

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product name</b>	Bisphenol A (4,4'-isopropylidenediphenol)
<b>Advisable use and Restriction</b>	
Advisable use	Chemical intermediates of epoxy, phenoxy and polysulfone resins, Intermediates of epoxy, polycarbonate, phenoxy, polysulfone and specific polyester resins, flame inhibitor, rubber chemical product manufacture Fungus remover, monomer of polycarbonate and epoxy resins
Restriction of product using	Not available
<b>Company Address</b>	Samyang Innochem Corporation 133, Jayumuyeok 1-gil, Gunsan, Jeollabuk-do, 54001, KOREA +82-63-440-7114

### 2. HAZARDS IDENTIFICATION

<b>GHS classification of the substance</b>	Serious eye damage/irritation : Category1 Skin sensitization : Category1 Reproductive toxicity : Category2 Specific target organ toxicity(Single exposure) : Category3(Narcotic effects) Specific target organ toxicity(Repeated exposure) : Category2
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#### GHS label elements, Including precautionary statements

Pictogram and symbol



<b>Signal word</b>	Danger
<b>Hazard statements</b>	H313 May be harmful if contact with skin H317 May cause an allergic skin reaction H318 Causes serious eye damage H336 May cause drowsiness and dizziness. H361 Suspected of damaging fertility or the unborn child H370 Causes damage to organs(Refer Section SDS 11) H373 May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
<b>Precautionary statements</b>	
Prevention	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and under-stood. P260 Do not breathing dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

	<p>P264 Wash hands thoroughly after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing should not be allowed out of the work-place.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P281 Use personal protective equipment as required.</p>
Response	<p>P302+P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P307+P311 If exposed: Call a POISON CENTER or doctor/physician</p> <p>P308+P313 If exposed or concerned: Get medical advice/attention.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P321 Specific treatment</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P363 Wash contaminated clothing before reuse.</p>
Storage	<p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p>
Disposal	<p>P501 Dispose of contents/container in accordance with local/regional/national/international regulation</p>

**Other hazard information not included in hazard classification**

NFPA Health: 2, Fire : 1, Reactivity : 0

### 3. Composition/information on ingredients

<b>Chemical Name</b>	4,4-Bisphenol A
<b>Trade names and Synonyms</b>	4,4'-Dihydroxydiphenylpropane 2,2-Bis(4-hydroxyphenyl)propane
<b>CAS-No.</b>	80-05-7
<b>KE No.</b>	KE-23982
<b>EU No.</b>	201-245-8
<b>Content (%)</b>	99.85

### 4. First Aid Measures

<b>Eye contact</b>	<p>Do not rub your eyes.</p> <p>Immediately flush eyes with plenty of water for at least 20 minutes and call a doctor/physician.</p> <p>Get medical attention immediately.</p> <p>Remove contact lenses if worn.</p>
<b>Skin Contact</b>	<p>Flush skin with plenty of water for at least 20 minutes while removing contaminated clothing and shoes.</p> <p>Laundering enough contaminated clothing before reuse.</p> <p>Get medical attention immediately.</p> <p>Go to the hospital immediately if symptoms (flare, irritate) occur.</p> <p>Wash thoroughly after handling.</p>
<b>Inhalation Contact</b>	<p>When exposed to large amounts of steam and mist, move to fresh air.</p> <p>Take specific treatment if needed.</p> <p>Get medical attention immediately.</p> <p>If breathing is stopped or irregular, give artificial respiration and supply oxygen.</p>
<b>Ingestion Contact</b>	<p>About whether I should induce vomiting Take the advice of a doctor.</p> <p>Rinse your mouth with water immediately.</p> <p>Get medical attention immediately.</p>
<b>Delayed and immediate effects and also chronic effects from short and long term exposure</b>	<p>Inhalation</p> <ul style="list-style-type: none"> <li>- short-term exposure: Slight and transient nasal tract epithelial damage, histopathological Change(tumor) in the anterior region of respiratory tract.</li> <li>- long-term exposure: Very slight to slight inflammation and hyperplasia of the olfactory epithelium.</li> </ul> <p>Ingestion</p> <ul style="list-style-type: none"> <li>- short-term exposure: May cause diarrhea, dyspnea, headache, dizziness, hematologic Disorder, kidney and liver abnormality.</li> </ul> <p>Skin contact</p> <ul style="list-style-type: none"> <li>- short-term exposure: May cause skin irritation and allergy.</li> </ul> <p>Eye contact</p> <ul style="list-style-type: none"> <li>- short-term exposure: May cause serious eye irritation.</li> <li>- long-term exposure: May cause corneal opacity and iritis.</li> </ul>
<b>Notes to physician</b>	<p>Notify medical personnel of contaminated situations and have them take appropriate protective measures.</p> <p>If exposed or concerned, get medical attention/advice.</p>

