

# MATERIAL SAFETY DATA SHEET

## West System Inc.

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:**..... WEST SYSTEM® SIX10® Hardener  
**PRODUCT CODE:**..... 610B  
**CHEMICAL FAMILY:**..... Amine  
**CHEMICAL NAME:**..... Modified polyamine  
**FORMULA:**..... Not applicable

**MANUFACTURER:**  
West System Inc.  
102 Patterson Ave.  
Bay City, MI 48706, U.S.A.  
Phone: 866-937-8797 or 989-684-7286  
www.westsystem.com

**EMERGENCY TELEPHONE NUMBERS:**  
Transportation  
CHEMTREC:..... 800-424-9300 (U.S.)  
703-527-3887 (International)  
Non-transportation  
Poison Hotline:..... 800-222-1222

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Danger Causes burns to eyes and skin. Harmful if absorbed through the skin. Harmful if swallowed. May be harmful if inhaled. May cause allergic reaction. Colorless gel with an ammonia-like odor.

**PRIMARY ROUTE(S) OF ENTRY:**..... Skin contact, eye contact, inhalation.

#### POTENTIAL HEALTH EFFECTS:

**ACUTE INHALATION:**..... Exposure to high concentrations of vapor causes irritation to the respiratory tract. Coughing and chest pain may result.

**CHRONIC INHALATION:**..... Prolonged or repeated exposure to high concentrations of vapors may cause lung tissue damage. Exposure to low vapor concentrations may cause a sore throat.

**ACUTE SKIN CONTACT:**..... Mildly corrosive. May cause severe irritation with pain. May cause allergic reaction.

**CHRONIC SKIN CONTACT:**..... Repeated contact may cause skin sensitization and dermatitis. Excessive skin contact can result in material being absorbed in amounts harmful to internal organs.

**EYE CONTACT:**..... Moderately corrosive. Causes severe irritation, pain and possible permanent injury. Vapor absorption into the eye can cause blurred vision and injury.

**INGESTION:**..... Moderately corrosive. May cause bleeding of the gastrointestinal tract. May cause burning of the mouth and throat. Aspiration hazard.

**SYMPTOMS OF OVEREXPOSURE:**..... Development of allergic reaction or sensitization. Skin irritation and redness. Respiratory irritation or tightness of chest. Conjunctivitis or corneal damage. Possible liver or kidney damage.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**..... Chronic respiratory disease (e.g., bronchitis, asthma). Skin conditions and allergies. Eye disorders.

### 3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS #</u>	<u>CONCENTRATION (%)</u>
Benzyl alcohol	100-51-6	10-30
Polyoxypropylenediamine	9046-10-0	10-30
Amine terminated copolymer	68683-29-4	10-30
Phenalkamine curing agent	868765-93-9	1-10
Triethylenetetramine, reaction products with phenol/formaldehyde	32610-77-8	1-10
Tris-2,4,6-(dimethylaminomethyl)phenol reaction products with triethylenetetramine	1101788-77-5	1-10
Synthetic amorphous silica	112945-52-5	1-10
Polymer of epichlorohydrin, Bisphenol-A and diethylenetriamine	31326-29-1	1-5
2-hydroxyethyl ethers of cashew nutshell liquid	232268-65-4	1-5
Triethylenetetramine	112-24-3	1-5
Hydroxybenzene	108-95-2	1-5

Diethylenetriamine

111-40-0

1-5

**4. FIRST AID MEASURES**

**FIRST AID FOR EYES:** ..... Immediately flush with water for at least 15 minutes. Get prompt medical attention.

**FIRST AID FOR SKIN:** ..... Remove contaminated clothing. Immediately wash skin with soap and water. Do not apply greases or ointments. Get medical attention if wide spread exposure.

**FIRST AID FOR INHALATION:** ..... If symptoms occur as noted in Section 3, remove to fresh air. Get medical attention if symptoms persist or worsen.

**FIRST AID FOR INGESTION:** ..... Give conscious person at least 2 glasses of water. Do not induce vomiting. If vomiting should occur spontaneously, keep airway clear. Get medical attention.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT:**..... > 200°F (PMCC)

**EXTINGUISHING MEDIA:** ..... Water spray, dry chemical, alcohol foam and carbond dioxide (CO<sub>2</sub>).

**FIRE AND EXPLOSION HAZARDS:** ..... Burning will generate toxic fumes, including but not limited to: ammonia, nitric acide, nitrosamines, oxides of nitrogen, carbon monoxide, carbon dioxide, and possibly aldehydes and ketones. When mixed with sawdust, wood chips, or other cellulosic material, spontaneous combustion can occur under certain conditions. If hardener is spilled into or mixed with sawdust, heat is generated as the air oxidizes the amine. If the heat is not dissipated quickly enough, it can ignite the sawdust.

