# Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 08/15/2016 Revision date: 01/25/2019 Version: 206-2019a

### **SECTION 1: Identification**

Identification

Product name : WEST SYSTEM® 206 Slow Hardener

Product code : 206, 206-A, 206-B, 206-C, 206-B, C 206-A, C 206-B, C 206-C, C 206-E

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Curing agent for epoxy resins

Details of the supplier of the safety data sheet

Gougeon Brothers, Inc 100 Patterson Ave. Bay City, MI 48706 - U.S.A. T 866-937-8797 or 989-684-7286

www.westsystem.com

**Emergency telephone number** 

Emergency number : CHEMTREC 1 (800) 424-9300

CHEMTREC International +1 (703) 527-3887 24 hr

## SECTION 2: Hazard(s) identification

#### Classification of the substance or mixture

Acute Tox. 4 (Oral) Skin Corr. 1B Eye Dam. 1 Skin Sens. 1 STOT SE 3 Aquatic Acute 3 Aquatic Chronic 2

#### Label elements

### Hazard pictograms (GHS)





GHS05 GHS07

Signal word (GHS)

Danger

#### Hazard statements (GHS)

Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. Harmful to aquatic life. Toxic to aquatic life with long lasting effects

#### Precautionary statements (GHS)

Do not breathe dust, fume, gas, mist, vapours, spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves, protective clothing, eye protection, face protection. If swallowed: rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Collect spillage. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

#### Other hazards

No additional information available

### Unknown acute toxicity

No additional information available

01/25/2019 EN (English) Page 1

Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

### SECTION 3: Composition/information on ingredients

#### **Substance**

Not applicable

#### **Mixtures**

Name	Product identifier	HPR %
Propylene glycol diamine, 2-amino-, diether with Propylene	(CAS No) 9046-10-0	30 - 60
Diethylenetriamine-bisphenol A-epichlorohydrin polymer	(CAS No) 31326-29-1	10 - 30
Tetraethylenepentamine	(CAS No) 112-57-2	10 - 30
Diethylenetriamine	(CAS No) 111-40-0	7 - 13
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane	(CAS No) 26950-63-0	5 - 10
Triethylenetetramine	(CAS No) 112-24-3	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.

### **SECTION 4: First aid measures**

Description of first aid measures

First-aid measures after inhalation

: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position

comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with First-aid measures after skin contact

water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER

or doctor/physician.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to

do, remove contact lenses, if worn. Get medical attention immediately.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Immediately call a POISON CENTER or

doctor/physician.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact Causes severe burns. Symptoms may include redness, pain, blisters. May cause an allergic

Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and Symptoms/injuries after eye contact

tear production, with possible redness and swelling. May cause burns.

Symptoms/injuries after ingestion : Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and

gastrointestinal tract. May cause stomach distress, nausea or vomiting.

### Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

### **SECTION 5: Firefighting measures**

Extinguishing media

Suitable extinguishing media : Foam. Carbon dioxide. Dry chemical. Unsuitable extinguishing media : Do not use a heavy water stream.

Special hazards arising from the substance or mixture

: Products of combustion may include, and are not limited to: oxides of carbon, oxides of Fire hazard

nitrogen, amines, ammonia, nitric acid, 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.

Reactivity No dangerous reaction known under conditions of normal use.

Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory

protection (SCBA).

01/25/2019 EN (English) 2/8

# Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

#### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

General measures

: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

### For non-emergency personnel

No additional information available.

### For emergency responders

No additional information available.

#### **Environmental precautions**

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

#### Methods and material for containment and cleaning up

For containment

: Stop leak if safe to do so. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up

: Scoop up material and place in a disposal container. Provide ventilation.

Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

### **SECTION 7: Handling and storage**

Precautions for safe handling

Precautions for safe handling

: Do not get in eyes, on skin, or on clothing. Do not breathe vapours, mist. Do not swallow. Handle and open container with care. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. 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.

