1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ......................................................... WEST SYSTEM® G/flex® 655 Part B Hardener
APPLICABLE PRODUCT CODES: .................. 655B, 655-CH, 655-EH
CHEMICAL FAMILY: .............................................. Rubber modified-polyamine mixture.
INTENDED PRODUCT USES: ...................... Curing agent for epoxy resins.
PRODUCT RESTRICTIONS: .............................. None identified.
SDS VERSION: .................................................... 655B-2019a

MANUFACTURER: Gougeon Brothers, Inc.
100 Patterson Ave.
Bay City, MI 48706, U.S.A.
Phone: 866-937-8797 or 989-684-7286
www.westsystem.com

EMERGENCY TELEPHONE NUMBERS (24 HRS):
Transportation
CHEMTREC: ...................... 800-424-9300 (U.S.)
............................ 703-527-3887 (International)
Non-transportation
Poison Hotline: ...................... 800-222-1222

2. HAZARDS IDENTIFICATION

Classification of Substance or Mixture
Skin corrosion/irritation, Category 2
Skin sensitizer, Category 1
Eye damage/irritation, Category 1

Label Elements

Hazard Pictogram(s):

Signal Word:
DANGER

Hazard Statements:
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage

Precautionary Statements:
Prevention
P261 Avoid breathing dust/fumes/gas/mists/vapors/spray
P264 Wash hands thoroughly after handling
P272 Contaminated work clothing should not be allowed out of the workplace
P280 Wear protective gloves/protective clothing/eye protection/face protection
Response
P302 + P352 IF ON SKIN: Wash with plenty of water and soap.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 IF skin irritation or rash occurs: Get medical attention/advice
P337 + P313 If eye irritation persists: Get medical attention/advice
P362 + P364 Take off contaminated clothing and wash it before reuse
Disposal
P501 Dispose of contents and container according to local, state, national and international regulations

Other Hazards
None known.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>CAS #</th>
<th>CONCENTRATION (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Propenenitrile, polymer with 1,3-butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated</td>
<td>68683-29-4</td>
<td>30-60</td>
</tr>
<tr>
<td>Non-hazardous</td>
<td>Not Available</td>
<td>10-30</td>
</tr>
<tr>
<td>Triethylenetetramine</td>
<td>112-24-3</td>
<td>5-10</td>
</tr>
</tbody>
</table>

Last Revised: 15JAN19
4. FIRST AID MEASURES

FIRST AID FOR EYES: SYMPTOMS: Causes eye burns and eye damage. RESPONSE: Flush immediately with water for at least 15 minutes. Remove contact lenses if present and easy to do. Immediately call a POISON CONTROL CENTER or doctor.

FIRST AID FOR SKIN: SYMPTOMS: May cause skin burns, redness and irritation. May cause allergic skin reaction and sensitization. RESPONSE: Immediately wash skin with soap and water. Seek medical advice if effects develop and persist.

FIRST AID FOR INHALATION: SYMPTOMS: Can cause respiratory irritation and possible central nervous system effects. RESPONSE: Remove to fresh air if effects occur and keep comfortable for breathing. Seek medical assistance if effects develop and persist.

FIRST AID FOR INGESTION: SYMPTOMS: May cause gastrointestinal irritation or ulceration. RESPONSE: Rinse mouth with water. DO NOT induce vomiting. If vomiting should occur, keep airway clear. Immediately call POISON CONTROL CENTER or doctor.

5. FIRE FIGHTING MEASURES

DIRECT WATER STREAM.

SHOULD USE: Foam, carbon dioxide (CO2), dry chemical. NOT-SUITABLE: Direct water stream.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES: Keep unnecessary and unprotected personnel from entering area. Use appropriate safety and personal protective equipment as indicated in Section 8.

MITIGATION AND CLEAN UP PROCEDURES: Stop leak without additional risk. Isolate area. Dike and absorb with inert material (e.g., sand) and collect in a suitable, closed container. Do not use sawdust, wood chips or other cellulosic materials to absorb the spill, as the possibility for spontaneous combustion exists. Warm, soapy water may be used to clean residual.

ENVIRONMENTAL PRECAUTIONS: Prevent from entering into soil, ditches, sewers, waterways and groundwater. See Section 12 for environmental impact information.

7. HANDLING AND STORAGE

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

STORAGE: Store in cool, dry place away from high temperatures and moisture. Keep container tightly closed. Store in a secure location with restricted access or store locked up. Store away from incompatible materials and conditions listed in Section 10.
WEST SYSTEM® G/flex® 655 Part B Hardener

HANDLING PRECAUTIONS: ................................................................. Use with adequate ventilation. Do not breathe vapors or mists from heated material. Avoid exposure to concentrated vapors. Avoid skin and eye contact. 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

ENGINEERING CONTROLS: ................................................................. Use with adequate general ventilation and/or local ventilation to keep exposures below established limits.

EYE PROTECTION GUIDELINES: ......................................................... Chemical splash-proof goggles or 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 PROTECTION GUIDELINES: ....................................... When ventilation cannot be made adequate enough to keep exposures below established limits, use a NIOSH approved respirator with an organic vapor cartridge, organic vapor cartridge + P100, or a multi-contaminant cartridge, depending on specific workplace conditions. Consult with your respirator and cartridge supplier to ensure proper selection of respirator and cartridge based on ingredients listed in Section 3 and specific workplace conditions. Use and select a respirator according the guidelines established in OSHA 1910.134 or other applicable respiratory protection standard.

ADDITIONAL PROTECTIVE MEASURES: .......................................... Use where there is immediate access to safety shower and emergency eye wash. Wash thoroughly after use. 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: ................................................ Exposure limits may not be established for this product as a whole. For established exposure limits of specific ingredients in this product, or other available exposure limit information, refer to the table below.

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS#</th>
<th>Exposure Limit Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATBN polymer</td>
<td>68683-29-4</td>
<td>No data available</td>
</tr>
<tr>
<td>Non-hazardous</td>
<td>Not Available</td>
<td>No data available</td>
</tr>
<tr>
<td>Triethylenetetramine</td>
<td>112-24-3</td>
<td>AIHA WEEL: 1 ppm ; 6 mg/ m3; Absorbed via skin</td>
</tr>
<tr>
<td>Benzene, 1,3-dimethamine</td>
<td>1477-55-0</td>
<td>0.1 mg/m3 SKIN, Ceiling NIOSH; OSHA Z1A Remarks: potential for skin absorption</td>
</tr>
<tr>
<td>Phenol, 2,4,6-tri(dimethylaminomethyl)methyl reaction products with triethylenetetramine</td>
<td>110178-87-7</td>
<td>AIHA WEEL: 1 ppm ; 6 mg/ m3; Absorbed via skin</td>
</tr>
<tr>
<td>Synthetic amorphous pyrogenic silica</td>
<td>112945-52-5</td>
<td>Amorphous silica: OSHA PEL 6 mg/m³</td>
</tr>
<tr>
<td>Tris-2, 4, 6-(dimethylaminomethyl)phenol</td>
<td>90-72-2</td>
<td>Dust and PNOS: ACGIH 10mg/m³, TWA, Inhalable; 3 mg/m³, TWA, Respirable; OSHA PEL 15 mg/m³, TWA, total dust; 5 mg/m³, TWA, Respirable</td>
</tr>
<tr>
<td>Aminopropylpiperazine</td>
<td>140-31-8</td>
<td>No data available</td>
</tr>
<tr>
<td>Tetraethylenepentamine</td>
<td>112-57-2</td>
<td>AIHA WEEL: 1 ppm ; 5 mg/ m3; SKIN, DSEN</td>
</tr>
</tbody>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: ............................................................................ Gel.
COLOR: .......................................................................................... Caramel colored.
ODOR: ............................................................................................ Amine-like odor
ODOR THRESHOLD: ......................................................................... No data available.
pH: ............................................................................................... 10.96
BOILING POINT (760mm/Hg): ......................................................... No data available.
FLASH POINT: ................................................................................ > 300°F(149°C) estimated based similar product.
AUTO IGNITION TEMPERATURE: ...................................................... No data available.
LOWER EXPLOSIVE LIMIT (LEL) ....................................................... No data available.
UPPER EXPLOSIVE LIMIT (UEL) ....................................................... No data available.
VAPOR PRESSURE: ......................................................................... No data available.
SPECIFIC GRAVITY/DENSITY (water = 1) ........................................ 0.99
BULK DENSITY .............................................................................. 8.25 lbs./gal. (0.99 kg/L)
VAPOR DENSITY (air = 1) ............................................................... No data available.
EVAPORATION RATE (Butyl Acetate = 1) ......................................... No data available.
WATER SOLUBILITY (% by WT.) ...................................................... No data available.
PARTITION COEFFICIENT, n-OCTANOL/WATER (log Pow) ............ No data available.
KINEMATIC VISCOSITY .................................................................. No data available (mm²/s @ 20°C)
DECOMPOSITION TEMPERATURE: ................................................ No data available.
% VOLATILE BY WEIGHT: ............................................................. ASTM 2369-07 was used to determine the Volatile Matter Content of mixed epoxy resin and hardener. The combined VOC content for the resin and hardener system is listed below.

