MATERIAL SAFETY
DATA SHEET

3M

3M Center

St. Paul, Minnesota

55144-1000

1-800-364-3577 or (651) 737-6501 (24 hours)

Copyright, 2001, Minnesota Mining and Manufacturing Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that:

- 1) the information is copied in full with no changes unless prior agreement is obtained from 3M, and
- 2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

DIVISION: ENGINEERED ADHESIVES

TRADE NAME:

SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear

ID NUMBER/U.P.C.: 62-3262-1430-1

ISSUED: May 29, 2001

SUPERSEDES: August 29, 2000

DOCUMENT: 11-2355-3

This product is a kit or a multipart product which consists of multiple, independently packaged components. An MSDS for each of these components is included. Please do not separate the component MSDSs from this cover page. The document numbers of the MSDSs for components of this product are:

11-2356-1 11-2357-9

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

MATERIAL SAFETY 3M

DATA SHEET 3M Center

St. Paul, Minnesota

55144-1000

1-800-364-3577 or (651) 737-6501 (24 hours)

Copyright, 2001, Minnesota Mining and Manufacturing Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that:

- 1) the information is copied in full with no changes unless prior agreement is obtained from 3M, and
- 2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

DIVISION: ENGINEERED ADHESIVES

TRADE NAME:

SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part

B)

ISSUED: August 10, 2001 SUPERSEDES: May 29, 2001 DOCUMENT: 11-2356-1

1. INGREDIENT C.A.S. NO. PERCENT

The components of this product are in compliance with the chemical notification requirements of TSCA. All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

2. PHYSICAL DATA

BOILING POINT: N/A
VAPOR PRESSURE: N/A
VAPOR DENSITY: N/A
EVAPORATION RATE: N/A
SOLUBILITY IN WATER: nil

SPECIFIC GRAVITY:..... 1.150 Water=1

PERCENT VOLATILE: N/A pH: N/A

VISCOSITY:..... 13000.0 - 16000.0 centipoise

(@ Room Temperature)

APPEARANCE AND ODOR:

viscous liquid, clear, very mild odor.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part B)

August 10, 2001 PAGE 2

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:.... > 370.00 F COC

FLAMMABLE LIMITS - LEL:..... N/A
FLAMMABLE LIMITS - UEL:..... N/A
AUTOIGNITION TEMPERATURE:.... N/D

EXTINGUISHING MEDIA:

Water, Carbon dioxide, Dry chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

None known.

NFPA HAZARD CODES: HEALTH: 1 FIRE: 0 REACTIVITY: 0

UNUSUAL REACTION HAZARD: none

4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:

Strong Acids, Strong Oxidizing Agents. Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature reaction (exotherm) with production of intense heat and smoke.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide and Carbon Dioxide, Aldehydes, Ketones, Hydrocarbons, Toxic Vapors, Gases or Particulates.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Cover with absorbent material. Collect spilled material. Place in a U.S. DOT-approved container.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part B) August 10, 2001 ______ 5. ENVIRONMENTAL INFORMATION (continued) RECOMMENDED DISPOSAL: Cure product according to product instructions. Incinerate uncured waste in an industrial or commercial incinerator. Dispose of completely cured (or polymerized) material in a sanitary landfill. ENVIRONMENTAL DATA: Not determined. REGULATORY INFORMATION: Volatile Organic Compounds: 0.5 - 1.5 gms/liter. VOC Less H2O & Exempt Solvents: 0.5 - 1.5 gms/liter. Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous). EPCRA HAZARD CLASS: FIRE HAZARD: NO PRESSURE: NO REACTIVITY: NO ACUTE: Yes CHRONIC: Yes 6. SUGGESTED FIRST AID EYE CONTACT: Immediately flush eyes with large amounts of water. Get immediate medical attention. SKIN CONTACT: Immediately wash skin with soap and large amounts of water. Remove contaminated clothing. If signs/symptoms occur, call a physician. Wash contaminated clothing before reuse and dispose of contaminated shoes. INHALATION: If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician. IF SWALLOWED: Do not induce vomiting. Drink two glasses of water. Call a physician. 7. PRECAUTIONARY INFORMATION ______ EYE PROTECTION: Avoid eye contact. Wear vented goggles. Wear safety glasses with side shields.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part B)

August 10, 2001

7. PRECAUTIONARY INFORMATION (continued)

SKIN PROTECTION:

Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: polyethylene/ethylene vinyl alcohol.