Hygiene measures

: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

#### Conditions for safe storage, including any incompatibilities

Storage conditions

: Keep out of the reach of children. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Storage temperature : 40°F (4°C) - 90°F (32°C). Keep away from heat and direct sunlight.

# SECTION 8: Exposure controls/personal protection

### **Control parameters**

Propylene glycol diamine.	2-amino-, diether with Propylene (9046	-10-0)	
Not applicable			
Diethylenetriamine-bisphe	nol A-epichlorohydrin polymer (31326-	29-1)	
Not applicable			
Tetraethylenepentamine (1	12-57-2)		
AIHA	WEEL TWA (ppm) 1 ppm		
AIHA	WEEL TWA (mg/kg)	5 mg/kg (Skin)	
Diethylenetriamine (111-40-0)			
ACGIH	H ACGIH TWA (ppm) 1 ppm		
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane (26950-63-0)			
Not applicable			
Triethylenetetramine (112-	24-3)		
AIHA	WEEL TWA (ppm)	1 ppm	
AIHA	WEEL TWA (mg/m³)	6 mg/m³ (Skin)	

#### **Exposure controls**

Appropriate engineering controls

: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

01/25/2019 EN (English) 3/8

# Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

**Hand protection** : Wear chemically resistant protective gloves.

Eye protection : Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles)

and face protection (face shield).

**Skin and body protection** : Wear suitable protective clothing.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection

must be based on known or anticipated exposure levels, the hazards of the product and the

safe working limits of the selected respirator.

**Environmental exposure controls**: Maintain levels below Community environmental protection thresholds.

Other information : Do not eat, smoke or drink where material is handled, processed or stored. Wash hands

carefully before eating or smoking. Handle according to established industrial hygiene and

safety practices.

### SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state : Liquid

Appearance: No data available.Colour: ColourlessOdour: Ammonia

Odour threshold : No data available

**pH** : 11

Melting point: No data availableFreezing point: No data available

**Boiling point** : > 400 °F (204°C) (estimated based on similar product) **Flash point** : > 200 °F (93°C) (estimated based on similar product)

Relative evaporation rate (butylacetate=1) : No data available Flammability (solid, gas) : Not flammable

Vapour pressure : < 1 mm Hg @ 20°C (estimated based on ingredient data)

Relative vapour density at 20 °C : No data available

Relative density : 1.01

Solubility: No data availablePartition coefficient n-octanol/water: No data availableAuto-ignition temperature: No data availableDecomposition temperature: No data available

Viscosity, kinematic : 65.6 mm²/s @ 104 °F (40 °C)

Viscosity, dynamic: No data availableExplosive limits: No data availableExplosive properties: No data availableOxidising properties: No data available

Other information

 VOC content
 : 9.59 g/L (0.08 lb/gal)

 Bulk density
 : 8.45 lb/gal (1.01 kg/L)

### **SECTION 10: Stability and reactivity**

**Reactivity** : No dangerous reaction known under conditions of normal use.

Chemical stability : Stable under normal storage conditions.

Possibility of hazardous reactions : No dangerous reaction known under conditions of normal use. A mass of more than one pound

of product plus an epoxy resin will cause irreversible polymerization with significant heat

buildup and pressure.

Conditions to avoid : Heat. Incompatible materials.

Incompatible materials : Acids. Oxidizing materials. Halogenated compounds.

Hazardous decomposition products : May include, and are not limited to: oxides of carbon. Oxides of nitrogen. Amines. Ammonia.

Nitric acid. nitrosamines. ETHYLENEDIAMINE.

