

3M Canada Company
1840 Oxford Street East, Post Office Box 5757
London, Ontario N6A 4T1
Medical Emergency Telephone: (519) 451-2500, Ext. 2222
Transportation Emergency Telephone (CANUTEC): (613) 996-6666

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Material Safety Data Sheet
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Prepared by: Corporate Regulatory Services, 3M Canada Company
Telephone: (800) 364-3577, Fax: (800) 603-7758, Web Site: www.3M.ca

1 Chemical Product and Company Identification

Tradename:
3M(TM) DETECTOR LOOP SEALANT BLACK 5000
Product ID:
78-8072-0723-4 78-8072-0724-2 78-8072-0725-9 78-8095-4060-8
78-8095-4061-6 78-8095-4062-4 78-8095-4063-2 78-8095-4064-0
78-8118-6302-2 41-3706-1403-8
Intended Use of Product:
Sealant
Division:
TRAFFIC SAFETY SYSTEMS DIVISION

2 Hazards Identification

Critical Hazards:
Combustible liquid and vapour.
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.
Very toxic: danger of very serious irreversible effects through inhalation.
Allergic Respiratory Reaction: Signs/symptoms can include difficulty breathing, wheezing, cough, and tightness of chest.
Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

WARNING: Contains a chemical which can cause cancer (1333-86-4)
 (IARC possible human carcinogen 2B)
 WARNING: Contains a chemical which can cause cancer. (584-84-9)
 (NTP anticipated human carcinogen, IARC possible human carcinogen
 2B, Calif. Proposition 65)
 WARNING: Contains a chemical which can cause cancer. (91-08-7) (NTP
 anticipated human carcinogen, IARC possible human carcinogen 2B)
 TALC (14807-96-6) has been shown to cause fibrosis of the lungs.
 An ingredient in this product, present at >=1%, is included in
 Division 3 of Class 2 or in Packing Group I or II of Division 1 of
 Class 6 in Part III of the Transportation of Dangerous Goods
 Regulations.
 See Sections 7 and 11 for further information.

3 Composition/Information on Ingredients

| Ingredient Name | CAS Number | Percentage |
|--|-------------|------------|
| TALC | 14807-96-6 | 15 - 40 |
| POLYSTYRENE | 9003-53-6 | 10 - 30 |
| 1-METHOXY-2-PROPYL ACETATE | 108-65-6 | 10 - 30 |
| POLYPROPYLENE GLYCOL GLYCEROL | 25791-96-2 | 10 - 30 |
| TRIEETHER | | |
| POLYPROPYLENE GLYCOL | 25322-69-4 | 5 - 10 |
| DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA | 67762-90-7 | 1 - 5 |
| SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE | 112945-52-5 | 1 - 5 |
| TOLUENE 2, 4-DIISOCYANATE | 584-84-9 | 1 - 5 |
| TOLUENE 2, 6-DIISOCYANATE | 91-08-7 | 0.5 - 1.5 |
| CARBON BLACK | 1333-86-4 | 0.1 - 0.65 |
| DIBUTYLTIN DILIAURATE | 77-58-7 | 0.1 - 0.2 |

NOTE:

Each percentage is expressed as the ratio of the weight of the
 ingredient to the weight of the controlled product.

4 First Aid Measures

Instructions for Eye Contact:

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

Instructions for 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.

Instructions for Inhalation:

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

attention.

Instructions for Ingestion:

Do not induce vomiting unless instructed to do so by medical
 personnel. Get medical attention.

5 Fire Fighting Measures

Flash point: 45.6 C TCC
Lower Explosive Limit (%): Not Available
Upper Explosive Limit (%): Not Available
Autoignition temperature: Not Available
Suitable Extinguishing Media:
Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).
Unsuitable Extinguishing Media:
DO NOT USE WATER.
Exposure Hazards during Fire:
Closed containers exposed to heat from fire may build pressure and explode. Vapours may travel long distances along the ground or floor to an ignition source and flash back.
Combustion Products from Fire:
Aldehydes - During Combustion;
Isocyanates - During Combustion;
Carbon monoxide - During Combustion;
Carbon dioxide - During Combustion;
Hydrogen Cyanide - During Combustion;
Oxides of Nitrogen - During Combustion;
Unusual Fire and Explosion Hazards
Combustible liquid and vapour.
Fire Fighting Procedures:
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).
NFPA: Health 2
NFPA: Fire 2
NFPA: Reactivity 1
NFPA: Unusual Reaction Hazard
reacts with water
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.

6 Accidental Release Measures

Personal Precautions:

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. 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. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

Environmental Procedures

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

Methods for cleaning up

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. 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 using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS.

