

**SAFETY DATA SHEET**

Version 3.0

Revision Date 3/01/2015

**1. PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifiers**

Product name : Syna Epoxy 720  
4,4'-Methylenebis(N,N-diglycidylaniline)

CAS-No. : 28768-32-3

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Synasia Inc.  
240 Amboy Ave.  
Metuchen New Jersey 08840  
USA

Contact Person (E-mail) : Larry Qiu (lqiu@synasia.com)

Telephone : 1-732-205-9880

Fax : 1-732-205-1788

**1.4 Emergency telephone number**

Emergency Phone # : 1-973-641-0862

**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Skin sensitisation (Category 1), H317 Acute  
aquatic toxicity (Category 2), H401 Chronic  
aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word : Warning

Hazard statement(s)

H317

May cause an allergic skin reaction.

H411

Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P272

Contaminated work clothing should not be allowed out of the workplace.

P273

Avoid release to the environment.

P280

Wear protective gloves.

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P321

Specific treatment (see supplemental first aid instructions on this label).

P333 + P313

If skin irritation or rash occurs: Get medical advice/ attention.

P363

Wash contaminated clothing before reuse.

P391

Collect spillage.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none****3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Formula : C<sub>25</sub>H<sub>30</sub>N<sub>2</sub>O<sub>4</sub>  
 Molecular Weight : 422.52 g/mol  
 CAS-No. : 28768-32-3  
 EC-No. : 249-204-3

**Hazardous components**

Component	Classification	Concentration
<b>4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline]</b>		
	Skin Sens. 1; Aquatic Acute 2; Aquatic Chronic 2; H317, H411	90 - 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

**4. FIRST AID MEASURES****4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

no data available

**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

no data available

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. For personal protection see section 8.

## 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.  
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Heat sensitive.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- a) Appearance                      Form: viscous liquid

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	Colour: yellow
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	> 7.1 - < 7.3 at $\geq 10$ mg/l at 20 °C (68 °F)
e) Melting point/freezing point	Freezing point/ range: -13.2 °C (8.2 °F) - OECD Test Guideline 102
f) Initial boiling point and boiling range	no data available
g) Flash point	113 °C (235 °F) - closed cup
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	1.15 g/cm <sup>3</sup> at 25 °C (77 °F)
n) Water solubility	ca.0.0092 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - slightly soluble
o) Partition coefficient: n- log Pow: octanol/water	ca.2.12 at 22 °C (72 °F)
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	Not explosive
t) Oxidizing properties	no data available

## 9.2 Other safety information

Surface tension ca.61.8 mN/m at 19.8 °C (67.6 °F)

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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Heat.

### 10.5 Incompatible materials

Oxidizing agents. Strong oxidizing agents, acids, Bases

### 10.6 Hazardous decomposition products

Other decomposition products - no data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - male and female - > 5,000 mg/kg  
(OECD Test Guideline 401)

Inhalation: no data

available Dermal: no data

available no data available

#### Skin corrosion/irritation

Skin - rabbit

Result: Mild skin irritation - 4 h  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitisation in

vivo assay - mouse

Result: May cause sensitisation by skin contact.  
(OECD Test Guideline 429)

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Reproductive toxicity

no data available

#### Specific target organ toxicity - single exposure

no data available

#### Specific target organ toxicity - repeated exposure

no data available

#### Aspiration hazard

no data available

#### Additional Information

Repeated dose toxicity - rat - male and female - Oral - No observed adverse effect level - 50 mg/kg  
RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

no data available

Toxicity to daphnia and other aquatic invertebrates      semi-static test EC50 - Daphnia magna (Water flea) - ca. 6.7 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae      static test EC50 - Pseudokirchneriella subcapitata (Selenastrum capricornutum) - ca. 4.8 mg/l - 72 h (OECD Test Guideline 201)

## 12.2 Persistence and degradability

Biodegradability      aerobic - Exposure time 28 d  
Result: 48 % - Not readily biodegradable.  
(OECD Test Guideline 301F)  
Remarks: The 10 day time window criterion is not fulfilled.

## 12.3 Bioaccumulative potential

no data available

## 12.4 Mobility in soil

no data available

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

Not dangerous goods

### IMDG

UN number: 3082      Class: 9      Packing group: III      EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline])  
Marine pollutant: Marine pollutant

### IATA

UN number: 3082      Class: 9      Packing group: III  
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline])

### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packaging and combination packaging containing inner packaging with Dangerous Goods > 5L for liquids or > 5kg for solids.

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## 15. REGULATORY INFORMATION

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

No SARA Hazards

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	28768-32-3	

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
4,4'-Methylenebis[N,N-bis(2,3-epoxypropyl)aniline]	28768-32-3	

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
H317	May cause an allergic skin reaction.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
Skin Sens.	Skin sensitisation

**HMIS Rating**

Health hazard:	0
Chronic Health Hazard:	
Flammability:	1
Physical Hazard	0

**NFPA Rating**

Health hazard:	0
Fire Hazard:	1
Reactivity Hazard:	0

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Synasia Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.