/20 °C)
•Solubility	: Slightly soluble in water (0.1 g/100 mL water 25 °C), soluble in hexane
• <i>n</i> -Octanol/water partition coefficient (Log Po/w)	: 2.47
•Auto-ignition temperature	: 457 °C

10. Stability and Reactivity

- ◇Stability
 - Light induces alteration of this material
- ◇Reactivity
 - No data available
- ◇Conditions to avoid
 - Sunlight, heat, open flames, high temperature, spark, static electricity, other sources of ignition.
- ◇Hazardous decomposition products
 - Carbon monoxide

11. Toxicological Information

Acute toxicity	Oral rats	LD50: 8600 mg/kg (RTECS)
	Oral mice	LD50: 6172 mg/kg (RTECS)
Skin corrosivity/irritation	No skin irritation to humans described in NTP TR429(1995) and PATTY (4th, 1994)	
	Minor irritation to experimental animals described in NTP TR429 (1995)、ATSDR (1995) and PATTY(4th, 1994)	
Severe damage to eyes/eye irritation	Eye irritation	rabbits 112 mg (RTECS)

Respiratory sensitization /skin sensitization	Skin sensitization: IUCALID (2000) and BUA 104(1994) described no skin sensitization observed in guinea pigs used in Buehler test, Draize test, Freund's complete adjuvant test, maximization test and open epicutaneous test. Skin patch tests on humans did not observe allergic reaction, described in Ministry of the Environment Risk Assessment Volume 3 (2004), CICAD 52(2003), ATSDR (1995)
Carcinogenicity	A4 (Carcinogenicity not classifiable) (ACGIH)
Particular target organ/systemic toxicity (Single exposure)	Irritation of respiratory tract due to the vapor described in Ministry of the Environment Risk Assessment Volume 3 (2004), ACGIH(7th, 2001), The Japan Society for Occupational Health Recommended Value (1995) and PATTY (4th, 1994). Inhaling the vapor causes dizziness and hypoesthesia described in Ministry of the Environment Risk Assessment Volume 3 (2004) and possible central nervous system depression described in PATTY (4th, 1994)

12. Ecological Information

Degradability, concentration

- Degradation: 88 % by BOD (Risk Assessment of Existing Chemical Substances by Ministry of Economy, Trade and Industry – METI)

Bioaccumulation

- No data available

Ecotoxicity

- Fish (Rainbow trout): 96H LC50=1200 µg /L (Ministry of the Environment Risk Assessment, Volume 3, 2004)

13. Disposal Considerations

- Incinerate in an incinerator equipped with afterburner and scrubber.

14. Transport Information

UN number : Not applicable

UN classification : Not applicable

Material name : -

Marine pollutant : Applicable

Precautions : Transfer with caution by avoiding direct sunlight and fire source at the temperature about -20 °C. Protect from leakage or spill due to fall or drop

15. Regulatory Information

◇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. 478

◇Fire Service Act

- Hazardous material Category 4 No 3 Petroleum (water insoluble) Hazard class 3

◇Law Relating to the Prevention of Marine Pollution and Maritime Disaster

- Enforcement Order, Appended Table No. 1, Toxic liquid substance, Category Y substance

◇Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

- Designated Class 1 specified chemical substance No.353

- ◎ **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.