Spill Response:

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.

7 Handling and Storage

Storage Requirements:

No data available.

Incompatible Materials:

Store away from heat;
Store out of direct sunlight.
Sparks and/or Flames;
Store away from acids;
Store away from oxidizing agents.
Amines;

Ventilation:

No data available.

Explosion Prevention:

Keep away from heat, sparks, open flame, pilot lights and other sources of ignition.

Use Instructions:

For industrial or professional use only. Avoid contact with oxidizing agents.

8 Exposure Controls/Personal Protection

Personal Protection

Eye Protection:

Avoid eye contact.
The following should be worn alone or in combination, as appropriate, to prevent eye contact:
Indirect vented goggles;

Hand Protection:

Wear appropriate gloves when handling this material.
The following glove material(s) are recommended:
nitrile rubber;

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.

Respiratory Protection:

Avoid breathing of vapours, mists or spray.

Select one of the following approved respirators based on airborne concentration of contaminants and in accordance with regulations:

Half facepiece or fullface air-purifying respirator with organic vapor cartridges and P95 particulate prefilters

When applying 3M Brand Detector Loop Sealant 5000 outdoors where air movement is unrestricted, there is little risk of user overexposure and, therefore, no need to use a respirator. Always follow product directions.

Ingestion (Prevention):

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

Recommended Ventilation:

Use in a well-ventilated area.

Do not use in a confined area or areas with little or no air movement.

Ingredient Exposure Data

3M(TM) DETECTOR LOOP SEALANT BLACK 5000

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TALC (14807-96-6)

Specific Ingredient Data

No data available.

LD50 (rat, oral) No data available.

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

ACGIH: TWA 2 mg/m3 (Respirable) (Table A4)

CMRG: TWA 0.5 mg/m3 as respirable dust

POLYSTYRENE (9003-53-6)

LD50 (rat, oral) No data available.

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

No data available.

1-METHOXY-2-PROPYL ACETATE (108-65-6)

LD50 (rat, oral) 8532 mg/kg

LD50 (dermal, rabbit) > 5000 mg/kg

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

AIHA: TWA 50 ppm

CMRG: TWA 10 mg/m3

CMRG: STEL 90 ppm

POLYPROPYLENE GLYCOL GLYCEROL TRIETHER (25791-96-2)

LD50 (rat, oral) 2830 mg/m3 > 64

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

No data available.

POLYPROPYLENE GLYCOL (25322-69-4)

LD50 (rat, oral) 3750 mg/kg

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

AIHA: TWA 10 mg/m3 as aerosol; Category: Polypropylene Glycols;
DIMETHYL SILOXANE, REACTION PRODUCT WITH SILICA (67762-90-7)

Specific Ingredient Data

LD50 (rat, dermal): > 16 ml/kg

LC50 (rat, inhalation, dust/1hour): 1260 2830 mg/m3

LD50 (rat, oral) > 64 g/kg

LD50 (dermal, rabbit) > 16 g/kg

LC50 (rat, inhalation/4 hours) 315 - 708 mg/m3

Exposure Limits

CMRG: CEIL 5 mg/m3

SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE (112945-52-5)

LD50 (rat, oral) 3160 mg/kg

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

No data available.

TOLUENE 2, 4-DIISOCYANATE (584-84-9)

LD50 (rat, oral) 5800 mg/kg

LC50 (rat, inhalation/4 hours) 14 ppm

Exposure Limits

ACGIH: TWA 0.0050 ppm Sensitizer; (Table A4)

ACGIH: STEL 0.02 ppm Sensitizer; (Table A4)

TOLUENE 2, 6-DIISOCYANATE (91-08-7)

LD50 (rat, oral) No data available.

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

3M: TWA 0.0050 ppm Category: FREE ISOCYANATES

3M: STEL 0.02 ppm Category: FREE ISOCYANATES

ACGIH: TWA 0.0050 ppm Sensitizer; (Table A4)

ACGIH: STEL 0.02 ppm Sensitizer; (Table A4)

CARBON BLACK (1333-86-4)

LD50 (rat, oral) > 15400 mg/kg

LD50 (dermal, rabbit) > 3 g/kg

LC50 (rat, inhalation/4 hours) 6750 mg/m3

Exposure Limits

ACGIH: TWA 3.5 mg/m3 (Table A4)

CMRG: TWA 0.5 mg/m3

DIBUTYLTIN DILIAURATE (77-58-7)

LD50 (rat, oral) 175 mg/kg

LC50 (rat, inhalation/4 hours) No data available.

