Safety Data Sheet

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Issue Date:	28/07/2021	**Supercedes Date:**	28/07/2016

This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

IDENTIFICATION

1.1. Product identifier
3M™ Flexible Foam Adhesive PN 08463

Product Identification Numbers
60-4551-1123-1 60-4551-1132-2 60-9800-3647-3 60-9800-4269-5 60-9800-4270-3
60-9800-4271-1

1.2. Recommended use and restrictions on use

Recommended use
Automotive, Two Component Flexible Foam

1.3. Supplier's details

ADDRESS:	3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301 Petaling, Jaya, Selangor
Telephone:	03-7884 2888
E Mail:	3mmyehsr@mmm.com
Website:	www.3M.com.my

1.4. Emergency telephone number
+60 03-7884 2888

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

07-3378-2, 07-5569-4

TRANSPORT INFORMATION

This product is a kit that consists of two or more different regulated materials packed in the same outer packaging (ship unit). The transportation classifications of the individual components appear in Section 14 of the attached SDSs.
Transportation classifications are provided as a customer service. As for shipping, 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 above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.
3M Malaysia SDSs are available at www.3M.com.my

Safety Data Sheet

Document Group:	07-5569-4	**Version Number:**	2.00
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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier
3M™ Flexible Foam Adhesive PN 08463, Part B

1.2. Recommended use and restrictions on use

Recommended use
Automotive, Two Component Flexible Foam

For Industrial or Professional use only

1.3. Supplier's details
ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301 Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number
+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Skin Sensitizer: Category 1.
Germ Cell Mutagenicity: Category 2.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 2.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark |Health Hazard |

Pictograms

Hazard Statements:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H360	May damage fertility or the unborn child.
H371	May cause damage to organs: immune system | kidney/urinary tract | liver | nervous system.
H373	May cause damage to organs through prolonged or repeated exposure: immune system | liver.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards
None known

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	9082-00-2	30 - 60
Polypropylene Glycol Glycerol Triether	25791-96-2	30 - 60
Dimethyl Siloxane, Reaction Product with	67762-90-7	3 - 7

Silica		
Diethylene Glycol	111-46-6	1 - 5
Dipropylene Glycol	25265-71-8	1 - 5
Water	7732-18-5	1 - 5
Dibutyltin Dilaurate	77-58-7	< 2
Triethylenediamine	280-57-9	0.5 - 1.5
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	0.00513 - 0.01539

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

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. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with detergent and water. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Store away from heat. Store away from areas where product may come into contact with food or pharmaceuticals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
TIN, ORGANIC COMPOUNDS	77-58-7	ACGIH	TWA(as Sn):0.1 mg/m3;STEL(as Sn):0.2 mg/m3	A4: Not class. as human carcin, SKIN
TIN, ORGANIC COMPOUNDS	77-58-7	Malaysia OELs	TWA(as Sn)(8 hours):0.1 mg/m3	SKIN

ACGIH : American Conference of Governmental Industrial Hygienists
CMRG : Chemical Manufacturer's Recommended Guidelines
Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide appropriate local exhaust ventilation on open containers. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Neoprene
Nitrile Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - Neoprene
Apron – Nitrile

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Specific Physical Form:	Flexible Foam
Color	Black
Odor	Odorless
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*Not Applicable*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	>=121.1 ºC [*Test Method:*Tagliabue Closed Cup]
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	<=186,158.4 Pa [@ 55 ºC] [*Details:*MITS data]
Vapor Density and/or Relative Vapor Density	*Not Applicable*
Density	0.96 - 1.03 g/ml
Relative Density	0.96 - 1.03 [*Ref Std:*WATER=1]
Water solubility	Moderate
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	45 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Volatile Organic Compounds	1.9 % weight [*Test Method:*calculated per CARB title 2]
Percent volatile	26.3 % weight
VOC Less H2O & Exempt Solvents	57 g/l [*Test Method:*calculated SCAQMD rule 443.1]

Molecular weight	*No Data Available*

Nanoparticles
This material contains nanoparticles.

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
None known.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products

Substance	Condition
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Toxic Vapor, Gas, Particulate	Not Specified

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

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

Skin Contact:
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.

