

# MATERIAL SAFETY DATA SHEET

## West System Inc.

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:**..... WEST SYSTEM® 206™ Slow Hardener.  
**PRODUCT CODE:**..... 206  
**CHEMICAL FAMILY:**..... Amine.  
**CHEMICAL NAME:**..... Modified aliphatic 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. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

<u>INGREDIENT NAME</u>	<u>CAS #</u>	<u>CONCENTRATION</u>
Polyoxypropylenediamine	9046-10-0	30-50%
Polymer of epichlorohydrin, bisphenol-A, and DETA	31326-29-1	< 30%
Tetraethylenepentamine (TEPA)	112-57-2	< 30%
Diethylenetriamine (DETA)	111-40-0	< 12%
Reaction products of TETA and propylene oxide	26950-63-0	< 12%
Triethylenetetramine (TETA)	112-24-3	< 12%

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**HMIS Hazard Rating:**    **Health - 3**                      **Flammability - 1**                      **Reactivity - 0**

DANGER! Corrosive. Strong skin sensitizer. May cause severe chemical burns to eyes and skin. Harmful if swallowed. Harmful if absorbed through the skin. Can cause respiratory irritation. Light-yellow colored liquid with ammonia odor.

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

#### POTENTIAL HEALTH EFFECTS:

**ACUTE INHALATION:**..... Excessive exposure to vapor or mist is irritating to the upper respiratory tract, causing nasal discharge, coughing, and discomfort in eyes, nose, throat and chest. Severe cases may cause difficult breathing and lung damage.

**CHRONIC INHALATION:** ..... May cause lung damage. May cause respiratory sensitization in susceptible individuals. Repeated exposures may cause internal organ damage.

**ACUTE SKIN CONTACT:**..... Corrosive. Prolonged contact may cause skin damage with burns and blistering. Wide spread contact may result in material being absorbed in harmful amounts.

**CHRONIC SKIN CONTACT:** ..... May cause persistent irritation or dermatitis. Repeated contact may cause allergic reaction/sensitization and possible tissue destruction. Can be absorbed through the skin in amounts that can cause internal organ damage.

**EYE CONTACT:** ..... Corrosive. May cause blurred vision. May cause irritation with corneal injury resulting in permanent vision impairment or even blindness.

**INGESTION:** ..... Moderately toxic. May cause gastrointestinal irritation or ulceration. May cause burns of the mouth and throat.

**SYMPTOMS OF OVEREXPOSURE:** ..... Skin irritation, burns and blistering. Irritation of the nose and throat, headache, nausea and vomiting. Eye irritation and blurred vision.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:**

Existing respiratory conditions, such as asthma and bronchitis. Existing skin conditions.

**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 severe exposure.

**FIRST AID FOR INHALATION:** ..... Move to fresh air and consult physician if effects occur.

**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 (Open Cup)

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

**FIRE AND EXPLOSION HAZARDS:** ..... Burning can generate toxic fumes. 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.

**6. ACCIDENTAL RELEASE MEASURES:**

**SPILL OR LEAK PROCEDURES:** Stop leak without additional risk. Wear proper personal protective equipment. Dike and contain spill. Ventilate area. Large spill - dike and pump into appropriate container for recovery. Small spill - dilute with water and recover or use inert, non-combustible absorbent material (e.g., sand) and shovel into suitable container. 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:** ..... Store in cool, dry place with adequate ventilation.

**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:** ..... Chemical splash goggles, full-face shield or full-face respirator.

**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. With inadequate ventilation, use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge.

**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.

**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** ..... Liquid.  
**COLOR** ..... Light-yellow.  
**ODOR** ..... Ammonia-like.  
**BOILING POINT** ..... > 480°F.  
**MELTING POINT/FREEZE POINT** ..... No data.  
**pH** ..... 11.4  
**SOLUBILITY IN WATER** ..... Appreciable.  
**SPECIFIC GRAVITY** ..... 1.01  
**BULK DENSITY** ..... 8.45 pounds/gallon.  
**VAPOR PRESSURE** ..... < 1 mmHg @ 20°C.  
**VAPOR DENSITY** ..... Heavier than air.  
**VISCOSITY** ..... 200 cPs  
**% VOLATILE BY WEIGHT** ..... EPA Method 24, as described in 40 CFR Part 60, was used to determine the Volatile Matter Content of mixed epoxy resin and hardener. This method states that two-component coating systems should be tested by determining weight loss after mixing the individual components together at the proper ratio, dissolving them in an appropriate solvent, and subjecting them to a temperature of 230°F. 105 Resin and 206 Hardener, mixed together at 5:1 by weight, has a density of 1176 g/L (9.81 lbs/gal). The combined VOC content for 105/206 is 49.5 g/L (0.41 lbs/gal).

**10. REACTIVITY:**

**STABILITY:** ..... Stable.

**HAZARDOUS POLYMERIZATION:** ..... Will not occur.

**INCOMPATIBILITIES:** ..... May react violently when in contact with oxidizing materials, acids or halogenated compounds such as methylene chloride. Reactions may be slow initially, then may rapidly generate heat and vapor pressure.

**DECOMPOSITION PRODUCTS:** ..... Burning or excessive heat may produce toxic levels of ammonia, oxides of nitrogen and irritating aldehydes.

**11. TOXICOLOGICAL INFORMATION:**

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

Oral: ..... Expected to be moderately toxic.

Inhalation: ..... Expected to be moderately toxic.

Dermal: ..... Expected to be moderately toxic.

Absorption of phenolic solutions through the skin may be very rapid and can cause death. Lesser exposures can cause damage to the kidney, liver, pancreas and spleen; and cause edema of the lungs. Chronic exposures can cause death from liver and kidney damage.

**CARCINOGENICITY:**

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

This product contains no known carcinogens in concentrations greater than 0.1%.

## 12. ECOLOGICAL INFORMATION:

Wastes from this product may present long term environmental hazards. 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:

**D.O.T. SHIPPING NAME:** ..... Polyamines, liquid, corrosive, n.o.s.  
**TECHNICAL SHIPPING NAME:** ..... Polyoxypropylenediamine.  
**D.O.T. HAZARD CLASS:** ..... Class 8  
**U.N./N.A. NUMBER:** ..... UN 2735  
**PACKING GROUP:** ..... PG II

## 15. REGULATORY INFORMATION:

**OSHA STATUS:** ..... Corrosive; strong irritant; sensitizer.  
**TSCA STATUS:** ..... All components are listed on TSCA inventory.  
**SARA TITLE III:**  
**SECTION 313 TOXIC CHEMICALS:** ..... None.

### 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.

<u>COMPONENT NAME</u>	<u>CONCENTRATION</u>	<u>STATE CODE</u>
Tetraethylenepentamine 112-57-2	<30%	FL, MA, NJ, PA
Tetraethylenetriamine 112-24-3	<12%	FL, MA, NJ, PA

## 16. OTHER INFORMATION:

**REASON FOR ISSUE:** ..... Update in Section 1.  
**PREPARED BY:** ..... T. J. Atkinson  
**APPROVED BY:** ..... G. M. House  
**TITLE:** ..... Health, Safety & Environmental Manager  
**APPROVAL DATE:** ..... January 3, 2001  
**SUPERSEDES DATE:** ..... January 5, 2004  
**MSDS NUMBER:** ..... 206-05a

Note: The Hazardous Material Indexing System (HMIS), cited in the Emergency Overview of Section 3, uses the following index to assess hazard rating: 0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; and 4 = Severe.

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