

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:**..... PRO-SET® M2053 Hardener  
**APPLICABLE PRODUCT CODES:** ..... M2053  
**CHEMICAL FAMILY:**..... Polyamine-alkyl phenol mixture.  
**INTENDED PRODUCT USES:**..... Curing agent for epoxy resins.  
**PRODUCT RESTRICTIONS:** ..... None identified.  
**SDS VERSION:** ..... M2053

**MANUFACTURER:**  
Gougeon Brothers, Inc.  
100 Patterson Ave.  
Bay City, MI 48706, U.S.A.  
Phone: 888-377-6738 or 989-684-7286  
www.prosetepoxy.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 1B  
Eye damage/irritation, Category 1  
Reproductive toxicity, Category 2  
Acute aquatic toxicity, Category 1  
Chronic aquatic toxicity, Category 1

### Label Elements

#### Hazard Pictogram(s):



**Signal Word:**  
DANGER

#### Hazard Statements:

H314 Causes severe skin burns and eye damage  
H361 Suspected of damaging fertility or the unborn child  
H410 Very 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  
P260 Do not breathe dust/fume/gas/mist/vapors/spray  
P264 Wash hands thoroughly after handling  
P273 Avoid release to the environment  
P280 Wear protective gloves/protective clothing/eye protection/face protection

##### Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse or wash skin with soap and water (or shower).  
P363 Wash contaminated clothing before reuse  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
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 advice/attention  
P310 Immediately call POISON CONTROL CENTER or doctor  
P391 Collect spillage

##### Storage

P405 Store locked up.

##### 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**

INGREDIENT NAME	CAS #	CONCENTRATION (%)
Nonylphenol	84852-15-3	30-70
Polyoxypropylenediamine	9046-10-0	20-40

The exact chemical identity and/or exact percentage (concentration) of each ingredient may be held as a trade secret. Ingredient ranges provided may represent actual concentration ranges. Any ingredient not disclosed may have been determined not to pose a health or environmental hazard, or may only be present in concentrations that do not require disclosure. Refer to Section 15 for additional information regarding a WHMIS CBI claim.

**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. RESPONSE: Immediately wash skin with soap and water. Immediately call a POISON CONTROL CENTER or doctor.

**FIRST AID FOR INHALATION:**..... SYMPTOMS: May cause respiratory irritation. RESPONSE: Remove to fresh air if effects occur and keep comfortable for breathing. Consult a physician if symptoms develop and persist.

**FIRST AID FOR INGESTION:**..... SYMPTOMS: May cause gastrointestinal irritation or ulceration. May cause burns of the mouth and throat. 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 (CO<sub>2</sub>), dry chemical. NON-SUITABLE: Direct water stream. If water is used, water stream contaminated with this material must be prevented from being discharged to any waterway, sewer or drain.

**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, oxides of carbon, volatile amines, ammonia. 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**

**PERSONAL PRECAUTIONS AND PROTECTIVE EQUIPMENT:**..... 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.

**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**

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**EYE PROTECTION GUIDELINES:** ..... Chemical splash-proof goggles or face shield.

**SKIN PROTECTION GUIDELINES:** ..... Wear liquid-proof, chemical resistant gloves (nitrile, neoprene, butyl rubber or natural rubber) and full body-covering clothing.

**RESPIRATORY/VENTILATION GUIDELINES:** ..... Use with adequate general ventilation and/or local ventilation to keep exposures below established limits. 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.

**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
Nonylphenol	84852-15-3	No data available
Polyoxypropylenediamine	9046-10-0	No data available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**PHYSICAL FORM:** ..... Liquid.  
**COLOR:** ..... Colorless  
**ODOR:** ..... Ammonia-like  
**ODOR THRESHOLD:** ..... No data available  
**pH:** ..... 11.46  
**MELTING POINT / FREEZING POINT** ..... No data available.  
**BOILING POINT (760mm/Hg):** ..... > 449°F (232°C)  
**FLASH POINT:** ..... Estimated > 262°F(128°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)** ..... 0.95  
**BULK DENSITY** ..... 7.92 lbs./gal. (0.95 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:** ..... 175.2 (mm<sup>2</sup>/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.

<u>Resin/Hardener</u>	<u>VOC Content</u>	
	<u>(g/L)</u>	<u>(lbs./gal)</u>
M1047 / M2053	12.95	0.11

## 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.

**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.

## 11. TOXICOLOGICAL INFORMATION

Ingredient Name	CAS#	LD <sub>50</sub> Oral	LD <sub>50</sub> Dermal	LC <sub>50</sub> Inhalation
Nonylphenol	84852-15-3		2031 mg/kg	

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		1412 mg/kg	(unknown guidelines)	No data
Polyoxypropylenediamine	9046-10-0	2855 mg/kg	2980 mg/kg	>0.74 mg/L 8h mist

**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 this product does not meet acute oral toxicity classification criteria.

