

Material Safety Data Sheet

Copyright, 2006, 3M 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 written 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.

PRODUCT NAME: 3M(TM) Scotch-Weld(TM) Epoxy Adhesive DP-190, Translucent

MANUFACTURER: 3M

DIVISION: Industrial Adhesives and Tapes

ADDRESS: 3M Center

St. Paul, MN 55144-1000

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

Issue Date: 02/08/2006 **Supercedes Date:** 01/04/2006

Document Group: 05-6840-2

ID Number(s):

62-3286-1430-0, 62-3286-1435-9, 62-3286-3530-5, 62-3286-3830-9

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:

05-6837-8, 05-6839-4

Revision Changes:

Kit: Component document group number(s) was modified.

DISCLAIMER: 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.

Page 1 of 2

| 3M MATERIAL SAFETY DATA SHEET 3M(TM) Scotch-Weld(TM) Epoxy Adhesive DP-190, Translucent | 02/08/2006 |
|--|---------------------------|
| In addition, information obtained from a database may not be as guerrant as the information in the MCDS or | railabla direatly from 2M |
| In addition, information obtained from a database may not be as current as the information in the MSDS av | aliable directly from 3M |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |



Material Safety Data Sheet

Copyright, 2010, 3M 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 written 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.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3MTM Scotch-WeldTM Epoxy Adhesive DP-190, Translucent (Part B)

MANUFACTURER: 3M

DIVISION: Industrial Adhesives and Tapes Division

ADDRESS: 3M Center

St. Paul, MN 55144-1000

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

Issue Date: 04/23/10 **Supercedes Date:** 02/18/09

Document Group: 05-6837-8

Product Use:

Intended Use: Adhesive

SECTION 2: INGREDIENTS

 Ingredient
 C.A.S. No.
 % by W

 EPOXY RESIN
 25068-38-6
 60 - 70

 EPOXY RESIN
 30583-72-3
 30 - 40

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Viscous Liquid **Odor, Color, Grade:** Clear, slight epoxy odor

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause allergic skin reaction.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Page 1 of 8

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Prolonged or repeated exposure may cause:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Inhalation:

Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: If signs/symptoms develop, remove person to fresh air. If signs/symptoms persist, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

No Data Available **Autoignition temperature**

>=200 °F [Test Method: Pensky-Martens Closed Cup] **Flash Point**

Flammable Limits - LEL No Data Available Flammable Limits - UEL No Data Available

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities.

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

For industrial or professional use only. Keep out of the reach of children. Avoid eye contact with vapors, mists, or spray. Avoid breathing of vapors, mists or spray. Avoid skin contact with hot material. Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep container closed when not in use. Contents may be under pressure, open carefully.

7.2 STORAGE

Store away from acids. Keep container tightly closed.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust for cutting, grinding, sanding or machining. Provide appropriate local exhaust when product is heated.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields

Indirect Vented Goggles

8.2.2 Skin Protection

Avoid skin contact. Avoid skin contact with hot material.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene

Nitrile Rubber

Polyethylene/Ethylene Vinyl Alcohol

.

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with N95 particulate filters

. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form: Viscous Liquid

Odor, Color, Grade: Clear, slight epoxy odor

General Physical Form: Liquid

Autoignition temperature No Data Available

Flash Point >=200 °F [Test Method: Pensky-Martens Closed Cup]

Flammable Limits - LEL No Data Available
Flammable Limits - UEL No Data Available

Boiling point >=210 °F

Density 1.17 g/ml [@ 20 °C] **Vapor Density** No Data Available

Page 4 of 8

Vapor Pressure Negligible

Specific Gravity 1.17 [Ref Std: WATER=1]

pH Not Applicable
Melting point Not Applicable

Solubility in WaterNilEvaporation rateNegligibleHazardous Air Pollutants0 % weightKow - Oct/Water partition coefNo Data Available

VOC Less H2O & Exempt Solvents < 5 g/l [Test Method: tested per EPA method 24]

VOC Less H2O & Exempt Solvents < 10 g/l [Test Method: tested per EPA method 24] [Details: when

used as intended with Part A]

Viscosity 2000 - 8000 centipoise [@ 20 °C] [Test Method: Brookfield]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 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 (exothem) with production of intense heat and smoke.

