

## Material Safety Data Sheet

### 1. Composition/information on ingredients

<b>Product Name:</b>	2, 3-benzindene
<b>Synonyms:</b>	Fluorene
<b>Company Identification:</b>	Shanghai IS Chemicals Technology LTD. Address: Shanghai Torch innovation Park of Fine Chemical Industry, No. 688 Qiushi Road, Jinshan District, Shanghai China, Zip, 201512
<b>Telephone Number:</b>	86-21-52685808
<b>Fax Number:</b>	86-21-52685809
<b>Website:</b>	www.ispharm.com

### 2. Identification of the substance

<b>Catalog Number:</b>	114-1220
<b>CAS # :</b>	86-73-7
<b>Purity:</b>	98.17%
<b>EI NECS#</b>	201-695-5

### 3. Hazards identification

#### EMERGENCY OVERVIEW

*The toxicological properties of this material have not been fully investigated.*

#### Potential Health Effects

##### Eye:

*May cause eye irritation.*

##### Skin:

*May cause skin irritation.*

##### Ingestion:

*May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.*

##### Inhalation:

*May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.*

##### Chronic:

*Not available.*

### 4. First aid measures

#### Eyes:

*Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.*

**Skin:**

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion:**

If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:**

Remove from exposure and move to fresh air immediately. Get medical aid if cough or other symptoms appear.

**Notes to Physician:**

**5. Fire fighting measures**

**General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

**Extinguishing Media:**

Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: 151 deg C ( 303.80 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 1; Instability: 0

**6. Accidental release measures**

**General Information:**

Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

**7. Handling and storage**

**Handling:**

Do not let this chemical enter the environment. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid ingestion and inhalation.

**Storage:**

Store in a cool, dry place. Store in a tightly closed container.

**8. Exposure Controls / PPE**

**Engineering Controls:**

Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

CAS# 86-73-7:

**Personal Protective Equipment**

**Eyes:**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and

face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## **9. Physical and chemical properties**

Physical State: Crystalline powder

Appearance: almost white - light brown

Odor: None reported.

pH: Not available.

Vapor Pressure: 13 hPa @ 146 deg C

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 298 deg C @ 760 mmHg

Freezing/Melting Point: 112 - 116 deg C

Decomposition Temperature: Not available.

Solubility: Insoluble.

Specific Gravity/Density: 1.2

Molecular Formula: C<sub>13</sub>H<sub>10</sub>

Molecular Weight: 166.22

## **10. Stability and reactivity**

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Incompatible materials.

Incompatibilities with Other Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

## **11. Toxicological information**

RTECS#:

CAS# 86-73-7: LL5670000

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 86-73-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found

*Teratogenicity: No information found*

*Reproductive Effects: No information found*

*Mutagenicity: See actual entry in RTECS for complete information.*

*Neurotoxicity: No information found*

*Other Studies:*

## **12. Ecological information**

*Ecotoxicity:*

*No data available. Fish toxicity :LC50 (48hr) fathead minnow > 100mg/l (Finger, S.E. et al ASTM Spec. Tech. Publ. 865 1985); LC50 (24hr) bluegill sunfish, goldfish +/-5mg/l (Wood, E.M. The toxicity of 3400 chemicals to fish 1987); LC50 (unspecified exposure) himedaka killifish 3,3mg/l (Niiromi, J. et al Mie-ken Kankyo Kagaku Senta Kenkyu Hokoku 1989) Invertebrate toxicity : EC50 (48hr) Daphnia magna 0,43 mg/l (Finger, S.E. et al ASTM spec. Tech. Publ. 865 1985); LC50 (96hr) Neanthes arenacoedentata 1mg/l (Rossi, S. S. et al Mar. Pollut. Bull. 1978)。*

*Environmental:*

*Terrestrial: Half-life ranges from 2 to 64 days; biodegradation is the primary route of degradation in soil.*

*Aquatic: Will adsorb strongly to sediments and suspended matter. Adsorption into sediment is an important fate process. Atmospheric: Expected to exist primarily in the vapor phase in the ambient atmosphere; will degrade readily in the ambient atmosphere by reaction with photochemically produced hydroxyl radicals (estimated half-life of about 29 hr).*

*Physical: No information available.*

*Other: Do not empty into drains.*

## **13. Disposal consideration**

*Dispose of in a manner consistent with federal, state, and local regulations.*

## **14. Transportation information**

*IATA*

*Not regulated as a hazardous material.*

*IMO*

*Not regulated as a hazardous material.*

*RID/ADR*

*Not regulated as a hazardous material.*

## **15. Regulatory information**

*US FEDERAL*

*TSCA*

*CAS# 86-73-7 is listed on the TSCA inventory.*

*Health & Safety Reporting List*

*None of the chemicals are on the Health & Safety Reporting List.*

*Chemical Test Rules*

*None of the chemicals in this product are under a Chemical Test Rule.*

*Section 12b*

*None of the chemicals are listed under TSCA Section 12b.*

*TSCA Significant New Use Rule*

*None of the chemicals in this material have a SNUR under TSCA.*

*CERCLA Hazardous Substances and corresponding RQs*

*CAS# 86-73-7: 5000 lb final RQ; 2270 kg final RQ*

*SARA Section 302 Extremely Hazardous Substances*

*None of the chemicals in this product have a TPQ.*

*Section 313 No chemicals are reportable under Section 313.*

*Clean Air Act:*

*This material does not contain any hazardous air pollutants.*

*This material does not contain any Class 1 Ozone depleters.*

*This material does not contain any Class 2 Ozone depleters.*

*Clean Water Act:*

*None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 86-73-7 is listed as a Priority Pollutant under the Clean Water Act.*

*None of the chemicals in this product are listed as Toxic Pollutants under the CWA.*

*OSHA:*

*None of the chemicals in this product are considered highly hazardous by OSHA.*

*STATE*

*CAS# 86-73-7 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.*

*California Prop 65*

*California No Significant Risk Level: None of the chemicals in this product are listed.*

*European/International Regulations*

*European Labeling in Accordance with EC Directives*

*Hazard Symbols:*

*N*

*Risk Phrases:*

*R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

*Safety Phrases:*

*S 24/25 Avoid contact with skin and eyes.*

*S 60 This material and its container must be disposed of as hazardous waste.*

*S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.*

*WGK (Water Danger/Protection)*

*CAS# 86-73-7: No information available.*

*Canada - DSL/NDSL*

*CAS# 86-73-7 is listed on Canada's DSL List.*

*Canada – WHMIS not available.*

*This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.*

*Canadian Ingredient Disclosure List*

*CAS# 86-73-7 is not listed on the Canadian Ingredient Disclosure List.*

**16. Other information**

*The information above is believed to be accurate and represents the best information currently available*

*to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary*