1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ........................................... WEST SYSTEM® 209 Extra Slow Hardener
CHEMICAL FAMILY: ........................................... Polyamine-polyamide blend.
INTENDED PRODUCT USES: ......................... Curing agent for epoxy resins.
PRODUCT RESTRICTIONS: ......................... None identified.
SDS VERSION: ........................................... 209-2019a

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

Acute toxicity, Oral, Category 4
Skin corrosion/irritation, Category 1B
Skin sensitizer, Category 1
Eye damage/irritation, Category 1
Specific target organ toxicity (repeated exposure - oral), Category 2
Specific target organ toxicity (single exposure – inhalation), Category 3
Acute aquatic toxicity, Category 2
Chronic aquatic toxicity, Category 2

Label Elements

Hazard Pictogram(s):

Signal Word:
DANGER

Hazard Statements:
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage
H317 May cause an allergic skin reaction
H335 May cause respiratory irritation
H373 May cause damage to organs through prolonged or repeated exposure if swallowed
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements:
Prevention
P260 Do not breathe dust/fume/gas/mist/vapors/spray
P264 Wash hands thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well ventilated area
P272 Contaminated work clothing should not be allowed out of the workplace
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
Response
P301 + P330 + 331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with soap and water (or shower).
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P310 Immediately call a POISON CENTER or doctor
P313 + P333 If irritation or rash occurs: Get medical attention/advice
P362 + P364 Take decontaminated clothing and wash it before reuse
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Collect spillage
Storage
WEST SYSTEM® 209 Extra Slow Hardener

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
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>Fatty acids, C18-unsatd., dimers, polymers with tall oil fatty acids and triethylenetetramine</td>
<td>68082-29-1</td>
<td>30-60</td>
</tr>
<tr>
<td>Methylenebicyclohexanamine, 4,4'-</td>
<td>1761-71-3</td>
<td>10-30</td>
</tr>
<tr>
<td>Polyoxypropylenediamine</td>
<td>9046-10-0</td>
<td>10-30</td>
</tr>
<tr>
<td>Mixed cycloaliphatic amines</td>
<td>135108-88-2</td>
<td>7-30</td>
</tr>
<tr>
<td>Reaction products of MXDA with phenol and formaldehyde</td>
<td>57214-10-5</td>
<td>3-7</td>
</tr>
<tr>
<td>Benzene-1,3-dimethanamine</td>
<td>1477-55-0</td>
<td>1-5</td>
</tr>
<tr>
<td>Triethylenetetramine</td>
<td>112-24-3</td>
<td>1-5</td>
</tr>
</tbody>
</table>

The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as confidential business information (CBI). Any ingredient not disclosed in this section may have been determined not to be hazardous to health or the environment, or it may be present at a level below its disclosure threshold.

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: Causes skin burns, redness and irritation. May cause allergic skin reaction and sensitization. RESPONSE: Immediately wash skin with soap and water. Immediately call a POISON CONTROL CENTER or doctor.

FIRST AID FOR INHALATION ..................................................................................... SYMPTOMS: Can cause respiratory irritation, shortness of breath or cough. RESPONSE: Remove to fresh air if effects occur and keep comfortable for breathing.

FIRST AID FOR INGESTION ..................................................................................... SYMPTOMS: May cause gastrointestinal irritation or ulceration. May cause burns of the mouth and throat. Can enter the lungs and cause damage. 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

EXTINGUISHING MEDIA: ......................................................................................... SUITABLE: Foam, carbon dioxide (CO₂), dry chemical, sand, limestone powder. NON-SUITABLE: Direct water stream.

FIRE AND EXPLOSION HAZARDS: ...................................................................................... During a fire, smoke may contain the original materials in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include, but are not limited to: oxides of nitrogen, carbon monoxide, carbon dioxide, volatile amines, ammonia, nitric acid, cyanides, aldehydes, nitrosamines. When mixed with sawdust, wood chips, or other cellulosic material, spontaneous combustion can occur under certain conditions. 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

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 listed in Section 10.

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 to 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Liquid.

COLOR: Amber

ODOR: Ammonia-like

ODOR THRESHOLD: No data available

pH: 11.5

MELTING POINT / FREEZING POINT: No data.

BOILING POINT (760mm/Hg): > 400°F (204°C) estimated based on similar product.

