

# MATERIAL SAFETY DATA SHEET

Prepared by: Technical Barrier Systems Inc

Revision Date: October 1, 2009

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Where a proprietary ingredient is shown, the identity may be made available as provided in this standard.

All components of this product are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

## 1. PRODUCT NAME: **MERDEK® TOPCOAT RESIN**

Chemical Family: Epoxy resin, diluent and pigment.

2. HAZARDOUS INGREDIENTS: CONTENT	CASNO	EXPOSURE LIMITS*			
		TLV	STEL	PEL	
Epoxy Resin	25068-38-6	None	None	None	55-70
Dinonyl Phenol (DNP)	1323-65-5	None	None	None	10-20
Neopentyl Glycol Diglycidyl Ether (NGDE)	17557-23-2	None	None	None	5-15%
O-Cresyl Glycidyl Ether (OGE)	2210-79-9	None	None	None	5-15%
Butyl Glycidyl Ether	2426-08-6	None	None	None	< 2.0%

\* Refer to Section 7 for available LD/LC(50) Health Hazard Data.

## 3. PHYSICAL DATA:

Boiling Point (°C):	N/Av	Water/Oil Distribution	
Percent Volatile:	Nil	Coefficient:	N/Av
Freezing Point (°C)	N/Av	Solubility in Water:	None
Vapor Pressure mmHg @20(°C):	N/Av	Specific Gravity:	1.18
Vapor Density:	> Air	pH:	N/Av
Odor Threshold:	N/Av	Evaporation Rate:	N/Av
Appearance:	Pigmented Liquid	Odor:	Mild
N/Av = Not Available	N/Av = Not Available	ca. = Approximate	

## 4. FIRE AND EXPLOSION HAZARD DATA: HMIS Hazard Rating No. 1 (Slight)

**Flash Point:** > 100°C (> 212°F)

Method: Pensky Martin C.C.

**Auto-Ignition Temp.:** Not Available

**Limits of Flammability:** LEL: Not Available UEL: Not Available

**Extinguishing Media:** Carbon dioxide, foam, dry chemical & water fog.

**Special Fire & Unusual Hazards:** At higher temperature vapors can cause pressure build up in sealed containers. Use water to cool containers exposed to fire. Self-contained respirator equipment and full protective clothing required when smoke or fumes are generated. Electrical grounding is not recommended.

5. **REACTIVITY DATA:** HMIS Hazard Rating No. 0 (Minimal)

**Stability:** Stable. Not sensitive to mechanical impact. Excessive heat, fumes and smoke can occur if this product is not mixed and used according to directions.

**Incompatibility:** Strong acids, strong bases, amines, and mercaptans may initiate polymerization possibly hazardously.

**Hazardous Decomposition Products:** Oxides of carbon and nitrogen; acids, aldehydes and various unknown hydrocarbons from incomplete combustion.

**Hazardous Polymerization:** Will not occur when handled per instructions.

6. **ENVIRONMENTAL AND DISPOSAL INFORMATION:**

**Action to Take For Spills/Leaks:** Ventilate area, eliminate all sources of ignition. Wear appropriate protective gear, contain leak or spill, salvage, clean up residue with absorbent material.

**Waster Disposal Method:** Handle disposal of waste material in manner which complies with local, state, province and federal regulation. Landfill if solidified or incineration at agency approved waste-disposal facilities.

7. **HEALTH HAZARD DATA:** HMIS Hazard Rating No. 2 (Moderate)

**PRIMARY ROUTE OF ENTRY:** Dermal, Ingestion

Effects of Overexposure

**Inhalation:** Vapors can be irritating to nose and mucus membranes.

**Eyes:** Contact can cause irritation, redness, tearing and blurred vision.

**Skin Contact:** Prolonged or repeated exposure may cause skin irritation and redness. Skin sensitization or allergic reaction may occur in some individuals.

**Skin Absorption:** May be absorbed through skin with slight increase to overall toxicity.

LD(50) Dermal	CASRN	2210-79-9	2000 mg/kg Rabbit.
		2426-08-6	2520 mg/kg Rabbit.
		17557-23-2	2150 mg/kg Rabbit.

**Ingestion:** Intake can cause gastrointestinal irritation, nausea, vomiting, diarrhea, and drowsiness.

LD(50) Oral	CASRN	2210-79-9	4000 mg/kg Rat.
		2426-08-6	2050 mg/kg Rat.
		25068-38-6	11.4 gm/kg Rat.

**Chronic:** Product does not contain carcinogenic materials as defined by OSHA Hazardous Communications Act 1910.1200. Butyl Glycidyl Ether has been found to be mutagenic in vitro. Experimental teratogen

## 8. FIRST AID:

**Inhalation:** Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek medical attention.

**Eyes:** Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.

**Skin:** Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash clothing before reuse.

**Ingestion:** Do NOT induce vomiting; give large quantities of water; get immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquids into lungs. Do not give anything by mouth to an unconscious person.