RECOMMENDED VENTILATION:

Provide appropriate local exhaust for grinding, cutting or sanding cured material. Curing ovens must be exhausted to outdoors or to a suitable emission control device. Use in a well-ventilated area. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION:

Avoid breathing of vapors created during the cure cycle. Avoid breathing of dust created by cutting, sanding or grinding. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: half-mask dust respirator.

PREVENTION OF ACCIDENTAL INGESTION:

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

RECOMMENDED STORAGE:

Store away from heat. Keep out of the reach of children.

FIRE AND EXPLOSION AVOIDANCE:

Keep container tightly closed.

HMIS HAZARD RATINGS: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0 PERSONAL PROTECTION: B

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
EPOXY RESIN	NONE NONE	NONE NONE	1.01.1	NONE NONE	

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- NONE: None Established

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part B)

August 10, 2001 PAGE

8. HEALTH HAZARD DATA

EYE CONTACT:

Moderate Eye Irritation: signs/symptoms can include redness, swelling, pain, tearing, and hazy vision.

Vapors from heated material may cause eye irritation.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation.

SKIN CONTACT:

Allergic Skin Reaction: signs/symptoms can include redness, swelling, blistering, and itching.

Mild Skin Irritation: signs/symptoms can include redness, swelling, and itching.

INHALATION:

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

Vapors of heated material may cause respiratory system irritation.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system.

IF SWALLOWED:

Ingestion may cause:

Irritation of Gastrointestinal Tissues: signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

OTHER HEALTH HAZARD INFORMATION:

Exposure to this material in normal storage and handling has not been reported to cause significant adverse health effects. However, under normal processing conditions, e.g. grinding or heating, this product may release fumes and vapors of variable composition based on specific process conditions. These process releases may produce irritation or any of the health effects listed above when the emissions are present at elevated concentrations. Use with appropriate local exhaust ventilation.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part B)

August 10, 2001 PAGE 6

SECTION CHANGE DATES

PHYSICAL DATA SECTION CHANGED SINCE May 29, 2001 ISSUE ENVIRONMENTAL INFO. SECTION CHANGED SINCE May 29, 2001 ISSUE

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.

MATERIAL SAFETY 3M

DATA SHEET 3M Center

St. Paul, Minnesota

55144-1000

1-800-364-3577 or (651) 737-6501 (24 hours)

Copyright, 2001, Minnesota Mining and Manufacturing Company. All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that:

- 1) the information is copied in full with no changes unless prior agreement is obtained from 3M, and
- 2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

DIVISION: ENGINEERED ADHESIVES

TRADE NAME:

SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part

ISSUED: May 29, 2001 SUPERSEDES: April 13, 2001

DOCUMENT: 11-2357-9

1. INGREDIENT	C.A.S. NO.		PERCENT	
PHENOL, 4-NONYL-, branched	84852-15-3	40.0	- 60.0	
4,4'-METHYLENEBIS(2-				
METHYLCYCLOHEXYLAMINE)	6864-37-5	15.0	- 40.0	
BENZYL ALCOHOL	100-51-6	7.0	- 13.0	

The components of this product are in compliance with the chemical notification requirements of TSCA. All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

2. PHYSICAL DATA

@ 760mm Hg (benzyl alcohol)

VAPOR PRESSURE:..... 0.1000 mmHg

@ 86F (30C); 13.3mm Hg @ 212F (100C).

VAPOR DENSITY:..... 3.72 Air=1

EVAPORATION RATE:..... N/D SOLUBILITY IN WATER:.... slight

SPECIFIC GRAVITY:..... 1.000 Water=1

PERCENT VOLATILE: N/A pH: N/A

VISCOSITY:..... 12000.0 - 15000.0 centipoise

(@ Room Temperature)

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part A) May 29, 2001 ______ 2. PHYSICAL DATA (continued) APPEARANCE AND ODOR: viscous liquid, clear, very mild pungent odor. 3. FIRE AND EXPLOSION HAZARD DATA ______ FLASH POINT:.... > 194.00 F TCC (benzyl alcohol) FLAMMABLE LIMITS - LEL:..... N/A FLAMMABLE LIMITS - UEL:..... N/A AUTOIGNITION TEMPERATURE:.... N/D EXTINGUISHING MEDIA: Water, Carbon dioxide, Dry chemical, Foam SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head. UNUSUAL FIRE AND EXPLOSION HAZARDS: None known. NFPA HAZARD CODES: HEALTH: 1 FIRE: 1 REACTIVITY: 0 UNUSUAL REACTION HAZARD: none 4. REACTIVITY DATA STABILITY: Stable INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID: Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature reaction (exotherm) with production of intense heat and smoke. HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide and Carbon Dioxide, Oxides of Nitrogen, Amine Compounds, Toxic Vapors, Gases or Particulates.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part A)

May 29, 2001 PAGE 3

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Cover with absorbent material. Collect spilled material. Place in a U.S. DOT-approved container.