FLASH POINT: Estimated > 200°F (93°C) estimated based similar product.

AUTO IGNITION TEMPERATURE: No data.

LOWER EXPLOSIVE LIMIT (LEL): No data.

UPPER EXPLOSIVE LIMIT (UEL): No data.

VAPOR PRESSURE: < 1 mmHg @ 20°C (estimated based on ingredient data).

SPECIFIC GRAVITY/DENSITY (water = 1): 0.96

BULK DENSITY: 7.99 lbs./gal. (0.96 kg/L)

VAPOR DENSITY (air = 1): No data.

EVAPORATION RATE (Butyl Acetate = 1): No data.

WATER SOLUBILITY (% by wt.): No data.

PARTITION COEFFICIENT, n-OCTANOL/WATER (log Pow): No data.

KINEMATIC VISCOSITY: 67.3 (mm²/s @ 40°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.
WEST SYSTEM® 209 Extra Slow Hardener

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 plus an epoxy resin will cause irreversible polymerization with significant heat buildup and pressure.

INCOMPATIBILITIES: Avoid acids, oxidizing materials, halogenated organic compounds (e.g., methylene chloride). Avoid nitrous gases and atmospheres with high nitrous oxide concentrations. Avoid sodium hypochlorite (bleach) and peroxides. 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.

DECOMPOSITION PRODUCTS: Very toxic fumes and gases when burned or otherwise heated to decomposition. Decomposition products may include, but not limited to: oxides of nitrogen, volatile amines, ammonia, nitric acid, cyanides, 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>Fatty acids, C18-unsatd., dimers, polymers with tall oil fatty acids and triethyleneetetramine</td>
<td>68082-29-1</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Methylenebiscyclohexanamine, 4,4’-</td>
<td>1761-71-3</td>
<td>380 mg/kg</td>
<td>&gt;1000 mg/kg</td>
<td>No data</td>
</tr>
<tr>
<td>Polyoxypropyleneamidine</td>
<td>9046-10-0</td>
<td>2855 mg/kg</td>
<td>2980 mg/kg</td>
<td>&gt;0.74 mg/L 8h mist</td>
</tr>
<tr>
<td>Mixed cycloaliphatic amines</td>
<td>135108-88-2</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Reaction products of MXDA with phenol and formaldehyde</td>
<td>57214-10-5</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Benzene-1,3-dimethanamine</td>
<td>1477-55-0</td>
<td>930 mg/kg</td>
<td>2000 mg/kg</td>
<td>1.34 mg/L 4h mist</td>
</tr>
<tr>
<td>Triethyleneetetramine</td>
<td>112-24-3</td>
<td>1716.2 mg/kg</td>
<td>805 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: Category 4. Harmful if swallowed. May cause gastrointestinal irritation or ulceration. May cause burns of the mouth and throat.

Dermal: Not classified. Does not meet classification criteria.

Inhalation: Not classified. Does not meet classification criteria.

SKIN CORRISON / IRRITATION: Category 1B. Causes severe skin burns. Effects may be immediate. May cause persistent irritation or dermatitis.

SERIOUS EYE DAMAGE / IRRITATION: Category 1. Causes serious eye damage. May cause blurred vision. May cause corneal damage resulting in vision impairment or even blindness.

RESPIRATORY SENSITIZATION: No data available.

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

REPRODUCTIVE TOXICITY: Not classified. Does not meet classification criteria.

MUTAGENICITY: Not classified. Does not meet classification criteria.

CARCINOGENICITY: Not classified. Does not meet classification criteria.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): Category 3. May cause respiratory irritation.

SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure): STOT RE Category 2. Repeated ingestion can result in damage to the following organs/biological systems: liver, muscles, skeletal.

ASPIRATION HAZARD: Not classified. Does not meet classification criteria.

OTHER HEALTH HAZARD INFORMATION: Aerosol or mist may be corrosive to the respiratory system. Severe inhalation exposures can result in delayed lung damage.

12. ECOLOGICAL INFORMATION
WEST SYSTEM® 209 Extra Slow Hardener

**ACUTE AQUATIC TOXICITY**: Category 2. Toxic to aquatic life. Calculated Estimate. No specific test data available for the mixture.