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

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

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Immunological Effects: Signs/symptoms may include alterations in the number of circulating immune cells, allergic skin and /or respiratory reaction, and changes in immune function.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Prolonged or repeated exposure may cause target organ effects:
Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Immunological Effects: Signs/symptoms may include alterations in the number of circulating immune cells, allergic skin and /or respiratory reaction, and changes in immune function.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Genotoxicity:
Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	Dermal	Rabbit	LD50 > 5,000 mg/kg
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	Ingestion	Rat	LD50 > 10,000 mg/kg
Polypropylene Glycol Glycerol Triether	Dermal	Rat	LD50 > 2,000 mg/kg
Polypropylene Glycol Glycerol Triether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Polypropylene Glycol Glycerol Triether	Ingestion	Rat	LD50 4,600 mg/kg
Dimethyl Siloxane, Reaction Product with Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Dimethyl Siloxane, Reaction Product with Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Dimethyl Siloxane, Reaction Product with Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Dipropylene Glycol	Dermal	Rabbit	LD50 > 5,010 mg/kg
Dipropylene Glycol	Inhalation-Dust/Mist	Rat	LC50 > 2.34 mg/l

	(4 hours)		
Dipropylene Glycol	Ingestion	Rat	LD50 > 14,800 mg/kg
Dibutyltin Dilaurate	Dermal	Rat	LD50 > 2,000 mg/kg
Dibutyltin Dilaurate	Ingestion	Rat	LD50 1,290 mg/kg
Diethylene Glycol	Ingestion	Human	LD50 estimated to be 300 - 2,000 mg/kg
Diethylene Glycol	Dermal	Rabbit	LD50 13,300 mg/kg
Diethylene Glycol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.6 mg/l
Triethylenediamine	Dermal	Rabbit	LD50 > 3,200 mg/kg
Triethylenediamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.05 mg/l
Triethylenediamine	Ingestion	Rat	LD50 1,870 mg/kg
OCTAMETHYLCYCLOTETRASILOXANE	Dermal	Rat	LD50 > 2,400 mg/kg
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 36 mg/l
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polypropylene Glycol Glycerol Triether	Rabbit	No significant irritation
Dimethyl Siloxane, Reaction Product with Silica	Rabbit	No significant irritation
Dipropylene Glycol	Rabbit	No significant irritation
Dibutyltin Dilaurate	Rabbit	Corrosive
Diethylene Glycol	Rabbit	No significant irritation
Triethylenediamine	Rabbit	Mild irritant
OCTAMETHYLCYCLOTETRASILOXANE	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Polypropylene Glycol Glycerol Triether	Rabbit	Mild irritant
Dimethyl Siloxane, Reaction Product with Silica	Rabbit	No significant irritation
Dipropylene Glycol	Rabbit	No significant irritation
Dibutyltin Dilaurate	Rabbit	Corrosive
Diethylene Glycol	Rabbit	Mild irritant
Triethylenediamine	Rabbit	Corrosive
OCTAMETHYLCYCLOTETRASILOXANE	Rabbit	No significant irritation

Sensitization:

Skin Sensitization

Name	Species	Value
Dimethyl Siloxane, Reaction Product with Silica	Human and animal	Not classified
Dipropylene Glycol	Guinea pig	Not classified
Dibutyltin Dilaurate	Guinea pig	Sensitizing
OCTAMETHYLCYCLOTETRASILOXANE	Human and animal	Not classified

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Dimethyl Siloxane, Reaction Product with Silica	In Vitro	Not mutagenic
Dipropylene Glycol	In Vitro	Not mutagenic
Dipropylene Glycol	In vivo	Not mutagenic
Dibutyltin Dilaurate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dibutyltin Dilaurate	In vivo	Mutagenic
OCTAMETHYLCYCLOTETRASILOXANE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Dimethyl Siloxane, Reaction Product with Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Dipropylene Glycol	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Dimethyl Siloxane, Reaction Product with Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Dimethyl Siloxane, Reaction Product with Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Dimethyl Siloxane, Reaction Product with Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Dipropylene Glycol	Ingestion	Not classified for development	Rat	NOAEL 5,000 mg/kg/day	during organogenesis
Dibutyltin Dilaurate	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	premating into lactation
Dibutyltin Dilaurate	Ingestion	Toxic to development	Rat	NOAEL 2.5 mg/kg/day	during gestation
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	Not classified for male reproduction	Rat	NOAEL 8.5 mg/l	2 generation
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	Toxic to female reproduction	Rabbit	NOAEL 50 mg/kg/day	during organogenesis
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	Toxic to female reproduction	Rat	NOAEL 3.6 mg/l	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Dibutyltin Dilaurate	Ingestion	immune system	Causes damage to organs	Rat	LOAEL 5 mg/kg	
Diethylene Glycol	Ingestion	liver | nervous system | kidney and/or bladder	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Diethylene Glycol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Dimethyl Siloxane, Reaction Product with Silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure

