

# 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 4030-a  
Bisphenol A

Recommended Use of the Chemical and Restriction on Use : This reference material can be used for calibration of analysis equipment as well as quality control of equipment 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:

- Acute toxicity (Oral) : Class 5
- Acute toxicity (Skin) : Class 5
- Severe damage to eyes/eye irritation : Class 1
- Germ-cell mutagenicity : Category 2
- Particular target organ/ Systemic toxicity (Single exposure) : Class 1 (Respiratory organ)  
Class 3 (Anesthetic action)
- Particular target organ/ Systemic toxicity (Repeated exposure) : Class 2 (Kidney)  
Class 2 (Liver)  
Class 2 (Respiratory organ)
- Cutaneous sensitization : Class 1
- Water environment toxicity (Acute) : Class 2

GHS label element:



Signal word:	Danger
Hazard and toxicity:	<p>Severe eye damage</p> <p>Toxic if inhaled</p> <p>Harmful if in contact with the skin</p> <p>May have adverse effects on reproductive function or the fetus</p> <p>Damages to the organ (respiratory organ)</p> <p>May cause drowsiness or dizziness</p> <p>Long-term or repetitive exposure may damage organs (respiratory organ, liver, kidney)</p> <p>May cause allergic reaction on the skin.</p> <p>Harmful to aquatic organisms</p>
Other hazard and toxicity information :	-
Precautionary statement :	<p>[Preventive measures]</p> <p>Neither drinking nor smoking while handling</p> <p>Do not handle before reading and understanding the safety precautions fully.</p> <p>Handling should be only in outdoor or in a well ventilated area.</p> <p>Avoid discharging to the environment.</p> <p>Wash hands well after the handling.</p> <p>Avoid inhaling gas, mist, vapor or spray.</p> <p>Use protective eyeglasses, protective mask and protective gloves.</p> <p>Use personal protective equipment if necessary.</p> <p>[Response]</p> <p>If swallowed : Wash the mouth thoroughly. If feeling ill, get medical advice</p> <p>If in eyes : Rinse carefully with plenty of water for few minutes If the contact lenses are inserted, take them out and continue to rinse. If the irritation persists, get medical advice/treatment</p> <p>If inhaled : Remove to get fresh air, take a comfortable posture to ease the breathing and rest.</p> <p>If on skin : Rinse with a large amount of water and soap. Get medical assistance/treatment</p> <p>If exposed or possibility of the exposure :</p> <p>Get medical assistance/treatment.</p> <p>Take off all the contaminated clothes and wash them if reusing them.</p> <p>Collect or recover the leaked material promptly</p> <p>[Storage]</p> <p>Keep in a locked cabinet.</p> <p>Protect from light, store in a clean place at the temperature of about -20 °C</p> <p>[Disposal]</p> <p>The content or container should be incinerated in an appropriate</p>

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

Substance or mixture	: Single product
Chemical name	: 4, 4'–Isopropylidenediphenol
Other name	: Bisphenol A
Content	: 99.92 %
Chemical formula or structural formula	: $(\text{CH}_3)_2\text{C}(\text{C}_6\text{H}_4\text{OH})_2$
Molecular weight	: 228.29
Official Gazette Public Reference No.	: Act on the Evaluation of Chemical Substance and Regulation of their Manufacturer: (4)–123 Industrial Safety and Health Act: -
CAS No.	: 80-05-7

### 4. First-aid Measures

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

### 5. Fire-fighting Measures

Extinguishing media	: Water (spray), powder, foam, carbon dioxide, dry sand
Specific hazards at the time of fire	: May form irritating or toxic fume (or gas)
Specific extinguishing measures	: Remove fire sources and extinguish using appropriate agent. Movable container should be transferred to a safe place promptly. If impossible to transfer, use water spray to cool the periphery.

Protecting fire-fighting personnel : Extinguishing activities on windward side to avoid inhaling toxic 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. Be ready for a fire by keeping an appropriate extinguisher at hand.

Protective equipment and emergency procedure : If released indoor, ventilate well until the treatment is completed.  
Use appropriate protective equipment to protect the skin from the airborne droplets and avoid inhaling dust and gas

Environmental precaution : To prevent causing environmental impact, the spilled material should not be released into rivers, etc. directly. The contaminated waste water should be treated appropriately before discharged to the environment.

Recovery, neutralization : The spilled product should be collected in an airtight container, and then wash away with a large amount of water.

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

## 7. Handling and Storage

### Handling

Technological countermeasure : Protect from high temperature-matter, spark. Avoid contact with strong oxidants. Keep fire away.