10.2 Materials to avoid

Strong acids Amines

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance Condition

Aldehydes During Combustion
Carbon monoxide During Combustion
Carbon dioxide During Combustion
Toxic Vapor, Gas, Particulate During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Page 5 of 8

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Cure (harden, set, or react) the product according to product instructions.

As a disposal alternative, incinerate in an industrial or commercial facility. Dispose of waste product in a facility permitted to accept chemical waste. Dispose of completely cured (or polymerized) wastes in a sanitary landfill.

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

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.

Contact 3M for more information.

Additional Information: This Base to be used with Scotch-Weld DP-190 Part A Translucent Epoxy Adhesive.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Section 1: Product name was modified.

Copyright was modified.

Section 8: Skin protection phrase was modified.

Section 13: Waste disposal method information was modified.

Section 8: Eye/face protection information was modified.

Section 8: Skin protection - recommended gloves information was modified.

Section 8: Respiratory protection - recommended respirators information was modified.

Page Heading: Product name was modified.

Section 9: Property description for optional properties was modified.

Section 9: Specific gravity information was modified.

Section 9: Vapor pressure text was added.

Section 10.1 Conditions to avoid heading was added.

Section 10.2 Materials to avoid heading was added.

Section 6: Personal precautions information was added.

Section 6: Environmental procedures information was added.

Section 6: Methods for cleaning up information was added.

Section 10: Materials to avoid physical property was added.

Section 10: Conditions to avoid physical property was added.

Section 6: Release measures information was deleted.

Section 8: Skin protection - protective clothing recommendations was deleted.

Section 8: Skin protection - protective clothing information was deleted.

Section 10: Materials and conditions to avoid physical property was deleted.

Section 9: Vapor pressure value was deleted.

Section 8: Skin protection - protective clothing - punctuation was deleted.

Section 14: ID Number(s) Template 1 was deleted.

DISCLAIMER: 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.

Page 8 of 8



Material Safety Data Sheet

Copyright, 2010, 3M Company. All rights reserved. Copyring 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 written 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.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Scotch-Weld(TM) Epoxy Adhesive DP-190, Translucent (Part A) PRODUCT NAME:

MANUFACTURER:

DIVISION: Industrial Adhesives and Tapes Division

ADDRESS: 3M Center

St. Paul, MN 55144-1000

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

Issue Date: 04/23/10 **Supercedes Date:** 02/18/09

Document Group: 05-6839-4

Product Use:

Intended Use: Adhesive

Specific Use: Part A of 2-Component Epoxy Adhesive

SECTION 2: INGREDIENTS

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>% by Wt</u> |
|-------------------------------------|-------------------|----------------|
| ALIPHATIC POLYMER DIAMINE | 68911-25-1 | 70 - 90 |
| 4,7,10-TRIOXATRIDECANE-1,13-DIAMINE | 4246-51-9 | 10 - 30 |
| CALCIUM SALT | 55120-75-7 | 1 - 5 |
| TOLUENE | 108-88-3 | <= 0.98 |

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Viscous Liquid

Odor, Color, Grade: Light amber, slight amine odor

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause chemical eye burns. May cause allergic skin reaction. May cause severe skin irritation. Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

3.2 POTENTIAL HEALTH EFFECTS

Eve Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Dust created by cutting, grinding, sanding, or machining may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Severe Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Dust from cutting, grinding, sanding or machining may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

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

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature No Data Available

Flash Point >=200 °F [Test Method: Closed Cup]

Flammable Limits - LEL

Flammable Limits - UEL

OSHA Flammability Classification:

No Data Available

Not Determined

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam). Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures:

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode.

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a closed container approved for transportation by appropriate authorities.

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

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

Page 3 of 8

pressure, open carefully. Avoid skin contact with hot material. Avoid eye contact with vapors, mists, or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining. For industrial or professional use only. Keep out of the reach of children. Keep container closed when not in use.

7.2 STORAGE

Keep container tightly closed. Store away from acids.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Provide appropriate local exhaust for cutting, grinding, sanding or machining. Provide appropriate local exhaust when product is heated. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment. If exhaust ventilation is not available, use appropriate respiratory protection.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields

Indirect Vented Goggles

.

8.2.2 Skin Protection

Avoid skin contact. Avoid skin contact with hot material.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Butyl Rubber

Polyvinyl Chloride

Polyethylene/Ethylene Vinyl Alcohol

. The following protective clothing material(s) are recommended: Apron - PVC

.

