

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. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER Causes burns to eyes and skin. Harmful if swallowed. Harmful if absorbed through the skin. May be harmful if inhaled. Can cause allergic reaction. Aspiration hazard. Clear 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. Aspiration hazard.

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

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:..... Existing respiratory conditions, such as asthma and bronchitis. Existing skin conditions.

3. 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 diethylenetriamine	31326-29-1	10-30
Tetraethylenepentamine	112-57-2	10-30
Diethylenetriamine	111-40-0	5-20
Reaction products of triethylenetetramine and propylene oxide	26950-63-0	5-20
Triethylenetetramine	112-24-3	1-10

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. Aspiration hazard. If vomiting should occur spontaneously, keep airway clear. Get medical attention.

5. FIRE FIGHTING MEASURES

FLASH POINT: > 200°F (Open Cup)

EXTINGUISHING MEDIA: Dry chemical, alcohol foam, carbon dioxide (CO₂), dry sand, limestone powder.

FIRE AND EXPLOSION HAZARDS: Burning can generate toxic fumes. Products of combustion may include, but not limited to: oxides of nitrogen, volatile amines, ammonia, nitric acid, nitrosamines. 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. 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 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 - recover or use inert, non-combustible absorbent material (e.g., sand, clay) 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.

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 (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 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 ASTM 2369-07 was used to determine the Volatile Matter Content of mixed epoxy resin and hardener. 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 9.59 g/L (0.08 lbs/gal).

10. STABILITY AND 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: Very toxic fumes and gases when burned. Decomposition products may include, but not limited to: oxides of nitrogen, volatile amines, ammonia, nitric acid, nitrosamines.

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.

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 the non-cured liquid form this product may be harmful 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, liquid, corrosive, n.o.s.

TECHNICAL SHIPPING NAME: Polyoxypropylenediamine.

HAZARD CLASS: Class 8

U.N./N.A. NUMBER: UN 2735

PACKING GROUP: PG II

ICAO/IATA

SHIPPING NAME: Polyamines, liquid, corrosive, n.o.s.

TECHNICAL SHIPPING NAME: Polyoxypropylenediamine

HAZARD CLASS: Class 8

U.N. NUMBER: UN 2735

PACKING GROUP: PG II

MARINE POLLUTANT: No

IMDG

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

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>STATE CODE</u>
Tetraethylenepentamine 112-57-2	RI, MA, NJ, PA
Tetraethylenetriamine 112-24-3	RI, MA, NJ, PA
Diethylenetriamine 111-40-0	RI, MA, NJ, PA

16. OTHER INFORMATION

REASON FOR ISSUE: Changes made in Section 2, 3 and 14.
PREPARED BY: G. M. House
APPROVED BY: G. M. House
TITLE: Health, Safety & Environmental Manager
APPROVAL DATE: April 3, 2013
SUPERSEDES DATE: February 10, 2011
MSDS NUMBER: 206-13a

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