**CHRONIC AQUATIC TOXICITY**: Category 2. Toxic to aquatic life with long lasting effects. Calculated Estimate. No specific test data available for the mixture.

**PERSISTANCE AND BIODEGRADABILITY**: No specific test data available for the mixture.

**MOBILITY IN SOIL**: No specific test data available for the mixture.

**ADDITIONAL ECOTOXICITY INFORMATION**: In the liquid, uncured state, this product may be harmful to aquatic life with long lasting effects. 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>Fatty acids, C18-unsatd., dimers, polymers with tall oil fatty acids and triethylene tetramine</td>
<td>68082-29-1</td>
<td>Chronic Aquatic 2</td>
</tr>
<tr>
<td>Methylenebicyclohexanamine, 4,4'-</td>
<td>1761-71-3</td>
<td>Acute Aquatic Cat. 2; Chronic Aquatic Cat. 2</td>
</tr>
<tr>
<td>Polyoxypolyenedi amine</td>
<td>9046-10-0</td>
<td>Acute Aquatic Cat. 3; Chronic Aquatic Cat. 2</td>
</tr>
<tr>
<td>Mixed cycloaliphatic amines</td>
<td>13510-88-2</td>
<td>Not classified</td>
</tr>
<tr>
<td>Reaction products of MXDA with phenol and formaldehyde</td>
<td>57241-10-5</td>
<td>Acute Aquatic Cat. 1; Chronic Aquatic Cat. 1</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>Triethylene tetramine</td>
<td>112-24-3</td>
<td>Not classified</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.

Incinerate, 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: UN 2735
- SHIPPING NAME: Polyamines, liquid, corrosive, n.o.s.
- TECHNICAL SHIPPING NAME: Methylenebicyclohexanamine, 4,4’-
- HAZARD CLASS: Class 8
- PACKING GROUP: PG III
- MARINE POLLUTANT: No

**CANADA TDG**

- UN NUMBER: UN 2735
- SHIPPING NAME: Polyamines, liquid, corrosive, n.o.s.
- TECHNICAL SHIPPING NAME: Methylenebicyclohexanamine, 4,4’-
- HAZARD CLASS: Class 8
- PACKING GROUP: PG III
- MARINE POLLUTANT: No

**IMDG**

- UN NUMBER: UN 2735
- SHIPPING NAME: Polyamines, liquid, corrosive, n.o.s.
- TECHNICAL SHIPPING NAME: Methylenebicyclohexanamine, 4,4’-
- HAZARD CLASS: Class 8
- PACKING GROUP: PG III
- EmS Number: F-A, S-B
- MARINE POLLUTANT: Yes

**ICAO/IATA**

- UN NUMBER: UN 2735
- SHIPPING NAME: Polyamines, liquid, corrosive, n.o.s.
- TECHNICAL SHIPPING NAME: Methylenebicyclohexanamine, 4,4’-
- HAZARD CLASS: Class 8
- PACKING GROUP: PG III
- MARINE POLLUTANT: Yes

**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>All ingredients are listed or otherwise compliant.</td>
</tr>
<tr>
<td>Canada</td>
<td>CEPA (DSL/NDSL)</td>
<td>All ingredients are listed or otherwise compliant.</td>
</tr>
</tbody>
</table>
Australia  AICS  All ingredients are listed or otherwise compliant.
Japan    ENCS  All ingredients are listed or otherwise compliant.
South Korea  KECI  All ingredients are listed or otherwise compliant.
China  IECSC  All ingredients are listed or otherwise compliant.
Philippines  PICCS  All ingredients are listed or otherwise compliant.

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 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.

COMPONENT NAME  /CAS NUMBER  STATE CODE
Propylene oxide  75-56-9  < 0.001%  1CA
Benzene-1,3-dimethanamine  1477-55-0  MA, PA, NJ
Triethylenetetramine  112-14-3  MA, PA, NJ

1. These substances are known to the state of California to cause cancer or reproductive harm, or both.

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: ................................................................. August 15, 2016
SDS VERSION: ............................................................................ 209-2019a

OTHER HAZARD INFORMATION AND RATING SYSTEMS:

HMIS® RATING

| HEALTH         | 3 |
| FLAMMABILITY   | 1 |
| PHYSICAL HAZARD| 0 |
| PERSONAL PROTECTION | |

NFPA® 704 CODES

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

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