

MATERIAL SAFETY DATA SHEET

West System Inc.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: G/flex® 650 Epoxy Hardener
PRODUCT CODE: 650
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

<u>INGREDIENT NAME</u>	<u>CAS #</u>	<u>CONCENTRATION</u>
Amine terminated copolymer	68683-29-4	< 50%
Phenalkamine	868765-03-9	< 30%
2-hydroxyethyl ethers	232268-65-4	< 15%
Tris-2,4,6-(dimethylaminomethyl)phenol reaction products with triethylenetetramine		< 10%
Triethylenetetramine	112-24-3	< 10%
Tris-2,4,6-(dimethylaminomethyl)phenol	90-72-2	< 10%
Aminoethylpiperazine	140-31-8	< 10%
1,3-benzenedimethaneamine	1477-50-0	< 10%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS Hazard Rating: **Health - 2** **Flammability - 1** **Physical Hazards - 0**

WARNING! Skin and eye irritant. Respiratory irritant. May cause skin sensitization. Amber colored viscous liquid with slight 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.

CHRONIC INHALATION: Prolonged or repeated exposure to high concentrations of vapors may cause irritation.

ACUTE SKIN CONTACT:..... Moderate to severe irritation.

CHRONIC SKIN CONTACT: Repeated contact may cause skin sensitization and dermatitis.

EYE CONTACT:..... Moderate to severe irritation. Causes severe irritation, pain and possible permanent injury.

INGESTION: Severely irritating to gastrointestinal system. May be an aspiration hazard.

SYMPTOMS OF OVEREXPOSURE: Development of allergic reaction or sensitization. Skin irritation and redness.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Chronic respiratory disease (e.g., bronchitis, asthma). Skin conditions and allergies.

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 carbon dioxide (CO₂).

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 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)

SHELF LIFE:Reference product label.

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

HANDLING PRECAUTIONS:.....Use with adequate ventilation. Do not breathe 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 (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 Amber.
ODOR Ammonia-like.
BOILING POINT..... > 480°F.
MELTING POINT/FREEZE POINT..... No data.
VISCOSITY 21,000 cPs
pH No data.
SOLUBILITY IN WATER..... Appreciable.
SPECIFIC GRAVITY 0.97
BULK DENSITY 8.12 pounds/gallon.
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. 650 Resin and 650 Hardener, mixed together at 1.2:1 by weight, has a density of 1050 g/L (8.76 lbs/gal). The combined VOC content for 650 Resin/650 Hardener is 8.6 g/L (0.07 lbs/gal).

10. REACTIVITY:

STABILITY: Stable.

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES:..... Strong oxidizers, acids.

DECOMPOSITION PRODUCTS: 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: No data.

Inhalation:..... No data.

Dermal:..... No data.

CARCINOGENICITY:

NTP No.

IARC..... No.

OSHA No.

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

12. ECOLOGICAL INFORMATION:

No specific data. 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: Not Regulated.

TECHNICAL SHIPPING NAME:..... Not Applicable.
D.O.T. HAZARD CLASS: Not Applicable.
U.N./N.A. NUMBER: Not Applicable.
PACKING GROUP:..... Not Applicable.

15. REGULATORY INFORMATION:

OSHA STATUS:..... Irritant; possible sensitizer.
TSCA STATUS:..... All components are listed on TSCA inventory or otherwise comply with TSCA requirements.
SARA TITLE III:
SECTION 313 TOXIC CHEMICALS None known.

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>/CAS NUMBER</u>	<u>CONCENTRATION</u>	<u>STATE CODE</u>
None known.		

16. OTHER INFORMATION:

REASON FOR ISSUE:..... Changes made in Sections 2.
PREPARED BY: G. M. House
APPROVED BY: G. M. House
TITLE: Product Safety & Regulatory Compliance
APPROVAL DATE: September 9, 2009
SUPERSEDES DATE: January 3, 2008
MSDS NUMBER: 650B-09a

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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