<table>
<thead>
<tr>
<th>Resin/Hardener</th>
<th>VOC Content (g/L)</th>
<th>(lbs/gal)</th>
</tr>
</thead>
</table>

Last Revised: 15JAN19
10. STABILITY AND REACTIVITY

STABILITY: ......................................................... Product is stable at normal temperatures and pressures.

REACTIVITY/HAZARDOUS REACTIONS: ........................................... Product will not react by itself. A mass of more than one pound of product mixed with an epoxy resin will cause irreversible polymerization with significant heat buildup. Strong acids can cause polymerization.

INCOMPATIBILITIES: .......................................................... Avoid acids, oxidizing materials, halogenated organic compounds (e.g., methylene chloride). External heating or self-heating could result in rapid temperature increase and pressure build up. If such a condition were to occur in a drum, the drum could expand and rupture violently.

CONDITIONS TO AVOID: .......................................................... Avoid excessive heat, ignition sources.

DECOMPOSITION PRODUCTS: .................................................. Very toxic fumes and gases when burned or otherwise heated to decomposition. Decomposition products may include, but not limited to: oxides of carbon, oxides of nitrogen, volatile amines, ammonia, nitric acid, nitrosamines.

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>CAS#</th>
<th>LD&lt;sub&gt;50&lt;/sub&gt; Oral</th>
<th>LD&lt;sub&gt;50&lt;/sub&gt; Dermal</th>
<th>LC&lt;sub&gt;50&lt;/sub&gt; Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATBN polymer</td>
<td>68683-29-4</td>
<td>&gt;15,400 mg/kg</td>
<td>&gt;3000 mg/kg</td>
<td>No data available</td>
</tr>
<tr>
<td>Non-hazardous</td>
<td>Not Available</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Triethylenetetramine</td>
<td>112-24-3</td>
<td>1716 mg/kg</td>
<td>1465 mg/kg</td>
<td>No data</td>
</tr>
<tr>
<td>Benzene-1,3-dimethanamine</td>
<td>1477-55-0</td>
<td>990 mg/kg</td>
<td>2000 mg/kg</td>
<td>1.34 mg/l 4h mist / aerosol</td>
</tr>
<tr>
<td>Phenol, 2,4,6-tris[(dimethylamino)methyl] reaction products with triethylenetetramine</td>
<td>1101788-77-5</td>
<td>1716 mg/kg (reference Triethylenetetramine)</td>
<td>1465 mg/kg</td>
<td>No data</td>
</tr>
<tr>
<td>Synthetic amorphous pyrogenic silica</td>
<td>112945-52-5</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;2000 mg/kg</td>
<td>No data</td>
</tr>
<tr>
<td>Tris-2, 4, 6-(dimethylaminomethyl) phenol</td>
<td>90-72-2</td>
<td>2169 mg/kg</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Aminoethylpiperazine</td>
<td>140-31-8</td>
<td>2087 mg/kg</td>
<td>866 mg/kg</td>
<td>No data</td>
</tr>
<tr>
<td>Tetraethylenepentamine</td>
<td>112-57-2</td>
<td>2140 - 3990 mg/kg</td>
<td>660-1260 mg/kg</td>
<td>No data</td>
</tr>
</tbody>
</table>

ACUTE TOXICITY: ...................................................................... No specific toxicity data exists for this mixture. Classification is based on acute toxicity estimation methods using ingredient data.

Oral: .............................................................................. Not classified. Based on available data product does not meet acute dermal toxicity classification criteria. Ingestion may result in gastrointestinal tract discomfort.

Dermal: ............................................................................. Not classified. Based on available data product does not meet acute dermal toxicity classification criteria.

Inhalation: ....................................................................... Not classified. Based on available data product does not meet acute inhalation toxicity classification criteria.

