MATERIAL SAFETY DATA SHEET
West System Inc.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:..... WEST SYSTEM® 209™ Extra Slow Hardener
PRODUCT CODE:..... 209.
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. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

INGREDIENT NAME	CAS #	CONCENTRATION
TOFA, reaction product with TEPA	68953-36-6	< 50%
Polycycloaliphatic amine	trade secret	< 25%
Polyoxypropylenediamine	9046-10-0	< 25%
Isophorone diamine	2855-13-2	< 25%
4,4'-Methylenebiscyclohexane	1761-71-3	< 15%
Tetraethylenepentamine (TEPA)	112-57-2	< 15%
Benzene-1,3-dimethaneamine	1477-55-0	< 15%
Modified amine	trade secret	< 15%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

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

DANGER! Corrosive. Severe eye irritant. Severe skin irritant. Severe respiratory irritant. May cause skin sensitization. Harmful if swallowed. Harmful if in contact with skin. Yellow colored liquid with ammonia 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: ..... 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 skin tissue destruction. Repeated absorption may cause internal organ damage.

EYE CONTACT: ..... Corrosive. Causes irritation and may cause chemical burns resulting in permanent damage. Vapors may cause blurred vision when absorbed into eye tissue.

INGESTION: ..... Corrosive. Causes burning of the mouth and throat. May cause bleeding of the gastrointestinal tract and vomiting. Aspiration hazard.

SYMPTOMS OF OVEREXPOSURE:..... Persistent irritation or dermatitis. Skin sensitization or allergic reaction. Irritation to the respiratory tract, headache, nausea. Redness and swelling of the eye. Liver or kidney damage.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:
Existing skin and respiratory conditions (allergies, dermatitis, asthma, bronchitis).

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: ..... 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.

EXTINGUISHING MEDIA:..... Water spray, dry chemical, alcohol foam and carbon dioxide (CO_2).

FIRE AND EXPLOSION HAZARDS: ..... Burning will 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: ..... 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 REQUIREMENTS: ..... Chemical splash goggles or full-face shield.

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 REQUIREMENTS:
General mechanical or local exhaust ventilation. In the absence of adequate ventilation controls, use a NIOSH 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.

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 ..... Yellow.
ODOR..... Ammonia-like.
BOILING POINT ..... > 480°F.
MELTING POINT/FREEZE POINT..... No data.
pH..... 11.5
SOLUBILITY IN WATER..... Appreciable.
SPECIFIC GRAVITY..... 0.963
BULK DENSITY..... 8.04 pounds/gallon.
VAPOR PRESSURE..... < 1 mmHg @ 20°C.
VAPOR DENSITY..... Heavier than air.
VISCOSITY ..... 85 cP.
% 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 209 Hardener, mixed together at 3:1 by weight, has a density of 1148 g/L (9.58 lbs/gal). The combined VOC content for 105/209 is 88.2 g/L (0.74 lbs/gal).

10. REACTIVITY:

STABILITY: ..... Stable.

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

INCOMPATIBILITIES:..... Strong oxidants, acids.

DECOMPOSITION PRODUCTS:..... Burning will produce toxic fumes.

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

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 III

15. REGULATORY INFORMATION:

OSHA STATUS:..... Corrosive; severe irritant; possible 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.

COMPONENT NAME	CONCENTRATION	STATE CODE
None known.		

16. OTHER INFORMATION:

REASON FOR ISSUE: ..... Update in 1.
PREPARED BY: ..... T. J. Atkinson
APPROVED BY: ..... G. M. House
TITLE: ..... Health, Safety & Environmental Manager
APPROVAL DATE: ..... January 3, 2005
SUPERSEDES DATE: ..... January 5, 2004
MSDS NUMBER: ..... 209-05a.

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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