SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:.....WEST SYSTEM® 503 Gray Pigment
APPLICABLE PRODUCT CODES: 503, 503-8
CHEMICAL FAMILY:.....Pigmented epoxy resin mixture.
INTENDED PRODUCT USES:.....Pigment for epoxy resins.
PRODUCT RESTRICTIONS:.....None identified.
SDS VERSION: 503-2022a

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 2
Germ cell mutagenicity, Category 2
Chronic aquatic toxicity, Category 2

Label Elements

Hazard Pictogram(s):

Signal Word:
WARNING

Hazard Statements:
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H319 Causes serious eye irritation
H341 Suspected of causing genetic defects
H411 Toxic to aquatic life with long lasting effects

Precautionary Statements:
Prevention
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 Wash hands thoroughly after handling.
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
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 If exposed or concerned: Get medical attention/advice
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 re-use.
P391 Collect spillage.
P405 Store locked up
Disposal
P501 Dispose of contents/container in accordance with local, regional and international regulations.

Other Hazards
None known.

3. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS

INGREDIENT NAME	CAS #	CONCENTRATION (%)
Titanium dioxide (in solution, non-hazardous)	13463-67-7	30-60
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	31.53
Cresyl glycidyl ether	2210-79-9	12.49
Carbon black	1333-86-4	1-5

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 serious irritation and redness. RESPONSE: Flush immediately with water for at least 15 minutes. Remove contact lenses if present and easy to do. Consult a physician as precautionary measure.

FIRST AID FOR SKIN..... SYMPTOMS: Causes skin irritation. May cause allergic skin reaction and sensitization. RESPONSE: Remove contaminated clothing. Wipe excess from skin. Apply waterless skin cleaner and then wash with soap and water. Consult a physician if effects occur.

FIRST AID FOR INHALATION..... SYMPTOMS: Not a likely route of exposure under normal conditions of use. RESPONSE: Remove to fresh air if respiratory irritation occurs and keep comfortable for breathing.

FIRST AID FOR INGESTION..... SYMPTOMS: No acute adverse health effects expected from amounts ingested under normal conditions of use. RESPONSE: Seek medical attention if a significant amount is ingested.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: ..... SUITABLE: Foam, carbon dioxide (CO_2), dry chemical. 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: phenolics, carbon monoxide, and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURES: ..... Wear a self-contained breathing apparatus and complete full-body personal protective equipment. Closed containers may rupture (due to buildup of pressure) when exposed to extreme heat.

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. Warm, soapy water or non-flammable, safe solvent 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) / 120°F (49°C)

STORAGE:..... Store in cool, dry place. Store in tightly sealed containers to prevent moisture absorption and loss of volatiles. Excessive heat over long periods of time will degrade the resin.

HANDLING PRECAUTIONS: ..... Avoid all skin and eye contact. Wash thoroughly after handling. Launder contaminated clothing before reuse or discard. Avoid inhalation of vapors from heated product. Precautionary steps should be taken when curing product in large quantities. When mixed with epoxy curing agents this product causes an exothermic, 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: ..... Safety glasses with side shields or chemical splash goggles.

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, or organic vapor cartridge + P100 particulate filter, 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.

This product contains Titanium Dioxide (TiO2), which is listed by IARC as a Group 2B – possibly carcinogenic to humans by IARC. No significant inhalation exposure is expected to occur during use of products in which TiO2 is present in a liquid dispersion or when bound to other materials, such as in cured epoxies. Risk of overexposure depends on actual concentration in the formula and duration and level of exposure to dust from sanding or similar machining operations of solidified product. When sanding or machining solidified product and creating an airborne dust that may contain TiO2, consider the use of appropriate respiratory protection, such as a P100 particulate filter.