SKIN CORROSION / IRRITATION: .............................................. Category 2. Causes skin irritation. In vivo tests indicate this product is not corrosive to skin tissue; however, a component in this product is classified as a 1B corrosive.

SERIOUS EYE DAMAGE / IRRITATION: ..................................... Category 1. Causes serious eye damage.

RESPIRATORY SENSITIZATION: .................................................. Not classified. Based on available data this product does not meet classification criteria.

SKIN SENSITIZATION: ............................................................ Category 1. May cause allergic skin reaction.

REPRODUCTIVE TOXICITY: ...................................................... Not classified. Based on available data this product does not meet classification criteria.

MUTAGENICITY: ...................................................................... Not classified. Based on available data this product does not meet classification criteria. A component in this product, aminoethylpiperazine (CAS# 140-31-8), showed positive mutagenic effects in Sister Chromatid Exchange in in-vitro testing, but showed no mutagenic activity in the Ames test, mouse lymphoma (in vitro), or in-vivo micronucleus test (mice) assays.

CARCINOGENICITY: ............................................................... Not classified. Based on available data this product does not meet classification criteria.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): ............. No classified. Based on available data this product does not meet classification criteria. However, it is anticipated that inhalation of concentrated vapors or fumes from heated product may cause irritation to the respiratory tract and central nervous system effects.

SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure): .......... Not classified. Based on available data this product does not meet classification criteria.
WEST SYSTEM® G/flex® 655 Part B Hardener

12. ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY: Not classified. Based on available data this product does not meet acute aquatic toxicity classification criteria. Avoid release to the environment.

CHRONIC AQUATIC TOXICITY: Not classified. Does not meet chronic aquatic toxicity classification criteria. Avoid release to the environment.

PERSISTANCE AND BIODEGRADABILITY: Not classified. Based on available data this product does not meet chronic aquatic toxicity classification criteria. Avoid release to the environment.

MOBILITY IN SOIL: Not classified. Does not meet acute aquatic toxicity classification criteria. Avoid release to the environment.

ADDITIONAL ECOTOXICITY INFORMATION: In the liquid, uncured state, this product may be harmful to aquatic life. Prevent release to the environment, sewers and natural waters.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS#</th>
<th>Ecotoxicity Classification Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATBN polymer</td>
<td>68683-29-4</td>
<td>No data available</td>
</tr>
<tr>
<td>Non-hazardous</td>
<td>Not Available</td>
<td>No data available</td>
</tr>
<tr>
<td>Triethyleneetramine</td>
<td>112-24-3</td>
<td>Aquatic Chronic Cat. 3</td>
</tr>
<tr>
<td>Benzene-1,3-dimethanamine</td>
<td>1477-55-0</td>
<td>Acute Aquatic Cat. 3, Chronic Aquatic Cat. 3</td>
</tr>
<tr>
<td>Phenol, 2,4,6-tris(dimethylamino)methyl reaction products with triethylenetetramine</td>
<td>110178-77-5</td>
<td>(Reference Triethylenetetramine); Aquatic Chronic Cat. 3</td>
</tr>
<tr>
<td>Synthetic amorphous pyrogenic silica</td>
<td>112945-52-5</td>
<td>No data available</td>
</tr>
<tr>
<td>Tri-2, 4, 6-(dimethylaminomethyl) phenol</td>
<td>90-72-2</td>
<td>Acute Aquatic Cat. 3, Chronic Aquatic Cat. 3</td>
</tr>
<tr>
<td>Aminomethylpiperazine</td>
<td>140-31-8</td>
<td>Acute Aquatic Cat. 3, Chronic Aquatic Cat. 3</td>
</tr>
<tr>
<td>Tetraethylenepentamine</td>
<td>112-57-2</td>
<td>Aquatic Acute Cat. 2, Aquatic Chronic Cat. 2</td>
</tr>
</tbody>
</table>

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.

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

14. TRANSPORTATION INFORMATION

US DOT
UN NUMBER: Not regulated. Shipping Name: Not applicable. Technical Shipping Name: Not applicable. HAZARD CLASS: Not applicable. PACKING GROUP: Not applicable. MARINE POLLUTANT: Not applicable.

CANADA TDG
UN NUMBER: Not regulated. Shipping Name: Not applicable. Technical Shipping Name: Not applicable. HAZARD CLASS: Not applicable. PACKING GROUP: Not applicable. MARINE POLLUTANT: Not applicable.