Dipropylene Glycol	Ingestion	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 470 mg/kg/day	105 weeks
Dipropylene Glycol	Ingestion	heart	Not classified	Rat	NOAEL 470 mg/kg/day	105 weeks
Dipropylene Glycol	Ingestion	endocrine system | liver	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
Dipropylene Glycol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 115 mg/kg/day	105 weeks
Dipropylene Glycol	Ingestion	skin | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | vascular system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
Dibutyltin Dilaurate	Ingestion	liver	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 2 mg/kg/day	2 weeks
Dibutyltin Dilaurate	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 mg/kg/day	28 days
OCTAMETHYLCYCLOTETRASILOXANE	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 960 mg/kg/day	3 weeks
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	liver	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	endocrine system | immune system | kidney and/or bladder	Not classified	Rat	NOAEL 8.5 mg/l	2 generation
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	liver	Not classified	Rat	NOAEL 1,600 mg/kg/day	2 weeks

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Glycerol Poly(Oxyethylene, Oxypropylene)	9082-00-2		Data not available or insufficient for classification			N/A

Ether						
Polypropylene Glycol Glycerol Triether	25791-96-2	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l
Polypropylene Glycol Glycerol Triether	25791-96-2	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Polypropylene Glycol Glycerol Triether	25791-96-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
Polypropylene Glycol Glycerol Triether	25791-96-2	Green Algae	Experimental	72 hours	NOEC	>100 mg/l
Dimethyl Siloxane, Reaction Product with Silica	67762-90-7		Data not available or insufficient for classification			N/A
Diethylene Glycol	111-46-6	Activated sludge	Experimental	30 minutes	EC20	>1,995 mg/l
Diethylene Glycol	111-46-6	Bacteria	Experimental	16 hours	LOEC	8,000 mg/l
Diethylene Glycol	111-46-6	Fathead Minnow	Experimental	96 hours	LC50	75,200 mg/l
Diethylene Glycol	111-46-6	Water flea	Experimental	48 hours	LC50	48,900 mg/l
Diethylene Glycol	111-46-6	Green Algae	Estimated	72 hours	NOEC	100 mg/l
Diethylene Glycol	111-46-6	Water flea	Experimental	7 days	NOEC	8,590 mg/l
Dipropylene Glycol	25265-71-8	Bacteria	Experimental	18 hours	EC10	1,000 mg/l
Dipropylene Glycol	25265-71-8	Goldfish	Experimental	96 hours	LC50	>5,000 mg/l
Dipropylene Glycol	25265-71-8	Green algae	Experimental	72 hours	EC50	>100 mg/l
Dipropylene Glycol	25265-71-8	Water flea	Experimental	48 hours	EC50	>100 mg/l
Dipropylene Glycol	25265-71-8	Green algae	Experimental	72 hours	NOEC	100 mg/l
Dibutyltin Dilaurate	77-58-7	Water flea	Experimental	48 hours	IC50	0.17 mg/l
Triethylenediamine	280-57-9	Bacteria	Experimental	17 hours	EC50	356 mg/l
Triethylenediamine	280-57-9	Common Carp	Experimental	96 hours	LC50	>100 mg/l
Triethylenediamine	280-57-9	Green Algae	Experimental	72 hours	EC50	180 mg/l
Triethylenediamine	280-57-9	Water flea	Experimental	48 hours	EC50	>100 mg/l