### 5. Fire Fighting Measures

<b>Suitable (and unsuitable) extinguishing media</b>	<p>Dry chemical, carbon dioxide, regular foam extinguishing agent, spray</p> <p>Avoid use of water jet for extinguishing</p>
<b>Specific hazards arising from the chemical</b>	<p>Thermal decomposition products : Carbon oxides.</p> <p>May a slight risk of fire.</p> <p>Vapours may explode when mixed with air.</p> <p>Contact with metals may evolve flammable hydrogen gas.</p> <p>When heated, vapours may form explosive mixtures with air : indoors, outdoors and sewers</p>

explosion hazards.  
Containers may explode when heated.

**Special protective equipment and precautions for fire-fighters** Move containers from fire area, if you can do without the risk.  
Keep unauthorized personnel out.  
Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.  
Notify your local firestation and inform the location of the fire and characteristics hazard.  
Keep containers cool with water spray.

### 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures** Ventilate closed spaces before entering.  
Must work against the wind, let the upwind people to evacuate.  
Do not touch spilled material. Stop leak if you can do it without risk.  
Handling the damaged containers or spilled material after wearing protective equipment.  
Avoid skin contact and inhalation.  
Keep unauthorized people away, isolate hazard area and deny entry.

**Environmental precautions** Prevent runoff and contact with waterways, drains or sewers.  
If large amounts have been spilled, inform the relevant authorities.

**Methods and materials for containment and cleaning up** Large spill : Stay upwind and keep out of low areas. Dike for later disposal.  
Notification to central government, local government. When emissions at least of the standard amount  
Dispose of waste in accordance with local regulation.  
Appropriate container for disposal of spilled material collected.  
Small liquid state spills: Appropriate container for disposal of spilled material collected.  
For disposal of spilled material in appropriate containers collected and clear surface.

### 7. Handling and storage

**Precautions for safe handling** Avoid direct physical contact.  
Since emptied containers retain product residue (vapor, liquid, solid) follow all MSDS and label warnings even after container is emptied.  
Refer to Engineering controls and personal protective equipment.  
Do not handle until all safety precautions have been read and understood.  
Contaminated work clothing should not be allowed out of the workplace.

**Conditions for safe storage, including any incompatibilities** Check regularly for leaks.  
Do not apply any physical shock to container.  
Keep sealed when not in use.  
Store locked up.  
Prevent static electricity and keep away from combustible materials or heat sources.  
Collected them in sealed containers.

### 8. Exposure controls/personal protection



<b>Melting point/Freezing Point</b>	152~157°C
<b>Initial Boiling Point/Boiling Ranges</b>	250~252°C(1.7kPa)
<b>Flash Point</b>	207°C.( Cleveland Open Cup)
<b>Evaporation rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not available
<b>Upper/Lower Flammability or explosive limits</b>	Explosion low range 12g/m <sup>3</sup> (Dust Could)
<b>Vapor pressure</b>	87Pa at 190°C
<b>Solubility (in water)</b>	1kg/m <sup>3</sup>
<b>vapor density</b>	8.1 (Air=1)
<b>Specific gravity</b>	Relative density: 1.2g/cm <sup>3</sup>
<b>Partition coefficient of n-octanol/water</b>	3.3 log Pow (n-Octanol/Water)
<b>Auto ignition temperature</b>	600°C
<b>Decomposition temperature</b>	Not available
<b>Viscosity</b>	Not available
<b>Molecular weight</b>	228.29 g/mole

### 10. Stability and Reactivity

<b>Chemical stability</b>	This material is stable under recommended storage and handling conditions.
<b>Possibility of hazardous reactions</b>	Hazardous Polymerization will not occur. Contact with metals may evolve flammable hydrogen gas.
<b>Conditions to avoid</b>	Avoid contact with incompatible materials and condition. Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces
<b>Incompatible materials</b>	Combustible materials, strong acid, base, and oxidants.
<b>Hazardous decomposition product</b>	May emit flammable vapours if involved in fire.