This product contains Carbon Black, which is listed by IARC as a Group 2B – possibly carcinogenic to humans by IARC. No significant inhalation exposure is expected to occur during use of products in which Carbon Black is present in a liquid dispersion or bound to other materials, such as in epoxies. Risk of overexposure depends on actual concentration in the formula and duration and level of exposure to dust from sanding or similar machining operations. Refer to Section 8 respiratory protection information and Section 11 for toxicology information.

ADDITIONAL PROTECTIVE MEASURES: ..... Practice good caution and personal cleanliness to avoid skin and eye contact. Avoid skin contact when removing gloves and other protective equipment. Wash thoroughly after handling. 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.

Ingredient Name	CAS#	Exposure Limit Information
Titanium dioxide (in solution, non-hazardous)	13463-67-7	NIOSH REL 2.4mg/m3 for fine TiO2 and 0.3 mg/m3 for ultra fine; ACGIH 10mg/m3; OSHA 15 mg/m3
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	No data available.
Cresyl glycidyl ether	2210-79-9	No data available.
Carbon black	1333-86-4	ACGIH TLV 3 mg/m^3 TWA, Inhalable; OSHA PEL 3.5 mg/m^3, TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: ..... Semi-liquid, paste.
COLOR: ..... Gray.
ODOR: ..... Mild.
ODOR THRESHOLD: ..... No data available
pH ..... No data available
MELTING POINT / FREEZING POINT ..... No data available
BOILING POINT (760mm/Hg): ..... > 400°F (204°C) Estimated based on ingredient data.
FLASH POINT: ..... >200°F (93°C) Based on ASTM D92 test results from 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) 1.9
BULK DENSITY ..... 15.6 lbs./gal. (1.87 kg/L)
VAPOR DENSITY (air = 1) ..... < 1 mmHg@ 20°C. Estimated based on ingredient data.
EVAPORATIOIN 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 (mm^2/s @ 20°C)
DECOMPOSITION TEMPERATURE: ..... No data available.
% VOLATILE BY WEIGHT: ..... ASTM D 2369-07 was used to determine the Volatile Content of mixed epoxy resin and hardener.

No data available.

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 aliphatic amine will cause irreversible polymerization with significant heat buildup. Strong acids, bases, amines and mercaptans can cause polymerization.

INCOMPATIBILITIES: ..... Strong acids, bases, amines and mercaptans can cause polymerization. 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: ..... Carbon monoxide, carbon dioxide and phenolics may be produced during uncontrolled exothermic reactions or when otherwise heated to decomposition.

11. TOXICOLOGICAL AND HAZARD ENDPOINT INFORMATION

Component Name	CAS#	LD_{50} Oral	LD_{50} Dermal	LC_{50} Inhalation
Titanium dioxide (in solution, non-hazardous)	13463-67-7	>5000 mg/kg	No data	>6.82 gm/l 4h; rat
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	>15,000 mg/kg (rat)	>23,000 mg/kg (rabbit)	No data
Cresyl glycidyl ether	2210-79-9	4000-5800 mg/kg (rat)	>2000	6090 mg/m3 4h (rat); 1220 ppm 4h (rat)
Carbon black	1333-86-4	> 8000 mg/kg	No data	No data

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

Oral: ..... Not classified. Does not meet acute oral toxicity criteria.
Dermal: ..... Not classified. Does not meet acute dermal toxicity criteria.
Inhalation:..... Not classified. Does not meet acute inhalation toxicity criteria. If product is heated, vapors generated can cause headache, nausea, dizziness and possible respiratory irritation if inhaled in high concentrations.

SKIN CORROSION / IRRITATION:..... Causes skin irritation – Category 2.

SERIOUS EYE DAMAGE / IRRITATION:..... Causes serious eye irritation. Category 2A.

RESPIRATORY SENSITIZATION:..... Not classified. Does not meet criteria for respiratory sensitizer. Repeated exposure to high vapor concentrations may cause irritation of pre-existing lung allergies and increase the chance of developing allergy symptoms to this product.