### **SECTION 11: Toxicological information**

#### Information on toxicological effects

01/25/2019 EN (English) 4/8

# Safety Data Sheet

LD50 dermal rabbit

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Propylene glycol diamine, 2-amir	o-, diether with Propylene (9046-10-0)	
LD50 oral rat	2855 mg/kg	
LD50 dermal rabbit	2890 mg/kg	
LC50 inhalation rat	> 0.74 mg/l/8h	
Diethylenetriamine-bisphenol A-	pichlorohydrin polymer (31326-29-1)	
LD50 oral rat	500 mg/kg (ATE)	
LD50 dermal rabbit	1100 mg/kg (ATE)	
Tetraethylenepentamine (112-57-	2)	
LD50 oral rat	1600 mg/kg	
LD50 dermal rabbit	1260 mg/kg	
Diethylenetriamine (111-40-0)		
LD50 oral rat	1620 mg/kg	
LD50 dermal rabbit	1090 mg/kg	
LC50 inhalation rat	*0.07 - 0.3 mg/l/4h (aerosol/mist)	
1,2-Ethanediamine, N,N'-bis(2-am	inoethyl)-, polymer with methyloxirane (26950-63-0)	
Not applicable		
Triethylenetetramine (112-24-3)		
LD50 oral rat	1716.2 mg/kg	

<sup>\*</sup> LC<sub>50</sub> data has been generated for this substance by subjecting rats to an airborne aerosol/mist atmosphere in a test chamber. It has not been determined that this data directly correlates to an inherent hazard of this product as would be expected under normal, foreseeable or anticipated conditions of use.

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified.

Acute toxicity (inhalation) : Not classified.

 Skin corrosion/irritation
 : Causes severe skin burns

 Serious eye damage/irritation
 : Causes serious eye damage.

 Respiratory or skin sensitization
 : May cause an allergic skin reaction.

Germ cell mutagenicity : Not classified.

Carcinogenicity : Not classified. 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.

Reproductive toxicity : Not classified.

**STOT-single exposure** : May cause respiratory irritation.

**STOT-repeated exposure** : Not classified. **Aspiration hazard** : Not classified.

WEST SYSTEM® 206 Slow Hardener	
Viscosity, kinematic (calculated value) (40 °C)	65.6 mm <sup>2</sup> /s @ 104 °F (40 °C)

805 mg/kg

Potential adverse human health effects and

symptoms

: Harmful if swallowed.

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes severe burns. Symptoms may include redness, pain, blisters. May cause an allergic

skin reaction.

Symptoms/injuries after eye contact : Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and

tear production, with possible redness and swelling. May cause burns.

Symptoms/injuries after ingestion : Harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and

gastrointestinal tract. May cause stomach distress, nausea or vomiting.

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye.

#### **SECTION 12: Ecological information**

### **Toxicity**

**Ecology - general** : Toxic to aquatic life with long lasting effects.

01/25/2019 EN (English) 5/8

# Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Tetraethylenepentamine (112-57-2)	
LC50 fish 1	420 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])
EC50 Daphnia 1	24.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
Diethylenetriamine (111-40-0)	
LC50 fish 1	248 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])
EC50 Daphnia 1	16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	1014 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
Triethylenetetramine (112-24-3)	
LC50 fish 1	570 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
EC50 Daphnia 1	31.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	495 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

### Persistence and degradability

WEST SYSTEM® 206 Slow Hardener	
Persistence and degradability	Not established.

### **Bioaccumulative potential**

Partition coefficient n-octanol/water

WEST SYSTEM® 206 Slow Hardener	
Bioaccumulative potential	Not established.

Tetraethylenepentamine (112-57-2)	
BCF fish 1	(no bioaccumulation expected)
Partition coefficient n-octanol/water	<1
Diethylenetriamine (111-40-0)	
BCF fish 1	0.3 - 1.7

Triethylenetetramine (112-24-3)	
BCF fish 1	(no bioaccumulation expected)
Partition coefficient n-octanol/water	-1.4

#### Mobility in soil

WEST SYSTEM® 206 Slow Hardener	
Ecology - soil	No additional information available.

### Other adverse effects

Effect on the global warming : No known effects from this product.

-1.3

Name	Product identifier	Ecotoxicity Classification Information
Propylene glycol diamine, 2-amino-, diether with Propylene	(CAS No) 9046-10-0	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 2
Diethylenetriamine-bisphenol A-epichlorohydrin polymer	(CAS No) 31326-29-1	Not classified
Tetraethylenepentamine	(CAS No) 112-57-2	Acute Aquatic Cat. 2; Chronic Aquatic Cat. 2
Diethylenetriamine	(CAS No) 111-40-0	Not classified
1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane	(CAS No) 26950-63-0	Not classified
Triethylenetetramine	(CAS No) 112-24-3	Acute Aquatic Cat. 2; Chronic Aquatic Cat. 2

Other information : Avoid release to the environment.