### 11. Toxicological Information

#### Information on the likely routes of exposure

Inhalation	May cause degenerative disease of myocardium, liver and kidney.
Oral	May cause degenerative disease of liver and kidney, contraction, necrosis and anemia of spleen/thymus.
Eye-Skin	Causes serious eye damage May cause an allergic skin reaction

### Delayed and immediate effects and also chronic effects from short and long term exposure

Acute toxicity	
Oral	LD50 = 3250 mg/kg Rat
Dermal	LD50 = 3000 mg/kg rabbit
Inhalation	Not available
Skin corrosion/irritation	Not available
Serious eye damage/irritation	Causes serious eye damage
Respiratory sensitization	Not available
Skin sensitization	May cause an allergic skin reaction
Carcinogenicity	
IARC	Not available
OSHA	Not available
ACGIH	Not available
NTP	Not available
EU CLP	Not available
Germ cell mutagenicity	Not available
Reproductive toxicity	Suspected of damaging fertility or the unborn child
STOT-single exposure	Causes damage to organs(Refer Section SDS 11) May cause drowsiness and dizziness
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure (Refer Section SDS 11)
Aspiration hazard	Not available

## 12. Ecological Information

### Ecotoxicity

Fish	LC50 = 9.4 mg/l 96 hr
Crustaceans	LC50 = 1.1 mg/l 96 hr
Algae	Not available

### Persistence and Degradability

Persistence	Not available
Degradability	BOD5/COD = 0.286

### Bioaccumulative potential

Bioaccumulative potential	BCF = 67.7
Biodegradation	Biodegradability = 76 (%) 18 day

**Mobility in soil** Not available

**Other adverse effects** Not available

## 13. Disposal Considerations

**Disposal methods** Since more than two kinds of designated waste is mixed, it is difficult to treat separately,

then can be reduction or stabilization by incineration or similar process.  
If water separation is possible, pre-process with Water separation process.  
Dispose by incineration.

**Special precautions for disposal** The user of this product must disposal by oneself or entrust to waste disposer or person who other's waste recycle and dispose, person who establish and operate waste disposal facilities.  
Dispose of waste in accordance with all applicable laws and regulations.

### 14. Transport Information

<b>UN Number (IMDG)</b>	Not regulated for transport
<b>Proper shipping name</b>	Not available
<b>Hazard Class</b>	Not available
<b>IMDG Packing group</b>	Not available
<b>Marine pollutant</b>	Not applicable
<b>Special safety response for transportation or transportation measure</b>	Local transport follows in accordance with Dangerous goods Safety Management Law. Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements. EmS FIRE SCHEDULE : Not available EmS SPILLAGE SCHEDULE : Not available

### 15. Regulatory Information

#### National and/or international regulatory information

POPs Management Law	Not applicable
Information of EU Classification	
Classification	Repr. Cat. 3; R62 Xi; R37-41 R43 R52
Risk Phrases	R37, R41, R43, R62, R52
Safety Phrase	S2, S26, S36/37, S39, S46, S61
U.S. Federal regulations	
OSHA PROCESS SAFETY (29CFR1910.119)	Not applicable
CERCLA Section 103 (40CFR302.4)	Not applicable
EPCRA Section 302 (40CFR355.30)	Not applicable
EPCRA Section 304 (40CFR355.40)	Not applicable
EPCRA Section 313 (40CFR372.65)	Applicable
Rotterdam Convention listed ingredients	Not applicable



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Stockholm Convention listed ingredients	Not applicable
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Montreal Protocol listed ingredients	Not applicable
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### 16. Other Information

#### References

The information contained herein is believed to be accurate. It is provided independently of any sale of the product for purpose of hazard communication. It is not intended to constitute performance information concerning the product. No express warranty, or implied warranty of merchantability or fitness for a particular purpose is made with respect to the product or the information contained herein.

This Safety Data Sheet was compiled with data and information from the following sources: KOSHA, NITE, ESIS, NLM, SIDS, IPCS , Mitsubishi Chemical Safety Data Sheet

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<b>Other</b>	This MSDS is prepared according to the Globally Harmonized System (GHS).
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#### Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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