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

REPRODUCTIVE TOXICITY:..... Not classified. Diglycidyl ether bisphenol-A, in animal studies, has been shown not to interfere with reproduction. Diglycidyl ether bisphenol-A did not cause birth defects or other adverse effects on the fetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.

MUTAGENICITY:..... Suspected of causing genetic defects – Category 2.

Cresyl glycidyl ether has shown mutagenic effects in in vitro tests. Literature Ames Tests showed that o-cresyl glycidyl ether was a direct-acting mutagen in strains TA 1535 and TA 100, but was not mutagenic in TA 98. In an unscheduled DNA synthesis assay, o-cresyl glycidyl ether produced significant increases in unscheduled DNA synthesis at 10 and 100 ppm. At 1000 ppm, o-cresyl glycidyl ether produced a marked reduction in unscheduled DNA synthesis due to its cytotoxic effects. In a host-mediated micronucleus test in mice, o-cresyl glycidyl ether was found not to be genotoxic.

Diglycidyl ether bisphenol-A in animal mutagenicity studies were negative. In vitro mutagenicity tests were negative in some cases and positive in others.

CARCINOGENICITY:..... Not classified. Does not meet criteria for carcinogenicity.

Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol-A. Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that Diglycidyl ether bisphenol-A is carcinogenic. Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that Diglycidyl ether bisphenol-A is not classified as a carcinogen.

This product contains Titanium Dioxide, which is listed by IARC as a Group 2B – possibly carcinogenic to humans by IARC. No significant inhalation exposure is expected to occur during use of products in which Titanium Dioxide is present in a liquid dispersion or bound to other materials, such as in epoxies. Risk of overexposure depends on actual concentration in the formula and duration and level of exposure to dust from sanding or similar machining operations. Refer to Section 8 respiratory protection information.

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes in contact with the lung. However, tests with other laboratory animals, such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that causes lung cancer. Epidemiology studies do not suggest an increased risk of cancer in humans from occupational inhalation exposure to pigmentary titanium dioxide. Titanium dioxide has been listed by IARC as possibly carcinogenic to humans – Group 2B (via inhalation). OSHA or NTP do not classify titanium dioxide as a potential carcinogen.

This product contains Carbon Black, which is listed by IARC as a Group 2B – possibly carcinogenic to humans by IARC. No significant inhalation exposure is expected to occur during use of products in which Carbon Black is present in a liquid dispersion or bound to other materials, such as

in epoxies. Risk of overexposure depends on actual concentration in the formula and duration and level of exposure to dust from sanding or similar machining operations. Refer to Section 8 respiratory protection information and Section 11 for toxicology information.

Carbon Black Study: Species: Rat, Route: Inhalation, Duration: 2 years, Target Organ: Lungs, Effect: Inflammation, fibrosis, tumors. Note: Tumors in the rat lung are considered to be related to ”lung overload” rather than to a specific chemical effect of the carbon black itself in the lung. These effects in rats have been reported in many studies in other poorly soluble inorganic particles and appear to be rat specific (ILSI, 2000). Tumors have not been observed in other species (Ex. mouse, hamster) for carbon black or other poorly soluble particles under similar circumstances and study conditions.

In 2006, IARC re-affirmed its 1995 finding that there is “inadequate evidence” from human health studies to assess whether carbon black causes cancer in humans. IARC concluded that there is “sufficient evidence” in animal studies for the carcinogenicity of carbon black. IARC’s overall assessment is that carbon black is “possibly carcinogenic to humans (Group 2B)”. This conclusion was based on IARC’s guideline’s, which generally require such a classification if one species exhibits carcinogenicity in two or more animal studies (IARC, 2010).

ACHIG classifies Carbon Black as a confirmed animal carcinogen with unknown relevance to humans (Category A3).

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):..... Not classified. Does not meet STOT SE criteria.

SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure): ..... Not classified. Does not meet STOT RE criteria.

ASPIRATION HAZARD: ..... Not classified. Does not meet aspiration toxicity criteria.

OTHER HEALTH HAZARD INFORMATION:..... None known.

