



Material Safety Data Sheet

Copyright, 2007, 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: Scotch-Weld(TM) Urethane Adhesive DP-604NS, Black
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: 11/16/2007
Supersedes Date: 07/22/2003

Document Group: 18-0732-0

ID Number(s):

62-2648-1230-6, 62-2648-1238-9, 62-2648-5030-6, 62-2648-5035-5

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:

18-0723-9, 18-0718-9

Revision Changes:

Copyright was modified.

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

Kit: Division name was modified.

Kit: ID Number Heading was added.

Kit: ID Number(s) was added.

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.



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.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Scotch-Weld(TM) Urethane Adhesive 604NS, Black (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: 11/17/2006
Supersedes Date: 10/13/2003

Document Group: 18-0718-9

Product Use:

Intended Use: Adhesive
Specific Use: Two-part polyurethane adhesive.

Formerly known as DYNAMix(TM) Universal Flexible 6125-1.

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
polyether polyol	9082-00-2	60 - 100
diethyltoluenediamine	68479-98-1	7 - 13
bis(methylthio)toluenediamine	106264-79-3	7 - 13
propoxylated trimethylolpropane	25723-16-4	7 - 13
m-xylene-alpha,alpha'-diamine	1477-55-0	1 - 5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Viscous

Odor, Color, Grade: Slight ammonia like odor, pale to dark amber or green.

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.

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:

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

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

Autoignition temperature	<i>Not Applicable</i>
Flash Point	>=290 °F [<i>Test Method:</i> Tagliabue Closed Cup]
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
OSHA Flammability Classification:	Class IIIB Combustible Liquid

5.2 EXTINGUISHING MEDIA

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: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Collect as much of the spilled material as possible. Clean up residue with an appropriate organic solvent. Read and follow safety precautions on the solvent label and MSDS. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon 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. Avoid contact with oxidizing agents. Keep out of the reach of children. Avoid eye contact with vapors, mists, or spray. Avoid breathing of vapors, mists or spray. Avoid breathing of dust created by cutting, sanding, grinding or machining. Avoid prolonged or repeated skin contact. 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.

7.2 STORAGE

Store away from acids. Keep container tightly closed. Store away from oxidizing agents. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Do not use in a confined area or areas with little or no air movement. Use with appropriate local exhaust ventilation. 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. Provide appropriate local exhaust for cutting, grinding, sanding or machining.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact. 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.
 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, Nitrile Rubber.

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray. 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 organic vapor cartridges, Half facepiece or fullface air-purifying respirator with organic vapor cartridges and N95 particulate prefilters. 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. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
m-xylene-alpha,alpha'-diamine	ACGIH	CEIL	0.1 mg/m3	Skin Notation*
m-xylene-alpha,alpha'-diamine	OSHA	CEIL	0.1 mg/m3	Table Z-1A

* 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
Odor, Color, Grade:	Slight ammonia like odor, pale to dark amber or green.
General Physical Form:	Liquid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	>=290 °F [<i>Test Method:</i> Tagliabue Closed Cup]
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>

Boiling point	>=410 °F
Vapor Density	>=1 [Ref Std: AIR=1]
Vapor Pressure	Not Applicable
Specific Gravity	1.035
pH	Not Applicable
Melting point	No Data Available
Solubility in Water	Negligible
Evaporation rate	<=1 [Ref Std: WATER=1]
Volatile Organic Compounds	<=10 g/l [Test Method: calculated per EPA method 24]
Volatile Organic Compounds	<=5 g/l [Test Method: calculated per EPA method 24] [Details: Mixed 1:1 with Part A]
Percent volatile	<=1 % weight [Test Method: Estimated]
Percent volatile	<=0.5 % weight [Test Method: Estimated] [Details: Mixed 1:1 with Part A]
VOC Less H2O & Exempt Solvents	<=10 g/l [Test Method: calculated per EPA method 24]
VOC Less H2O & Exempt Solvents	<=5 g/l [Test Method: calculated per EPA method 24] [Details: Mixed 1:1 with Part A]
Viscosity	1,200 - 2,200 centipoise

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong acids; Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Component-Based Toxicology Information:

In a two-year feeding study in male and female rats, diethyltoluenediamine (68479-98-1) was found to be associated with a statistically significant increase in the incidence of hepatocellular carcinoma and thyroid follicular cell adenoma in high dose male rats only. Diethyltoluenediamine is not listed as a carcinogen by IARC, NTP or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

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.

Dispose of completely cured (or polymerized) wastes in a sanitary landfill.

As a disposal alternative, incinerate uncured product in an industrial or commercial incinerator in the presence of a combustible material.