Triethylenediamine	280-57-9	Green Algae	Experimental	72 hours	EC10	79 mg/l
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Rainbow Trout	Experimental	93 days	NOEC	0.0044 mg/l
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Water flea	Experimental	21 days	NOEC	0.0079 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	9082-00-2	Modeled Biodegradation	28 days	Biological Oxygen Demand	20 % BOD/ThBOD	Catalogic™
Polypropylene Glycol Glycerol Triether	25791-96-2	Experimental Biodegradation	28 days	Carbon dioxide evolution	38 % weight	OECD 301B - Mod. Sturm or CO2
Dimethyl Siloxane, Reaction Product with Silica	67762-90-7	Data not availbl-insufficient			N/A	
Diethylene Glycol	111-46-6	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	91.8 % weight	OECD 301A - DOC Die Away Test
Dipropylene Glycol	25265-71-8	Experimental Biodegradation	28 days	Biological Oxygen Demand	84.4 % BOD/ThBOD	OECD 301F - Manometric Respiro
Dibutyltin Dilaurate	77-58-7	Experimental Biodegradation	39 days	Biological Oxygen Demand	23 % weight	OECD 301F - Manometric Respiro
Triethylenediamine	280-57-9	Experimental Biodegradation	28 days	Carbon dioxide evolution	7 % weight	OECD 301B - Mod. Sturm or CO2
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental Photolysis		Photolytic half-life (in air)	31 days (t 1/2)	Non-standard method
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental Hydrolysis		Hydrolytic half-life	69.3-144 hours (t 1/2)	Non-standard method
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental Biodegradation	28 days	Carbon dioxide evolution	3.7 % weight	OECD 310 CO2 Headspace

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol

Glycerol Poly(Oxyethylene, Oxypropylene) Ether	9082-00-2	Modeled Bioconcentration		Bioaccumulation Factor	2	Catalogic™
Glycerol Poly(Oxyethylene, Oxypropylene) Ether	9082-00-2	Modeled Bioconcentration		Log of Octanol/H2O part. coeff	-2.6	Episuite™
Polypropylene Glycol Glycerol Triether	25791-96-2	Experimental BCF-Carp	42 days	Bioaccumulation Factor	≤7	Non-standard method
Dimethyl Siloxane, Reaction Product with Silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diethylene Glycol	111-46-6	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-1.98	Non-standard method
Dipropylene Glycol	25265-71-8	Experimental BCF-Carp	42 days	Bioaccumulation Factor	4.6	OECD 305E-Bioaccum Fl-thru fis
Dibutyltin Dilaurate	77-58-7	Experimental BCF-Carp	56 days	Bioaccumulation Factor	110	Non-standard method
Triethylenediamine	280-57-9	Experimental BCF-Carp	42 days	Bioaccumulation Factor	<13	OECD 305E-Bioaccum Fl-thru fis
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental BCF - Fathead Minnow	28 days	Bioaccumulation Factor	12400	Non-standard method

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Not hazardous for transportation.

Marine Transport (IMDG)

UN Number: None assigned.

Proper Shipping Name: None assigned.
Technical Name: None assigned.
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: None assigned.
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
None assigned.

Air Transport (IATA)

UN Number: None assigned.
Proper Shipping Name: None assigned.
Technical Name: None assigned.
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: None assigned.
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
None assigned.

Transportation classifications are provided as a customer service. As for shipping, 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 above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Malaysia SDSs are available at www.3M.com.my

Safety Data Sheet

Document Group:	07-3378-2	**Version Number:**	2.00
Issue Date:	07/08/2021	**Supercedes Date:**	28/07/2016

This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier
3M™ Flexible Foam/Part A, 08463

1.2. Recommended use and restrictions on use

Recommended use
Automotive, Two Component Flexible Foam

For Industrial or Professional use only

1.3. Supplier's details
ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301 Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number
+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements
Signal word
Danger

Symbols
Exclamation mark |Health Hazard |

Pictograms

Hazard Statements:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system.

Precautionary statements

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280E	Wear protective gloves.
P285	In case of inadequate ventilation wear respiratory protection.