**SPECIAL FIRE FIGHTING PROCEDURES:**..... Use full-body protective gear and a self-contained breathing apparatus. If spill has ignited, use water spray to disperse vapors and protect personnel attempting to stop leak. Use water to cool fire-exposed containers. Use of water may generate toxic aqueous solutions. Do not allow water run-off from fighting fire to enter drains or other water courses.

**6. ACCIDENTAL RELEASE MEASURES**

**SPILL OR LEAK PROCEDURES:** ..... Stop leak without causing additional risk. Wear proper personal protective equipment. Contain spill and ventilate area. Large or small spill - scoop bulk into appropriate container for recovery. Use inert, non-combustible absorbent material (e.g., sand) and shovel remainder into suitable container for disposal. Do not use sawdust, wood chips or other cellulosic materials to absorb the spill, as the possibility for spontaneous combustion exists. Wash spill residue with warm, soapy water if necessary.

**7. HANDLING AND STORAGE**

**STORAGE TEMPERATURE (min./max.):**..... 40°F (4°C) / 90°F (32°C)

**STORAGE:**..... Minimum feasible handling temperatures should be maintained. If stored above 100°F, nitrogen atmosphere is recommended. Keep containers tightly closed.

**HANDLING PRECAUTIONS:** ..... Use only with adequate ventilation. Do not breath vapors or mists from heated material. Avoid contact with skin and eyes. Wash thoroughly after handling. When mixed with epoxy resin this product causes an exothermic reaction, which in large masses, can produce enough heat to damage or ignite surrounding materials and emit fumes and vapors that vary widely in composition and toxicity.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**EYE PROTECTION GUIDELINES:** ..... A minimum of safety glasses with side shields.

**SKIN PROTECTION GUIDELINES:**..... Wear liquid-proof, chemical resistant gloves (nitrile-butyl rubber, neoprene, butyl rubber or natural rubber) and full body-covering clothing.

**RESPIRATORY/VENTILATION GUIDELINES:** ..... General mechanical or local exhaust ventilation. In the absence of adequate ventilation, use a NIOSH approved air purifying respirator with an organic vapor cartridge.

Note: West System, Inc. has conducted an air sampling study using this product or similarly formulated products. The results indicate that the components sampled for (benzyl alcohol, phenol, formaldehyde and amines) were either so low that they were not detected at all or they were well below OSHA's permissible exposure levels.

**ADDITIONAL PROTECTIVE MEASURES:**..... Use where there is immediate access to safety shower and emergency eye wash. Provide proper wash/cleanup facilities for proper hygiene. Contact lens should not be worn when working with this material. Generally speaking, working cleanly and following basic precautionary measures will greatly minimize the potential for harmful exposure to this product under normal use conditions.

**OCCUPATIONAL EXPOSURE LIMITS:** ..... Not established for product as whole. Refer to OSHA's Permissible Exposure Level (PEL) or the ACGIH Guidelines for information on specific ingredients.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL FORM** ..... Gel.  
**COLOR** ..... Colorless.  
**ODOR** ..... Ammonia-like.  
**BOILING POINT** ..... > 480°F.  
**MELTING POINT/FREEZE POINT** ..... No data.  
**VISCOSITY** ..... No data.  
**pH** ..... Basic.  
**SOLUBILITY IN WATER** ..... Appreciable.  
**SPECIFIC GRAVITY** ..... 1.038.  
**BULK DENSITY** ..... 8.67 lb/gal.  
**VAPOR PRESSURE** ..... < 1 mmHg @ 20°C.  
**VAPOR DENSITY** ..... Heavier than air.  
**% VOLATILE BY WEIGHT** ..... ASTM 2369-07 was used to determine the Volatile Matter Content of mixed epoxy resin and hardener. 610 Resin and 610 Hardener, mixed together at 2.13:1 by weight, has a density of 1102 g/L (9.20 lb/gal). The combined VOC content for 610 Resin / 610 Hardener is 11.80 g/L (0.10 lb/gal).