RECOMMENDED DISPOSAL:

Cure product according to product instructions. Incinerate uncured waste in an industrial or commercial incinerator. Dispose of completely cured (or polymerized) material in a sanitary landfill.

ENVIRONMENTAL DATA:

Not determined.

REGULATORY INFORMATION:

Volatile Organic Compounds: ca. 110 gms/liter. VOC Less H2O & Exempt Solvents: ca. 110 gms/liter.

Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA Hazardous Waste Number = None (Not U.S. EPA Hazardous).

EPCRA HAZARD CLASS:

FIRE HAZARD: NO PRESSURE: NO REACTIVITY: NO ACUTE: Yes CHRONIC: Yes

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

SKIN CONTACT:

Immediately flush skin with large amounts of water for at least 15 minutes in a chemical safety shower while removing contaminated clothing and shoes. Get immediate medical attention. Wash contaminated clothing before reuse.

INHALATION:

If signs/symptoms occur, remove person to fresh air. If signs/symptoms continue, call a physician.

IF SWALLOWED:

Do not induce vomiting. Drink two glasses of water. Call a physician.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part A)

May 29, 2001 PAGE 4

7. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Avoid eye contact. Wear vented goggles. Wear safety glasses with side shields.

SKIN PROTECTION:

Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended: polyethylene/ethylene vinyl alcohol.

RECOMMENDED VENTILATION:

Provide appropriate local exhaust for grinding, cutting or sanding cured material. Curing ovens must be exhausted to outdoors or to a suitable emission control device. Use in a well-ventilated area. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION:

Avoid breathing of vapors. Avoid breathing of dust created by cutting, sanding or grinding. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: half-mask dust respirator.

PREVENTION OF ACCIDENTAL INGESTION:

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

RECOMMENDED STORAGE:

Store away from heat. Keep out of the reach of children.

FIRE AND EXPLOSION AVOIDANCE:

Keep container tightly closed.

HMIS HAZARD RATINGS: HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0 PERSONAL PROTECTION: B

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
PHENOL, 4-NONYL-, branched	NONE	NONE	NONE	NONE	
METHYLCYCLOHEXYLAMINE)	NONE 10	NONE PPM	NONE TWA	NONE AIHA	

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part

May 29, 2001 PAGE 5

> EXPOSURE LIMITS (continued)

TNGREDIENT VALUE UNIT TYPE AUTH SKIN*

SOURCE OF EXPOSURE LIMIT DATA:

- AIHA: American Industrial Hygiene Assoc. Workplace Environmental

Exposure Level Guideline

- NONE: None Established

8. HEALTH HAZARD DATA

EYE CONTACT:

Chemical Related Eye Burns (chemical corrosivity): signs/symptoms can include cloudy appearance of the cornea, chemical burns, pain, tearing, ulcers, impaired vision or loss of vision.

Vapors from heated material may cause eye irritation.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation.

SKIN CONTACT:

Skin Burns (chemical corrosivity): signs/symptoms can include redness, swelling, itching, pain, blistering, ulceration, sloughing, and scar

May be absorbed through the skin and produce effects similiar to those caused by inhalation and/or ingestion.

TNHALATION:

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

Vapors of heated material may cause respiratory system irritation.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system.

IF SWALLOWED:

Ingestion may cause:

Irritation of Gastrointestinal Tissues: signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

OTHER HEALTH HAZARD INFORMATION:

Exposure to this material in normal storage and handling has not been reported to cause significant adverse health effects. However, under normal processing conditions, e.g. grinding or heating, this product may release fumes and vapors of variable composition based on ._____

MSDS: SCOTCH-WELD(TM) Epoxy Potting Compound/Adhesive DP-270, Clear (Part A) May 29, 2001

______ _____

8. HEALTH HAZARD DATA (continued)

specific process conditions. These process releases may produce irritation or any of the health effects listed above when the emissions are present at elevated concentrations. Use with appropriate local exhaust ventilation.

SECTION CHANGE DATES

SECTION CHANGED SINCE April 13, 2001

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.