# **SECTION 13: Disposal considerations**

Waste treatment methods

Product/Packaging disposal recommendations

: This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible. Avoid release to the environment.

# **SECTION 14: Transport information**

Department of Transportation (DOT) and Transportation of Dangerous Goods (TDG)

In accordance with DOT and TDG

UN-No.(DOT/TDG) : UN2735

01/25/2019 EN (English) 6/8

# Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

Proper Shipping Name (DOT/TDG) : Polyamines, liquid, corrosive, n.o.s. (Polyoxypropylenediamine)

Class (DOT/TDG) : 8
Packing group (DOT/TDG) : II
Marine pollutant : No

Transport by sea

In accordance with IMDG

UN-No. (IMDG) : 2735

Proper Shipping Name (IMDG) : POLYAMINES, LIQUID, CORROSIVE, N.O.S. (Polyoxypropylenediamine)

Class (IMDG) : 8
Packing group (IMDG) : II
EmS Number : F-A, S-B
Marine pollutant : Yes

Transport by air

In accordance with IATA

UN-No. (IATA) : 2735

Proper Shipping Name (IATA) : Polyamines, liquid, corrosive, n.o.s. (Polyoxypropylenediamine)

Class (IATA) : 8
Packing group (IATA) : II
Marine pollutant : Yes

## **SECTION 15: Regulatory information**

### Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

All components of this product are listed, or excluded from listing, on the Canadian DSL (Domestic Substances List) and NDSL (Non-Domestic Substances List) inventories.

Propylene glycol diamine, 2-amino-, of EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)).
Diethylenetriamine-bisphenol A-epich	nlorohydrin polymer (31326-29-1)
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)).
1,2-Ethanediamine, N,N'-bis(2-aminoe	ethyl)-, polymer with methyloxirane (26950-63-0)

1,2-Ethanediamine, N,N'-bis(2-aminoethyl)-, polymer with methyloxirane (26950-63-0)				
EPA TSCA Regulatory Flag	XU - XU - indicates a substance exempt from reporting under the Inventory Update Reporting Rule, i.e, Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(C)).			

Propylene oxide (75-56-9)			
Listed on the United States SARA Section 302			
CERCLA RQ	100 lb		
SARA Section 302 Threshold Planning Quantity (TPQ)	10000 lb		
SARA Section 313 - Emission Reporting	0.1 %		

# International regulations

No additional information available

01/25/2019 EN (English) 7/8

# Safety Data Sheet

According to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012 and the Hazardous Products Regulations (HPR) WHMIS 2015

#### **US State regulations**

Propylene oxide (75-56-9)				
U.S California - Proposition 65 - Carcinogens List	U.S California - Proposition 65 - Developmental Toxicity	U.S California - Proposition 65 - Reproductive Toxicity - Female	U.S California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	

### Tetraethylenepentamine (112-57-2)

- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Diethylenetriamine (111-40-0)

- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Triethylenetetramine (112-24-3)

- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) List

#### Propylene oxide (75-56-9)

- U.S. New Jersey Right to Know Hazardous Substance List
- U.S. Pennsylvania RTK (Right to Know) Environmental Hazard List
- U.S. Pennsylvania RTK (Right to Know) Special Hazardous Substances
- U.S. Pennsylvania RTK (Right to Know) List

# **SECTION 16: Other information**

 Date of issue
 : 08/15/2016

 Revision date
 : 01/25/2019

 Version
 : 206-2019a

 Other information
 : None.

NFPA health hazard : 3 NFPA fire hazard : 1 NFPA reactivity : 0



**HMIS III Rating** 

Health : 3
Flammability : 1
Physical : 0

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

01/25/2019 EN (English) 8/8