#### 10. STABILITY AND REACTIVITY

**STABILITY:** ..... Stable.  
**HAZARDOUS POLYMERIZATION:** ..... Will not occur.  
**INCOMPATIBILITIES:** ..... Strong oxidizers, acids, reactive organometallic compounds.  
**DECOMPOSITION PRODUCTS:** ..... Very toxic fumes and gases when burned or otherwise heated to decomposition, and may include, but not limited to: Ammonia, oxides of nitrogen, carbon monoxide, carbon dioxide, and possibly aldehydes and ketones.

#### 11. TOXICOLOGICAL INFORMATION

No specific oral, inhalation or dermal toxicology data is known for this product.

Oral: ..... Expected to be slightly toxic.  
Inhalation: ..... Expected to be slightly toxic.  
Dermal: ..... Expected to be slightly toxic.

**CARCINOGENICITY:**

NTP ..... No.  
IARC ..... No.  
OSHA ..... No.

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

#### 12. ECOLOGICAL INFORMATION

In its original, non-cured form, this product may present long term hazards if released to the environment. Do not allow into sewers, on the ground or in any body of water.

#### 13. DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL METHOD:** ..... Evaluation of this product using RCRA criteria shows that it is not a hazardous waste, either by listing or characteristics, in its purchased form. It is the responsibility of the user to determine proper disposal methods.

Incinerate, recycle (fuel blending) or reclaim may be preferred methods when conducted in accordance with federal, state and local regulations.

#### 14. TRANSPORTATION INFORMATION

**DOT Non-Bulk**

SHIPPING NAME: ..... Polyamines, solid, corrosive, n.o.s.  
TECHNICAL SHIPPING NAME: ..... Polyoxypropylenediamine  
HAZARD CLASS: ..... Class 8  
U.N./N.A. NUMBER: ..... UN 3259  
PACKING GROUP: ..... PG III

**ICAO/IATA**

SHIPPING NAME: ..... Polyamines, solid, corrosive, n.o.s.  
 TECHNICAL SHIPPING NAME:..... Polyoxypropylenediamine  
 HAZARD CLASS: ..... Class 8  
 U.N. NUMBER: ..... UN 3259  
 PACKING GROUP:..... PG III  
 MARINE POLLUTANT:..... No

**IMDG**

SHIPPING NAME: ..... Polyamines, solid, corrosive, n.o.s.  
 TECHNICAL SHIPPING NAME:..... Polyoxypropylenediamine  
 HAZARD CLASS: ..... Class 8  
 U.N. NUMBER: ..... UN 3259  
 PACKING GROUP:..... PG III  
 EmS:..... F-A, S-B  
 MARINE POLLUTANT:..... No

**15. REGULATORY INFORMATION**

**OSHA STATUS:** ..... Corrosive; possible sensitizer.  
**TSCA STATUS:**..... All components are listed on TSCA inventory or otherwise comply with TSCA requirements.

**Canada WHMIS Classification:**..... D2A – Very toxic material causing other toxic effects; E – Corrosive.  
**CEPA Chemical Inventory Status:** ..... All components are listed or are otherwise compliant with CEPA requirements. Phenalkamine, CAS# 868765-93-9, is NDSL listed only, as NDSL #18162-0. Tris-2,4,6-(dimethylaminomethyl)phenol reaction products with triethylenetetramine, CAS# 1101788-77-5, is NDSL listed only.

**SARA TITLE III:**

**SECTION 313 TOXIC CHEMICALS** ..... This product contains phenol (hydroxybenzene) and is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

**STATE REGULATORY INFORMATION:**

The following chemicals are specifically listed or otherwise regulated by individual states. For details on your regulatory requirements you should contact the appropriate agency in your state.

**COMPONENT NAME**  
**/CAS NUMBER****STATE CODE**

Tetraethylenetriamine 112-24-3	MA, NJ, PA
Diethylenetriamine 111-40-0	MA, NJ, PA
Phenol 108-95-2	NJ, RI, PA, MA, IL
Benzyl alcohol 100-51-6	MA, PA, NJ

**16. OTHER INFORMATION**

**REASON FOR ISSUE:** ..... Changes made in sections 2, 3, 14 and 15.  
**PREPARED BY:** ..... G.M. House  
**APPROVED BY:**..... G. M. House  
**TITLE:** ..... Health, Safety & Environmental Manager  
**APPROVAL DATE:** ..... June 21, 2013  
**SUPERSEDES DATE:**..... April 8, 2013  
**MSDS NUMBER:**..... 610-13a

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