## 9. SPECIAL PROTECTION INFORMATION:

**Ventilation:** Ventilation is recommended. Air movement must be designed to insure turnover at all locations in work area to avoid build up of heavy vapors.

**Personal Protection Equipment:** Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and Rubber/Latex gloves. Selection of specific items such as boots and apron will depend on operation. Wear respirator protection whenever airborne concentrations exceed TLV ceilings or TWA, use NIOSH/OSHA approved respirators equipped with an organic vapor cartridge for listed hazard.

Confined spaces, rooms, or tanks are areas where concern for TLV's is especially important. Reference OSHA Regulation CFR 29 1910.134 for recommended respiratory protection.

## 10. ADDITIONAL INFORMATION:

**Average Shelf Life:** Refer to Product Data Sheet.

**Special Instructions:** Store in cool, dry place.

**11. REGULATORY INFORMATION:**

**Title III Section 302:** No reportable materials.

**Title III Section 311/312:** Health hazard: Immediate  
Delayed  
Physical hazard: None

**Title III Section 313:** No reportable materials.

**State:** California  
This product contains a chemical known to the state of California to cause cancer.

**Formaldehyde** CASRN: 50-00-0 < 0.0035%

**WHMIS Classification:** Class D, Div 2, Sub A  
Class D, Div 2, Sub B

**Canadian Domestic Substance List:** Contains chemicals not listed.

**12. TRANSPORTATION**

**National Motor Freight Classification (NMFC):** 46030 Sub: - Class: 55

**Description:** RESIN COMPOUNDS

**Emergency Response Guide Page No.:** NOT APPLICABLE

**DOT Reportable Quantity:** 0

**Shipping Name:** NOT REGULATED - USE NMFC DESCRIPTION

Marine Pollutant: NL  
(NL = Not Listed; P = Moderate; PP = Severe; ND = Not Determined)

The information herein is given in good faith. No warranty, expressed or implied, is given regarding the accuracy of these data or the results obtained from the use thereof. Consult Technical Barrier Systems Inc. for further information.

# MATERIAL SAFETY DATA SHEET

Prepared by: Technical Barrier Systems Inc.

Revision Date: October 1, 2009

This document is prepared pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200). Where a proprietary ingredient is shown, the identity may be made available as provided in this standard.

All components of this product are included in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

## 1. PRODUCT NAME: **MERDEK® TOPCOAT HARDENER**

Chemical Family: Polyamine and diluent.

2. HAZARDOUS INGREDIENTS:	CASNO	EXPOSURE LIMITS*			
		TLV	STEL	PEL	CONTENT
Dinonyl Phenol (DNP)	1323-65-5	None	None	None	65-80%
Polyoxypropylenediamine	9046-10-0	None	None	None	5-15%
Aminoethylpiperazine (AEP)	140-31-8	None	None	None	5-15%
Triethylethanolamine	112-24-3	None	None	None	1-10%
Aminoethylethanolamine (AEA)	111-41-1	None	None	None	< 3%

\*) Refer to Section 7 for available LD/LC(50) Health Hazard Data.

## 3. PHYSICAL DATA:

Boiling Point (°C):	(DNP) 316	Water/Oil Distribution	
Percent Volatile:	Nil	Coefficient:	N/Av
Freezing Point (°C)	N/Av	Solubility in Water:	None
Vapor Pressure mmHg @20(°C):	N/Av	Specific Gravity:	0.94
Vapor Density:	> Air	pH:	Alkaline
Odor Threshold:	N/Av	Evaporation Rate:	N/Av
Appearance:	Amber Liquid	Odor:	Ammonical
N/Av = Not Available	N/Av = Not Available	ca. = Approximate	

## 4. FIRE AND EXPLOSION HAZARD DATA: HMIS Hazard Rating No. 1 (Slight)

**Flash Point:** 102°C (216°F) (AEA)

Method: Pensky Martin C.C.

**Auto-Ignition Temp.:** Not Available

**Limited of Flammability:** LEL: Not Available UEL: Not Available

**Extinguishing Media:** Carbon dioxide, foam, dry chemical & water fog.

**Special Fire & Unusual Hazards:** At higher temperature vapors can cause pressure build up in sealed containers. Use water to cool containers exposed to fire. Self-contained respirator equipment and full protective clothing required when smoke or fumes are generated. Electrical grounding is not recommended.

5. **REACTIVITY DATA:** HMIS Hazard Rating No. 0 (Minimal)

**Stability:** Stable. Not sensitive to mechanical impact. Excessive heat, fumes and smoke can occur if this product is not mixed and used according to directions.

**Incompatibility:** Strong oxidizing agents, acids, isocyanates, and organic peroxides may result in violent explosive reaction.