As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

62-2648-8530-2, 62-2648-9530-1

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

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.

Contact 3M for more information.

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: 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.

HMIS Hazard Classification

Health: 2 Flammability: 1 Reactivity: 1 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

- Section 1: Product use information was modified.
- Section 16: HMIS hazard classification heading was modified.
- Section 1: Division name was modified.
- Copyright was modified.
- Section 8: Exposure guidelines data source legend was modified.
- Section 3: Potential effects from eye contact was modified.
- Section 3: Potential effects from skin contact information was modified.
- Section 3: Potential effects from inhalation information was modified.
- Section 3: Potential effects from ingestion information was modified.
- Section 5: Fire fighting procedures information was modified.
- Section 5: Unusual fire and explosion hazard information was modified.
- Section 7: Handling information was modified.

Section 7: Storage information was modified.
Section 8: Engineering controls information was modified.
Section 8: Eye/face protection phrase was modified.
Section 8: Respiratory protection information was modified.
Section 8: Prevention of swallowing information was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 13: Waste disposal method information was modified.
Section 8: Skin protection - recommended gloves information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 15: 311/312 hazard categories heading was modified.
Section 15: International regulations information was modified.
Section 15: State regulations information was modified.
Section 15: US federal regulations information was modified.
Section 4: First aid for inhalation - termination of exposure - was modified.
Section 4: First aid for inhalation - medical assistance - was modified.
Section 4: First aid for ingestion (swallowing) - decontamination - was modified.
Section 4: First aid for ingestion (swallowing) - medical assistance - was modified.
Section 10: Hazardous polymerization heading was modified.
Section 14: Transportation legal text was modified.
Section 16: HMIS explanation was modified.
Section 15: 311/312 Delayed Hazard score was modified.
Section 15: Inventories information was modified.
Section 12: Ecotoxicological information heading was modified.
Section 12: Chemical fate information heading was modified.
Section 8: Exposure guideline note was modified.
Section 11: Component-based toxicology information comment was modified.
Section 11: Component-based toxicology information comment heading was modified.
Section 12: Ecotoxicological phrase was modified.
Section 12: Chemical Fate phrase was modified.
Section 16: NFPA hazard classification heading was added.
Section 16: NFPA hazard classification for health was added.
Section 16: NFPA hazard classification for flammability was added.
Section 16: NFPA hazard classification for reactivity was added.
Section 5: OSHA flammability heading was added.
Section 5: OSHA flammability data was added.
Section 8: Eye/face protection information was added.
Section 8: Eye/face protection text was added.
Section 16: NFPA explanation was added.
Section 16: NFPA hazard classification for special hazards was added.
Section 2: Ingredient phrase was added.
Section 8: Eye/face protection information - punctuation - was added.

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.

3M MSDSs are available at www.3M.com



Material Safety Data Sheet

Copyright, 2008, 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: Scotch-Weld(TM) Urethane Adhesive 604NS, Black (Part A)
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: 07/14/2008
Supersedes Date: 05/06/2008

Document Group: 18-0723-9

Product Use:

Intended Use: Adhesive
 Specific Use: Two-part polyurethane adhesive.

Formerly known as DYNAMix(TM) Universal Flexible 6125-1.

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
polyurethane prepolymer	67837-35-8	40 - 70
dicyclohexylmethane-4,4'-diisocyanate (HMDI)	5124-30-1	15 - 40
1,1'-diphenylmethane diisocyanate polymer	39310-05-9	1 - 5
4,4'-diphenylmethane diisocyanate	101-68-8	1 - 5
carbon black	1333-86-4	0.05 - 0.5
1,1'-methylenebis(isocyanatobenzene)	26447-40-5	< 0.3

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Viscous liquid

Odor, Color, Grade: Low or no detectable odor, black.

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: May cause severe eye irritation. May cause allergic skin reaction. May cause severe skin irritation. May cause allergic respiratory reaction. May cause target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired 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.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

Prolonged or repeated exposure may cause:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Ingestion:

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

Target Organ Effects:

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

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	<i>No Data Available</i>
Flash Point	≥ 290 °F [<i>Test Method:</i> Tagliabue Closed Cup]
Flammable Limits - LEL	<i>No Data Available</i>
Flammable Limits - UEL	<i>No Data Available</i>
OSHA Flammability Classification:	Class IIIB Combustible Liquid

5.2 EXTINGUISHING MEDIA

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: Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. Contain spill. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. Dispose of collected material as soon 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

Keep out of the reach of children. For industrial or professional use only. Avoid eye contact with vapors, mists, or spray. Do not

breathe vapors. 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.