Exposure Limits

ACGIH: TWA 0.1 mg/m3 (specific form) as Sn; (skin contact contributes to exposure) (Table A4) ACGIH: STEL 0.2 mg/m3 (specific form) as Sn; (skin contact contributes to exposure) (Table A4)

9 Physical and Chemical Properties

Physical form,Color,Odour: Liquid; Caulk; Black; mild odour;
Odour Threshold: No data available.
pH: Not applicable
Boiling point/boiling range: >= 140 C
Melting point/melting range: Not applicable
Vapour pressure: <= 3.7 mmHg at 20 C
Water Solubility: Nil
Partition coefficient (K o/w): Not Available
Specific gravity: 0.97 Water=1

| | |
|-----------------------------|------------------|
| Vapour density: | Not Available |
| Volatile organic compounds: | 248 gms/liter |
| Evaporation rate: | 0.21 BuOAc=1 |
| Viscosity: | 25000 centipoise |
| Percent Volatile: | 20 % |

10 Stability and Reactivity

Conditions to Avoid:

- Store away from heat;
- Store out of direct sunlight.
- Sparks and/or Flames;

Materials to Avoid:

- Store away from acids;
- Store away from oxidizing agents.
- Amines;

Hazardous Decomposition:

- Aldehydes - During Combustion;
- Isocyanates - During Combustion;
- Carbon monoxide - During Combustion;
- Carbon dioxide - During Combustion;
- Hydrogen Cyanide - During Combustion;
- Oxides of Nitrogen - During Combustion;

Stability and Reactivity:

Stable. Hazardous polymerization will not occur.

11 Toxicological Information

Effects from Eye Contact:

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

Effects from Skin Contact:

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

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

Effects from Inhalation:

Very toxic: danger of very serious irreversible effects through inhalation.

May be harmful if inhaled.

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

Allergic Respiratory Reaction: Signs/symptoms can 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.

Effects from Ingestion:

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

Sensitization Information:

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

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

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

Carcinogenicity:

WARNING: Contains a chemical which can cause cancer. (584-84-9) (NTP anticipated human carcinogen, IARC possible human carcinogen 2B, Calif. Proposition 65)

WARNING: Contains a chemical which can cause cancer. (91-08-7) (NTP anticipated human carcinogen, IARC possible human carcinogen 2B)

WARNING: Contains a chemical which can cause cancer (1333-86-4) (IARC possible human carcinogen 2B)

Mutagenicity:

No data available.

Reproductive Effects:

No data available.

Component Based Information:

TALC (14807-96-6) has been shown to cause fibrosis of the lungs.

An ingredient in this product, present at $\geq 1\%$, is included in Division 3 of Class 2 or in Packing Group I or II of Division 1 of Class 6 in Part III of the Transportation of Dangerous Goods Regulations.

Product Based Information:

No data available.

12 Ecological Information

Environmental Data:**Ecotoxicity Data:**

Not determined.

Ecofate Data:

Not determined.

Special statements for 2001/58/EC:

A conservative assessment indicates this product presents a low environmental risk because use and disposal are unlikely to result in the significant release of components to the environment.

13 Disposal Considerations

Product as Sold:

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

Product Packaging:

No data available.

Special Instructions:

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

14 Transport Information

Transportation of Dangerous Goods

TDG Classification:

Non-Regulated: TDGR Section
1.33

Regulated by Air and Ocean

Special Information:: Contact 3M for more information.
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 Canadian ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

International Dangerous Goods Classification

15 Regulatory Information

WHMIS Classification:

B3, D1A, D2A, D2B

NOTE:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Product Certifications:

The product on this MSDS, or all its components, is included on the following countries' chemical inventories, as noted:

3M(TM) DETECTOR LOOP SEALANT BLACK 5000

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AICS - Australian Inventory of Chemical Substances
DSL - Domestic Substances List (Canada)
EINECS - European Inventory of Existing Commercial Chemical Substances
TSCA - Toxic Substances Control Act (USA)

16 Other Information

Reason for Reissue:

The following Sections and topics have been updated or revised:

Added product id(s) to the MSDS;
Section 2 - Composition/Information on Ingredients;
Section 3 - Hazards Identification - Critical Hazards;
Section 4 - First Aid Measures;
Section 5 - Fire Fighting Measures
Section 6 - Accidental Release Measures;
Section 7 - Handling and Storage;
Section 8 - Exposure Controls/Personal Protection;

Section 9 - Physical and Chemical Properties;
Section 10 - Stability and Reactivity;
Section 11 - Toxicological Information;
WHMIS Classification change

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, STATUTORY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION 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.

---End---