**Hazardous Decomposition Products:** Oxides of carbon and nitrogen; aldehydes and various unknown hydrocarbons from incomplete combustion.

**Hazardous Polymerization:** Will not occur when handled per instructions.

6. **ENVIRONMENTAL AND DISPOSAL INFORMATION:**

**Action to Take For Spills/Leaks:** Ventilate area, eliminate all sources of ignition. Wear appropriate protective gear, contain leak or spill, salvage, clean up residue with absorbent material. Wash down area with water or diluted acetic acid.

**Waster Disposal Method:** Handle disposal of waste material in manner which complies with local, state, province and federal regulation. Incineration at agency approved waste-disposal facilities.

7. **HEALTH HAZARD DATA:** HMIS Hazard Rating No. 3 (Serious)

**PRIMARY ROUTE OF ENTRY:** Dermal, Eyes, Ingestion

Effect of Overexposure

**Inhalation:** Low degree of volatility at higher temperatures, it is possible for vapors to be generated; vapors are very disagreeable. This material may result in irritation of throat, lungs and allergic type reaction or sensitization response in some individuals.

**Eyes:** Contact can cause severe burn. At higher temperature vapors can cause severe irritation, redness, tearing and blurred vision. Polyoxypropylenediamine can cause severe burns to the eyes with possible permanent injury and blindness.

**Skin Contact:** Short single exposure may cause moderate irritation to mild burn. Prolonged or repeated exposure may cause severe burns and blisters. This material may result in an allergic type reaction or sensitization response in some individuals.

**Skin Absorption:** Moderate increase in overall toxicity from absorption through skin.

LD(50) Dermal	CASRN	111-41-1	880 mg/kg Rabbit.
		112-24-3	805 mg/kg Rabbit.
		140-31-8	2140 mg/kg Rabbit.

## 7. HEALTH HAZARD DATA (cont'd):

**Ingestion:** Intake can cause gastrointestinal irritation, nausea, vomiting, diarrhea, headache, and drowsiness. Can result in burns of mouth, esophagus and stomach.

LD(50) Oral	CASRN	111-41-1	3000 mg/kg Rat.
		112-24-3	2500 mg/kg Rat.
		140-31-8	2140 mg/kg Rat.

**Chronic:** Product does not contain carcinogenic materials as defined by OSHA Hazardous Communications Act 1910.1200.

**Triethylenetetramine:** Experimental mutation and reproductive test data reported.

## 8. FIRST AID:

**Inhalation:** Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek medical attention.

**Eyes:** Flush eyes with water and or 1% boric acid, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.

**Skin:** Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash clothing before reuse. Destroy contaminated leather.

**Ingestion:** Do NOT induce vomiting; give large quantities of water; get immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquids into lungs. Do not give anything by mouth to an unconscious person.

## 9. SPECIAL PROTECTION INFORMATION:

**Ventilation:** Ventilation is recommended. Air movement must be designed to insure turnover at all locations in work area to avoid build up of heavy vapors. If material is above 140°F a positive pressure breathing apparatus is recommended.

**Personal Protection Equipment:** Do NOT wear contact lenses when working with this material. Use chemical goggles/safety glasses with side shields and Rubber/Latex gloves. Selection of specific items such as boots and apron will depend on operation. Wear respirator protection whenever airborne concentrations exceed TLV ceilings or TWA, use NIOSH/OSHA approved respirators equipped with an organic vapor cartridge for listed hazard.

## 10. ADDITIONAL INFORMATION:

**Average Shelf Life:** Refer to Product Data Sheet.

**Special Instructions:** Store in cool, dry place.

**11. REGULATORY INFORMATION:**

**Title III Section 302:** No reportable materials.

**Title III Section 311/312:** Health hazard: Immediate  
Delayed  
Physical hazard: None

**Title III Section 313:** No reportable materials.

**State:** California No reportable materials.

**WHMIS Classification:** Class D, Div 2, Sub B, Class E

**12. TRANSPORTATION**

**National Motor Freight Classification (NMFC):** 149980 Sub: 2 Class: 55

**Description:** REGULATED - USE DOT PROPER SHIPPING NAME

**Emergency Response Guide Page No.:** 60

**DOT Reportable Quantity:** NOT APPLICABLE

Shipping Name: CORROSIVE LIQUIDS, N.O.S.  
UNNO: UN 2735 TDGCD: 8 Package Group: III  
Contains: AMINOETHYLPIPERAZINE  
POLYOXYPROPYLENEDIAMINE  
Label: CORROSIVE Sub-Label: NONE

Marine Pollutant: NL  
(NL = Not Listed; P = Moderate; PP = Severe; ND = Not Determined)

The information herein is given in good faith. No warranty, expressed or implied, is given regarding the accuracy of these data or the results obtained from the use thereof. Consult Technical Barrier Systems Inc. for further information.