12. ECOLOGICAL INFORMATION

ACUTE AQUATIC TOXICITY:..... No specific test data available for the mixture. Calculated Estimate: Does not meet acute aquatic toxicity requirements.

CHRONIC AQUATIC TOXICITY: ..... No specific test data available for the mixture. Calculated Estimate: Aquatic Chronic Category 2.

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 long lasting effects. Prevent release to the environment, sewers and natural waters.

Ingredient	CAS#	Ecotoxicity Classification Information
Titanium dioxide (in solution, non-hazardous)	13463-67-7	Not classified.
Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	25085-99-8	Aquatic Chronic Cat. 2
Cresyl glycidyl ether	2210-79-9	Aquatic Chronic Cat. 2
Carbon black	1333-86-4	Not classified.

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: ..... Not regulated.
SHIPPING NAME:..... Not applicable.
TECHNICAL SHIPPING NAME:..... Not applicable.
HAZARD CLASS:..... Not applicable.
PACKING GROUP:..... 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.

ICAO/IATA
UN NUMBER: ..... UN 3082.
SHIPPING NAME:..... Environmentally hazardous substance, liquid, n.o.s.

TECHNICAL SHIPPING NAME:..... Epoxy Resin.
HAZARD CLASS:..... Class 9.
PACKING GROUP:..... PG III.
MARINE POLLUTANT: ..... Yes

IMDG
UN NUMBER: ..... UN 3082.
SHIPPING NAME:..... Environmentally hazardous substance, liquid, n.o.s.
TECHNICAL SHIPPING NAME:..... Epoxy Resin.
HAZARD CLASS:..... Class 9.
PACKING GROUP:..... PG III.
EmS Number: ..... F-A, S-F
MARINE POLLUTANT ..... Yes

15. REGULATORY INFORMATION

COUNTRY	INVENTORY LIST	STATUS
United States	TSCA	All ingredients are listed or otherwise compliant.
Europe	EINECS or ELINCS	All ingredients are listed or otherwise compliant.
Canada	CEPA (DSL/NDSL)	All ingredients are listed or otherwise compliant.
Australia	AICS	All ingredients are listed or otherwise compliant.
Japan	ENCS	No data
South Korea	KECI	No data
China	IECSC	No data
Philippines	PICCS	No data
New Zealand	NZIoC	No data

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.

STATE REGULATORY INFORMATION:
Chemicals listed below 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**
Carbon black 1333-86-4	[1, 2]CA, NJ, MA, PA
Titanium dioxide 13463-67-7	[1, 3]CA, NJ, PA

[1.] These substances are known to the state of California to cause cancer or reproductive harm, or both.
[2.] Carbon black (airborne, unbound particles of respirable size) is a substance listed under California Proposition 65. As present in this product, carbon black does not meet that listing criteria, as it is both bound in a liquid dispersion and therefore not respirable.
[3.] Titanium dioxide (airborne, unbound particles of respirable size) is a substance listed under California Proposition 65. As present in this product, titanium dioxide does not meet that listing criteria, as it is both bound in a liquid dispersion and therefore not respirable.

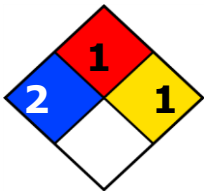
16. OTHER INFORMATION

REASON FOR ISSUE:..... Approval date change.
PREPARED BY:..... Gougeon Brothers, Inc.
SDS CONTACT:..... safety@gougeon.com
TITLE: ..... Health, Safety & Environmental Manager
APPROVAL DATE: ..... January 3, 2022
SUPERSEDES DATE:..... January 15, 2019
SDS VERSION: 503-2022a

OTHER HAZARD INFORMATION AND RATING SYSTEMS:

HMIS® RATING **NFPA® 704 CODES**

HEALTH:	**2**
FLAMMABILITY:	**1**
PHYSICAL HAZARD:	**1**
PERSONAL PROTECTION:	



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

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