7.2 STORAGE

Store away from acids. Keep container tightly closed. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Do not use in a confined area or areas with little or no air movement. 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. Use with appropriate local exhaust ventilation. Provide appropriate local exhaust for cutting, grinding, sanding or machining.

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.

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, Nitrile Rubber, Polyethylene, Polyvinyl Alcohol (PVA).

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not breathe vapors.

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 organic vapor cartridges, Half facepiece or fullface air-purifying respirator with organic vapor cartridges and N95 particulate prefilters. 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. Wash hands after handling and before eating.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
1,1'-methylenebis(isocyanatobenzene)	ACGIH	TWA	0.005 ppm	
1,1'-methylenebis(isocyanatobenzene)	OSHA	CEIL	0.02 ppm	Table Z-1
carbon black	ACGIH	TWA	3.5 mg/m3	Table A4
carbon black	CMRG	TWA	0.5 mg/m3	
carbon black	OSHA	TWA	3.5 mg/m3	Table Z-1
FREE ISOCYANATES	3M	TWA	0.005 ppm	
FREE ISOCYANATES	3M	STEL	0.02 ppm	
dicyclohexylmethane-4,4'-diisocyanate (HMDI)	ACGIH	TWA	0.005 ppm	
dicyclohexylmethane-4,4'-diisocyanate (HMDI)	OSHA	CEIL	0.01 ppm	Table Z-1A
4,4'-diphenylmethane diisocyanate	ACGIH	TWA	0.005 ppm	
4,4'-diphenylmethane diisocyanate	OSHA	CEIL	0.02 ppm	Table Z-1

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:	Low or no detectable odor, black.
General Physical Form:	Liquid
Autoignition temperature	<i>No Data Available</i>
Flash Point	>=290 °F [<i>Test Method:</i> Tagliabue Closed Cup]
Flammable Limits - LEL	<i>No Data Available</i>
Flammable Limits - UEL	<i>No Data Available</i>
Boiling point	>=400 °F
Vapor Density	>=1 [<i>Ref Std:</i> AIR=1]
Vapor Pressure	<=0.000004 mmHg [@ 68 °F]
Specific Gravity	1.056
pH	<i>Not Applicable</i>
Melting point	<i>No Data Available</i>
Solubility in Water	Negligible
Evaporation rate	<=1 [<i>Details:</i> Gels with exposure to humidity.]
Volatile Organic Compounds	<=10 g/l [<i>Test Method:</i> calculated per EPA method 24]
Volatile Organic Compounds	<=5 g/l [<i>Test Method:</i> calculated per EPA method 24] [<i>Details:</i> Mixed 1:1 with Part B]
Percent volatile	<=1 % volume [<i>Test Method:</i> Estimated]
Percent volatile	<=0.5 % volume [<i>Test Method:</i> Estimated] [<i>Details:</i> Mixed 1:1 with Part B]
VOC Less H2O & Exempt Solvents	<=10 g/l [<i>Test Method:</i> calculated per EPA method 24]
VOC Less H2O & Exempt Solvents	<=5 g/l [<i>Test Method:</i> calculated per EPA method 24] [<i>Details:</i> Mixed 1:1 with Part B]
Viscosity	1,500 - 2,400 centipoise [@ 20 °C] [<i>Test Method:</i> Brookfield]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Water; Strong acids; Strong bases; Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Condition

Aldehydes
Isocyanates
Carbon monoxide
Carbon dioxide
Hydrogen Cyanide
Oxides of Nitrogen
Toxic Vapor, Gas, Particulate

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion
During Combustion
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

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.

Dispose of completely cured (or polymerized) wastes in a sanitary landfill.

As a disposal alternative, incinerate uncured product in an industrial or commercial incinerator in the presence of a combustible material.

As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): Not regulated

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

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

LA-D100-0032-7, LA-D100-0091-9, 62-2748-8530-0, 62-2748-9530-9

Not regulated per U.S. DOT, IATA or IMO.

*These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and **not the packaging, labeling, or marking requirements**. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.*

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

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
4,4'-diphenylmethane diisocyanate (Diisocyanates (EPCRA 313))	101-68-8	1 - 5
dicyclohexylmethane-4,4'-diisocyanate (HMDI (Diisocyanates (EPCRA 313)))	5124-30-1	15 - 40

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

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: 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.

HMIS Hazard Classification**Health: 2 Flammability: 1 Reactivity: 1 Protection: X - See PPE section.**

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes: Not Applicable

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.

3M MSDSs are available at www.3M.com