



# Material Safety Data Sheet

## Product Name: ADB® 4Minute Clear Epoxy

Revision: 01 June 2017

### SECTION 1. COMPANY IDENTIFICATION

1.1 Product Name : ADB® 4Minute Clear Epoxy (Part A)  
1.2 Chemical Classification : Epoxy adhesive  
1.3 Manufacturer/Supplier: : Applied DB Public Company Limited  
Address : 252 Soi 3, Moo 4, Bangpoo Industrial Estate Sukhumvit Rd.,  
Muang, Samutprakarn, Thailand 10280  
: Tel 662-709-3990-7 Fax. 662-709-4224  
1.4 Emergency Telephone Number : Tel 662-709-3990-7 Fax. 662-709-4224  
**Recommended use of the chemical and restrictions on use**  
Recommended use : 2 parts epoxy adhesive

### SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture  
Acute toxicity : Category 4  
Chronic aquatic toxicity : Category 2

2.2 Label element  
Pictogram



Signal word

Warning

Hazard statements

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

### SECTION 3. COMPOSITION

Chemical name	CAS No.	Concentration (%w/w)
Bisphenol-A-(epichlorohydrin) epoxy resin	25068-38-6	100

### SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures



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Inhalation	Supply fresh air and to be sure call for a doctor.
Skin contact	Immediately wash with water and soap and rinse thoroughly.
Eye contact	Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Ingestion	Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

No further relevant information available.

#### 4.3 Indication of any immediate medical attention and special treatment needs

No further relevant information available.

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### SECTION 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

Suitable extinguishing media: CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray.

Unsuitable extinguishing media: Water with full jet

#### 5.2 Special hazards arising from the substance and mixture

Formation of toxic gases is possible during heating or in case of fire.

#### 5.3 Special protective equipment and precautions for fire –fighters

Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: Wear self-contained respiratory protective device.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment, and emergency procedures

Wear protective equipment. Keep unprotected persons away.

#### 6.2 Environmental precautions

Inform respective authorities in case of seepage into water course or sewage system. Prevent seepage into sewage system, workpits and cellars. Do not allow to enter sewers/ surface or ground water.

#### 6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Clean the affected area carefully; suitable cleaners are: Warm water. Dispose of the material collected according to regulations. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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### SECTION 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

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

Keep container tightly sealed. Store receptacle in a well ventilated area.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

#### 8.2 Appropriate engineering controls

Processing may form hazardous compounds (see section 10). Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.

#### 8.3 Personal protective equipment

Eye/ face protection

Safety goggles.

Skin/ body protection

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (chemical-resistant gloves, aprons, boots, etc).



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### 8.4 Work/ Hygienic practices

Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

## SECTION 9. PHYSICAL AND CHEMICAL PROPETERIES

a) Appearance and color	Clear to light yellow liquid
b) Odor	Slightly odor
c) Odor threshold	No data available
d) pH	Not applicable
e) Melting point/ freezing point	No data available
f) Initial boiling point and boiling	> 260°C
g) Flash point	252°C (Method: closed cup)
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not classified as a flammability hazard
j) Upper explosion limit	No data available
k) Lower explosion limit	No data available
l) Vapour pressure	0.03 hPa (at 77°C)
m) Relative vapour density	No data available
n) Relative density	1.16
o) Solubility	Insoluble in water
p) Partition coefficient: n-octanol/ water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity, dynamic	11,000-14,000 cps
t) Explosive properties	Not explosive
u) Oxidizing properties	The substance or mixture is not classified as oxidizing.

## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under normal conditions.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Reacts with amines.

Reacts with acids, alkalis and oxidizing agents.

### 10.4 Conditions to avoid

No further relevant information available.

Incompatible materials

No further relevant information available.

### 10.5 Hazardous decomposition products

Carbon monoxide and carbon dioxide

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on the likely routes of exposure

Skin contact Irritant to skin and mucous membranes.

Eye contact Irritating effect

Ingestion Irritating effect

### 11.2 Symptoms related to physical, chemical, and toxicological characteristics

Skin contact May cause sensitisation by skin contact.

Eye contact Irritating effect.

Ingestion No specific data.