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

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

**SKIN CORROSION / IRRITATION:**..... Category 1B. Causes severe skin burns. Effects may be immediate.

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

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

**SKIN SENSITIZATION:**..... Not classified. Based on available data this product does not meet skin sensitization classification criteria.

**REPRODUCTIVE TOXICITY:**..... Category 2. Suspected of damaging fertility or the unborn child. This product contains an ingredient, nonylphenol, (CAS# 84852-15-3), that is a suspected human reproductive toxicant. Reproductive toxicity (rat – oral); Effects on newborn: physical; reduced weight gain.

**MUTAGENICITY:**..... Not classified. Based on available data this product does not meet mutagenicity classification criteria.

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

**SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):**..... Not classified. Based on available data this product does not meet STOT SE classification criteria.

**SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure):**..... Not classified. Based on available data this product does not meet STOT RE classification criteria.

**ASPIRATION HAZARD:**..... Not classified. Based on available data this product does not meet aspiration toxicity classification criteria.

**OTHER HEALTH HAZARD INFORMATION:**..... Ingestion may result in gastrointestinal tract irritation, pain and possible burns.

**12. ECOLOGICAL INFORMATION**

**ACUTE AQUATIC TOXICITY:**..... No specific test data available for the mixture. Calculated Estimate: Aquatic Acute Category 1. Very toxic to aquatic life. Avoid release to the environment.

**CHRONIC AQUATIC TOXICITY:**..... No specific test data available for the mixture. Calculated Estimate: Aquatic Chronic Category 1. Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

**PERSISTENCE 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.

Ingredient	CAS#	Ecotoxicity Classification Information
Nonylphenol	84852-15-3	Acute Aquatic Cat. 1; Chronic Aquatic Cat. 1
Polyoxypropylenediamine	9046-10-0	Acute Aquatic 3; Chronic Aquatic Cat. 3

**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 1760  
 SHIPPING NAME: ..... Corrosive, liquid, n.o.s.  
 TECHNICAL SHIPPING NAME: ..... Polyoxypropylenediamine, Nonylphenol  
 HAZARD CLASS: ..... Class 8  
 PACKING GROUP: ..... PG III  
 MARINE POLLUTANT: ..... Yes (exceptions for non-bulk packages)

**CANADA TDG**

UN NUMBER: ..... UN 1760  
 SHIPPING NAME: ..... Corrosive, liquid, n.o.s.  
 TECHNICAL SHIPPING NAME: ..... Polyoxypropylenediamine, Nonylphenol  
 HAZARD CLASS: ..... Class 8  
 PACKING GROUP: ..... PG III  
 MARINE POLLUTANT: ..... Yes

**IMDG**

UN NUMBER: ..... UN 1760  
 SHIPPING NAME: ..... Corrosive, liquid, n.o.s.  
 TECHNICAL SHIPPING NAME: ..... Polyoxypropylenediamine, Nonylphenol  
 HAZARD CLASS: ..... Class 8  
 PACKING GROUP: ..... PG III  
 EmS Number: ..... F-A, S-B  
 MARINE POLLUTANT: ..... Yes

**ICAO/IATA**

UN NUMBER: ..... UN 1760  
 SHIPPING NAME: ..... Corrosive, liquid, corrosive, n.o.s.  
 TECHNICAL SHIPPING NAME: ..... Polyoxypropylenediamine, Nonylphenol  
 HAZARD CLASS: ..... Class 8  
 PACKING GROUP: ..... PG III  
 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/NDL)	All ingredients are listed or otherwise compliant.
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 ..... Immediate, Delayed.  
 Subject to Section 313 ..... Nonylphenol, CAS# 84852-15-3

**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	< 0.004%	<sup>1</sup> CA
Nonylphenol		
84852-15-3		PA, NJ

<sup>1</sup>: These substances are known to the state of California to cause cancer or reproductive harm, or both.

**16. OTHER INFORMATION**

PRO-SET® M2053 Hardener

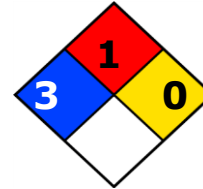
**REASON FOR ISSUE:**..... Compliant to the requirements of the US OSHA 1910.1200 HazCom 2012 standard.  
**PREPARED BY:**..... G. M. House  
**APPROVED BY:**..... G. M. House  
**SDS CONTACT:**..... safety@gougeon.com  
**TITLE:**..... Health, Safety & Environmental Manager  
**APPROVAL DATE:**..... May 18, 2017  
**SUPERSEDES DATE:**..... New product.  
**SDS VERSION:**..... M2053-2017a

**OTHER HAZARD INFORMATION AND RATING SYSTEMS:**

**HMIS® RATING**

<b>HEALTH:</b>	<b>3</b>
<b>FLAMMABILITY:</b>	<b>1</b>
<b>PHYSICAL HAZARD:</b>	<b>0</b>
<b>PERSONAL PROTECTION:</b>	

**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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