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half mask or full facepiece air-purifying respirator with N100 particulate filters

Half facepiece or fullface air-purifying respirator with N95 particulate filters

. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

| <u>Ingredient</u> | Authority | Type | <u>Limit</u> | Additional Information |
|-------------------|------------------|-------------|------------------------|-------------------------------|
| CALCIUM SALT | 3M | TWA | $\overline{0.1}$ mg/m3 | Skin Notation* |
| TOLUENE | ACGIH | TWA | 20 ppm | |
| TOLUENE | CMRG | STEL | 75 ppm | Skin Notation* |
| TOLUENE | OSHA | TWA | 200 ppm | |
| TOLUENE | OSHA | CEIL | 300 ppm | |

MATERIAL SAFETY DATA SHEET Scotch-Weld(TM) Epoxy Adhesive DP-190, Translucent (Part A) 04/23/10

* Substance(s) 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:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form: Viscous Liquid

Odor, Color, Grade: Light amber, slight amine odor

General Physical Form: Liquid

Autoignition temperature No Data Available

Flash Point >=200 °F [Test Method: Closed Cup]

Flammable Limits - LELNo Data Available **Flammable Limits - UEL**No Data Available

Boiling point >=210 °F

Density 1.03 g/ml [@ 20 °C]

Vapor Pressure <=27 psia [@ 131 °F]

Specific Gravity 1.03 [Ref Std: WATER=1]

Solubility in Water Nil

Evaporation rateNo Data AvailableHazardous Air Pollutants< 1 % weight</th>Kow - Oct/Water partition coefNo Data AvailablePercent volatile< 1 % weight</th>

VOC Less H2O & Exempt Solvents < 35 g/l [Test Method: tested per EPA method 24]

VOC Less H2O & Exempt Solvents < 10 g/l [Test Method: tested per EPA method 24] [Details: when

used as intended with Part B]

Viscosity 7000 - 15000 centipoise [@ 20 °C] [Test Method: Brookfield]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 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 (exothem) with production of intense heat and smoke.

10.2 Materials to avoid

None known

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

SubstanceConditionCarbon monoxideDuring CombustionCarbon dioxideDuring CombustionOxides of NitrogenDuring CombustionOxides of SulfurDuring Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

During Combustion

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Toxic Vapor, Gas, Particulate

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Cure (harden, set, or react) the product according to product instructions. As a disposal alternative, incinerate uncured product in an industrial or commercial incinerator. Dispose of waste product in a facility permitted to accept chemical waste. Reclaim if feasible. Dispose of completely cured (or polymerized) wastes in a sanitary landfill.

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14:TRANSPORT INFORMATION

EC-3386

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

| <u>Ingredient</u> | <u>C.A.S. No.</u> | <u>Classification</u> |
|-------------------|-------------------|----------------------------|
| TOLUENE | 108-88-3 | *Female reproductive toxin |
| TOLUENE | 108-88-3 | *Developmental Toxin |

^{*} WARNING: contains a chemical or chemicals which can cause birth defects or other reproductive harm.

CHEMICAL INVENTORIES

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.

Contact 3M for more information.

Additional Information: THIS ACCELERATOR TO BE USED WITH SCOTCH-WELD DP-190 PART B TRANSLUCENT EPOXY ADHESIVE

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 3 Flammability: 1 Reactivity: 1 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes:

Copyright was modified.

Section 8: Skin protection phrase was modified.

Section 8: Eye/face protection information was modified.

Section 8: Skin protection - recommended gloves information was modified.

Section 8: Respiratory protection - recommended respirators information was modified.

Section 8: Skin protection - protective clothing information was modified.

Section 9: Property description for optional properties was modified.

Section 9: Specific gravity information was modified.

Section 8: Exposure guidelines ingredient information was modified.

Section 15: California proposition 65 ingredient information was modified.

Section 10.1 Conditions to avoid heading was added.

Section 10.2 Materials to avoid heading was added.

Section 6: Personal precautions information was added.

Section 6: Environmental procedures information was added.

Section 6: Methods for cleaning up information was added.

Section 10: Materials to avoid physical property was added.

Section 10: Conditions to avoid physical property was added.

Section 6: Release measures information was deleted.

Section 10: Materials and conditions to avoid physical property was deleted.

Section 8: Exposure guidelines legend was deleted.

DISCLAIMER: 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.

Page 8 of 8