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

Short term exposure/ long term exposure



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Potential immediate effects Not available.  
Potential delayed effects Not available.  
Potential chronic health effects Not available.  
11.4 Numerical measures of toxicity

### Acute toxicity

Components	LD50 (oral rat)	LD50 (Dermal rabbit)	LC50 (Inhalation rat ) 4 h
Bisphenol-A-(epichlorohydrin) epoxy resin	>5000 mg/kg	20000 mg/kg	-

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Ecotoxicity

#### Acute aquatic toxicity

No known ecotoxicological effects.

Components	Fish LC50 (96 h)	Crustacean EC50 (48 h)	Algae ErC50 (72 h)
Bisphenol-A-(epichlorohydrin) epoxy resin	-	1.8 mg/kg	-

### 12.2 Persistence and degradability

Not easily biodegradable

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.5 Other adverse effects

No data available.

## SECTION 13. DISPOSAL CONSIDERATIONS

Disposed of completely cured (or polymerized) wastes in sanitary landfill. As a disposal alternative, incinerate uncured product in an industrial or commercial incinerator in the presence of a combustible material.

## SECTION 14. TRANSPORT INFORMATION

14.1 UNRTDG : Not regulated as a dangerous good.  
14.2 IATA-DGR : Not regulated as a dangerous good.  
14.3 IMDG-Code : Not regulated as a dangerous good.

## SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Hazardous Substance Act B.E. 2535 : Not applicable

Emergency Decree on Controlling the Use of Volatile Substances B.E. 2533 : Not applicable

## SECTION 16. OTHER INFORMATION

### For Industrial Only

This materials safety data sheet is offered solely for your information, consideration and investigation. The data described in this MSDS consist of data on literature, our acquisitional data and analogical inference by data of similar chemical substance or product. Applied DB Public Company Limited provides no warranties; either expresses or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein.



# Material Safety Data Sheet

## Product Name: ADB<sup>®</sup> 4Minute Clear Epoxy

Revision: 01 June 2017

### SECTION 1. COMPANY IDENTIFICATION

1.1 Product Name : ADB<sup>®</sup> 4Minute Clear Epoxy (Part B)  
1.2 Chemical Classification : Epoxy adhesive  
1.3 Manufacturer/Supplier: : Applied DB Public Company Limited  
Address : 252 Soi 3, Moo 4, Bangpoo Industrial Estate Sukhumvit Rd.,  
Muang, Samutprakarn, Thailand 10280  
: Tel 662-709-3990-7 Fax. 662-709-4224  
1.4 Emergency Telephone Number : Tel 662-709-3990-7 Fax. 662-709-4224  
**Recommended use of the chemical and restrictions on use**  
Recommended use : Accelerator for epoxy adhesive

### SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture  
Acute toxicity : Category 4  
2.2 Label element  
Pictogram



Signal word

Warning

Hazard statements

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P332 + P313 If skin irritation occurs: Get medical advice/attention.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

None known.

### SECTION 3. COMPOSITION

Chemical name	CAS No.	Concentration (%w/w)
Mercaptan terminated polymer	Trade secret	90-95
2, 4, 6-Tris(dimethylanimomethyl)phenol	90-72-2	5-10

### SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures



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- Inhalation Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, have a trained person administer artificial respiration.
- Skin contact Wash thoroughly with soap and water. Wash clothing before reuse.
- Eye contact IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue.
- Ingestion NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Have patient drink several glasses of water or milk. DO NOT induce vomiting. Keep airway clear.
- 4.2 Most important symptoms and effects, both acute and delayed  
No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needs  
No further relevant information available.

### SECTION 5. FIRE FIGHTING MEASURES

- 5.1 Extinguishing media
  - Suitable extinguishing media: Carbon dioxide, Dry chemical, Foam, Water spray
  - Unsuitable extinguishing media: Water may spread fire (product floats on water).
- 5.2 Special hazards arising from the substance and mixture  
Carbon dioxide, carbon monoxide, hydrogen sulfide, sulfur dioxide, sulfur trioxide
- 5.3 Special protective equipment and precautions for fire –fighters
  - Specific extinguishing methods: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
  - Special protective equipment for firefighters: Wear self-contained respiratory protective device.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment, and emergency procedures  
Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions  
Inform respective authorities in case of seepage into water course or sewage system. Prevent seepage into sewage system, workpits and cellars. Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and materials for containment and cleaning up  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Clean the affected area carefully; suitable cleaners are: Warm water. Dispose of the material collected according to regulations. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### SECTION 7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling  
Ensure good ventilation/exhaustion at the workplace.
- 7.2 Conditions for safe storage, including any incompatibilities  
Keep container tightly sealed. Store receptacle in a well ventilated area.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration
2, 4, 6-Tris(dimethylanimomethyl)phenol	90-72-2	TWA	5 ppm