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

Precautions for safe handling : The container should not be handled roughly, no dropping, knocking down or dragging  
Prevent leakage, spillage or overflow that causes fume to form. Keep the container airtight after the use.  
Wash hands and face, etc. well and gargle after the handling  
Eating, drinking or smoking should be only at the designated areas.  
Entering the handling area only by the authorized persons.  
Use appropriate protective equipment to prevent inhaling,, coming in contact with eyes, skin and clothing

### Storage

Appropriate condition : Store in a dark clean place at the temperature of about -20 °C. Do not store near strong oxidizers or strong oxidizing substance. Keep fire/fire sources away.

Material for safe packing : Glass

## 8. Exposure Controls/Personal Protection

### Administrative levels

Not established

### Occupational exposure limit

•ACGIH TLV-TWA : Not established

•Japan Society for : Not established

### Occupational Health

Recommended

### Reference Value

•OSHA PEL TWA : Not established

### Facility engineering

Ventilation, exhaust : Local exhaust ventilation system or general ventilation system

Safety management, gas detection : -

Storage precaution : -

### Protective equipment

Respiratory organ : Chemical cartridge respirator for organic gas, breathing apparatus

Hands : Protective gloves

Eyes : Safety goggles

Skin and body : Protective clothing

## 9. Physical and Chemical Properties

- Appearance, etc. : Powder
- Color : White
- Odor : No data
- pH : No data
- Melting point : 156 °C to 159 °C
- Boiling point : 220 °C (4 mmHg)
- 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 : 1.195 (25/25 °C)
- Solubility : Water-insoluble. Miscible in ethanol, acetone, ether
- n*-Octanol/water partition coefficient (Log Po/w) : No data
- Auto-ignition temperature : No data

## 10. Stability and Reactivity

### ◇Stability

- Stable under normal condition

- ◇Reactivity
  - No data available
- ◇Conditions to avoid
  - Sunlight, heat
- ◇Hazardous decomposition products
  - Carbon monoxide

## 11. Toxicological Information

Acute toxicity	Abdominal cavity - mouse LD50:150 mg/kg Oral - rat LD50:3250 mg/kg Skin - rabbit LD50:3000 mg/kg
Skin corrosivity/irritation	Skin - rabbit 250 mg open system, mild
Severe damage to eyes/ eye irritation	Eyes - rabbit 20 mg/24 Hrs moderate
Respiratory organ sensitization/cutaneous sensitization	Continuous sensitization: Results of cutaneous sensitization tests performed on guinea pigs and case reports on humans are described in EU-RAR No.37 (2003)
Germ-cell mutagenicity	The three generations testing on rats and two generations testing on mice have shown the similar adverse effects (parturition decrease) CERI-NITE Hazard Assessment Report No.4 (2005). In case of mice, seminal vesicle, testis and upper body weight decrease and effects on sperms are observed, but as for the toxicities to parent generation, the toxicities in general or no specific description found.
Particular target organ/ Systemic toxicity (Single exposure)	In experimental animals, "Somnolence, debilitation, slight reddening of nasal cavity epithelial tissue, minimal formation of ulcer in nasal passage are observed" etc. (EU-RAR No.37 (2003))
Particular target organ/ Systemic toxicity (Repetitive exposure)	In experimental animals, "Reddening of nasal cavity epithelial tissue, formation of ulcer in nasal passage, morphological changes of the liver, kidney and lung are observed", etc. (EU-RAR No.37 (2003))

## 12. Ecological Information

- Degradability, concentration
- Extent of degradation; 0 % by BOD
- Bioaccumulation
- Concentration rate (BCF); 5.1 to 13.3 (Concentration 150 µg /L); <20 to 67.7 (Concentration 15µg /L).
- Ecotoxicity
- Acute toxicity to red killifish LC50:15 mg/L/48Hrs  
Crustacean (Mysidopsis bahia):96Hrs LC50=1100 µg/L (Ministry of the Environment, Risk Assessment of Chemical Substances Volume 3, 2004).

### 13. Disposal Considerations

- Incinerate in an incinerator equipped with after burner and scrubber
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### 14. Transport Information

- UN No. : Not applicable  
UN : Not applicable  
Classification  
Marine pollutant : Not 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.
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### 15. Regulatory Information

- ◇Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.
    - Type III Monitoring Chemical Substance
  - ◇Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management
    - Designated as Class 1 specified chemical substance No.29
  - ◎ **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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