IMDG
UN NUMBER: Not regulated. Shipping Name: Not applicable. Technical Shipping Name: Not applicable. HAZARD CLASS: Not applicable. PACKING GROUP: Not applicable. EmS Number: Not applicable. MARINE POLLUTANT: Not applicable.

ICAO/IATA
UN NUMBER: Not regulated. Shipping Name: Not applicable. Technical Shipping Name: Not applicable.
WEST SYSTEM® G/flex® 655 Part B Hardener

HAZARD CLASS: ................................................................. Not applicable.
Packing Group: .................................................................. Not applicable.
MARINE POLLUTANT: ......................................................... Not applicable.

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>INVENTORY LIST</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>TSCA</td>
<td>All ingredients are listed or otherwise compliant.</td>
</tr>
<tr>
<td>Europe</td>
<td>EINECS or ELINCS</td>
<td>CAS# 1101788-77-5 listed on NDSL only.</td>
</tr>
<tr>
<td>Canada</td>
<td>CEPA (DSL/NDSL)</td>
<td>CAS# 1101788-77-5 listed on NDSL only.</td>
</tr>
<tr>
<td>Australia</td>
<td>AICS</td>
<td>No data available on CAS# 1101788-77-5.</td>
</tr>
<tr>
<td>Japan</td>
<td>ENCS</td>
<td>No data available on CAS# 1101788-77-5.</td>
</tr>
<tr>
<td>South Korea</td>
<td>KECI</td>
<td>No data available on CAS# 1101788-77-5.</td>
</tr>
<tr>
<td>China</td>
<td>IECSC</td>
<td>No data available on CAS# 1101788-77-5.</td>
</tr>
<tr>
<td>Philippines</td>
<td>PICCS</td>
<td>No data available on CAS# 1101788-77-5.</td>
</tr>
</tbody>
</table>

US EPA TSCA Requirements: ......................................................... No data available.
Canada WHMIS Confidential Business Information (CBI), .............. No data available.

US EPA SARA TITLE III Reporting and Notification Requirements:
Subject to Section 302 (TPQ) .......................................................... No data available.
Subject to Section 304 (RQ) ............................................................ No data available.
Subject to Section 311 or 312 .......................................................... Refer to the immediate health and physical classifications in section 2.
Subject to Section 313 ................................................................. No data available.

US STATE REGULATORY INFORMATION:
The following chemicals may be specifically regulated by individual states. For details on state regulatory requirements you should contact the appropriate state agency.

<table>
<thead>
<tr>
<th>COMPONENT NAME</th>
<th>CAS NUMBER</th>
<th>STATE CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylenetetramine</td>
<td>112-14-3</td>
<td>PA, MA, NJ</td>
</tr>
<tr>
<td>Tetraethylenepentamine</td>
<td>112-57-2</td>
<td>PA, MA, NJ</td>
</tr>
<tr>
<td>Benzene-1,3-dimethanamine</td>
<td>1477-55-0</td>
<td>MA, PA, NJ</td>
</tr>
<tr>
<td>Aminoethylpiperazine</td>
<td>140-31-8</td>
<td>MA, PA, NJ</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

REASON FOR ISSUE: ................................................................. Updates to sections 3, 8, 11 & 15.
PREPARED BY: ................................................................. Gougeon Brothers, Inc.
SDS CONTACT: ................................................................. safety@gougeon.com
TITLE: ................................................................. Health, Safety & Environmental Manager
APPROVAL DATE: ................................................................. January 15, 2019
SUPERSEDES DATE: ............................................................. January 16, 2017
SDS VERSION: ................................................................. 655B-2019a

OTHER HAZARD INFORMATION AND RATING SYSTEMS:

<table>
<thead>
<tr>
<th>HMIS® RATING</th>
<th>NFPA® 704 CODES</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEALTH:</td>
<td>3</td>
</tr>
<tr>
<td>FLAMMABILITY:</td>
<td>1</td>
</tr>
<tr>
<td>PHYSICAL HAZARD:</td>
<td>0</td>
</tr>
<tr>
<td>PERSONAL PROTECTION:</td>
<td></td>
</tr>
</tbody>
</table>

Approximate HMIS and NFPA Risk Ratings Legend:
0 = Low or None; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe

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