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## 8.2 Appropriate engineering controls

Processing may form hazardous compounds (see section 10). Ensure adequate ventilation, especially in confined areas. Minimize workplace exposure concentrations.

## 8.3 Personal protective equipment

Eye/ face protection

Safety goggles.

Skin/ body protection

Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (chemical-resistant gloves, aprons, boots, etc).

## 8.4 Work/ Hygienic practices

Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPETERIES

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a) Appearance and color	Clear to Light yellow liquid
b) Odor	sulfur like odor
c) Odor threshold	No data available
d) pH	Not applicable
e) Melting point/ freezing point	No data available
f) Initial boiling point and boiling	No data available
g) Flash point	No data available
h) Evaporation rate	Not applicable
i) Flammability (solid, gas)	Not classified as a flammability hazard
j) Upper explosion limit	No data available
k) Lower explosion limit	No data available
l) Vapour pressure	No data available
m) Relative vapour density	No data available
n) Relative density	1.12
o) Solubility	Slightly soluble in water (0.1-1%)
p) Partition coefficient: n-octanol/ water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity, dynamic	7,000 - 10,000 cps
s) Explosive properties	Not explosive
t) Oxidizing properties	The substance or mixture is not classified as oxidizing.

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## SECTION 10. STABILITY AND REACTIVITY

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### 10.1 Reactivity

Stable under normal conditions.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Reacts with acids and oxidizing agents.

### 10.4 Conditions to avoid

No further relevant information available.

Incompatible materials

No further relevant information available.

### 10.5 Hazardous decomposition products

Carbon monoxide, carbon dioxide, hydrogen sulfide, sulfur dioxide, sulfur trioxide

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## SECTION 11. TOXICOLOGICAL INFORMATION

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### 11.1 Information on the likely routes of exposure

Skin contact

Moderate skin irritation.



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- Eye contact Moderate eye irritation.
- Inhalation Respiratory tract irritation.
- Ingestion Gastrointestinal irritation
- 11.2 Symptoms related to physical, chemical, and toxicological characteristics
  - Skin contact May include localized redness, swelling, itching, and dryness.
  - Eye contact May include redness, swelling, pain, tearing, and blurred or hazy vision.
  - Inhalation May include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
  - Ingestion May include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- 11.3 Delayed and immediate effects and also chronic effects from short and long term exposure
  - Short term exposure/ long term exposure
    - Potential immediate effects Not available.
    - Potential delayed effects Not available.
    - Potential chronic health effects Not available.
- 11.4 Numerical measures of toxicity
  - Acute toxicity

Components	LD50 (oral rat)	LD50 (Dermal rabbit)	LC50 (Inhalation rat ) 4 h
2, 4, 6-Tris(dimethylanilomethyl)phenol	2,169 mg/kg	-	-

### SECTION 12. ECOLOGICAL INFORMATION

- 12.1 Ecotoxicity
  - Acute aquatic toxicity Not classified as environmentally hazardous
- 12.2 Persistence and degradability Not easily biodegradable
- 12.3 Bioaccumulative potential No data available.
- 12.4 Mobility in soil No data available.
- 12.5 Other adverse effects No data available.

### SECTION 13. DISPOSAL CONSIDERATIONS

Disposed of completely cured (or polymerized) wastes in sanitary landfill. As a disposal alternative, incinerate uncured product in an industrial or commercial incinerator in the presence of a combustible material.

### SECTION 14. TRANSPORT INFORMATION

- 14.1 UNRTDG : Not regulated as a dangerous good.
- 14.2 IATA-DGR : Not regulated as a dangerous good.
- 14.3 IMDG-Code : Not regulated as a dangerous good.

### SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

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