Response:

P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Urethane Prepolymer NJTSRN 04499600-6306	Trade Secret	30 - 60
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	10 - 30
Polymethylene Polyphenylene Isocyanate	9016-87-9	10 - 30
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	< 15
Dimethyl Siloxane, Reaction Product With Silica	67762-90-7	1 - 5
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	< 0.02
Phenyl Isocyanate	Trade Secret	< 0.015

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Isocyanates	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters
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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
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. 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. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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 SDS. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Store away from amines.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	ACGIH	TWA:0.005 ppm	
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Malaysia OELs	TWA(8 hours):0.051 mg/m3(0.005 ppm)	
Phenyl Isocyanate	Trade Secret	ACGIH	TWA:0.005 ppm;STEL:0.015 ppm	Dermal/Respiratory Sensitizer

ACGIH : American Conference of Governmental Industrial Hygienists
CMRG : Chemical Manufacturer's Recommended Guidelines
Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the

results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl Rubber
Neoprene
Nitrile Rubber

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Butyl rubber
Apron - Neoprene
Apron – Nitrile

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Specific Physical Form:	Paste
Color	Brown
Odor	Odorless
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*Not Applicable*
Boiling point/Initial boiling point/Boiling range	>=148.9 ºC
Flash Point	>=148.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	<=186,158.4 Pa [@ 55 ºC] [*Details:*MITS data]
Vapor Density and/or Relative Vapor Density	8.5 [*Ref Std:*AIR=1]
Density	1.135 - 1.16 g/ml
Relative Density	1.135 - 1.16 [*Ref Std:*WATER=1]
Water solubility	*Not Applicable*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	0.1 % weight [*Test Method:*calculated per CARB title 2]
Volatile Organic Compounds	1 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Percent volatile	0.1 % weight
VOC Less H2O & Exempt Solvents	1 g/l [*Test Method:*calculated SCAQMD rule 443.1]

Molecular weight	*No Data Available*

Nanoparticles
This material contains nanoparticles.

SECTION 10: Stability and reactivity

10.1. Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Amines
Alcohols
Water
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

10.6. Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:
Respiratory Tract Irritation: 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.

May cause additional health effects (see below).

Skin Contact:
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.

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

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

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
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.

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

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Polymethylene Polyphenylene Isocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
P,P'-Methylenebis(phenyl isocyanate)	Ingestion	Rat	LD50 31,600 mg/kg
Polymethylene Polyphenylene Isocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
Polymethylene Polyphenylene Isocyanate	Ingestion	Rat	LD50 31,600 mg/kg
1,1'-Methylenebis(Isocyanatobenzene)	Dermal	Rabbit	LD50 > 5,000 mg/kg
1,1'-Methylenebis(Isocyanatobenzene)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
1,1'-Methylenebis(Isocyanatobenzene)	Ingestion	Rat	LD50 31,600 mg/kg
Dimethyl Siloxane, Reaction Product With Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Dimethyl Siloxane, Reaction Product With Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Dimethyl Siloxane, Reaction Product With Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
OCTAMETHYLCYCLOTETRASILOXANE	Dermal	Rat	LD50 > 2,400 mg/kg
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 36 mg/l
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	official classification	Irritant
Polymethylene Polyphenylene Isocyanate	official	Irritant

	classification	
1,1'-Methylenebis(Isocyanatobenzene)	official classification	Irritant
Dimethyl Siloxane, Reaction Product With Silica	Rabbit	No significant irritation
OCTAMETHYLCYCLOTETRASILOXANE	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	official classification	Severe irritant
Polymethylene Polyphenylene Isocyanate	official classification	Severe irritant
1,1'-Methylenebis(Isocyanatobenzene)	official classification	Severe irritant
Dimethyl Siloxane, Reaction Product With Silica	Rabbit	No significant irritation
OCTAMETHYLCYCLOTETRASILOXANE	Rabbit	No significant irritation

Sensitization:

Skin Sensitization

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	official classification	Sensitizing
Polymethylene Polyphenylene Isocyanate	official classification	Sensitizing
1,1'-Methylenebis(Isocyanatobenzene)	official classification	Sensitizing
Dimethyl Siloxane, Reaction Product With Silica	Human and animal	Not classified
OCTAMETHYLCYCLOTETRASILOXANE	Human and animal	Not classified

Respiratory Sensitization

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	Human	Sensitizing
Polymethylene Polyphenylene Isocyanate	Human	Sensitizing
1,1'-Methylenebis(Isocyanatobenzene)	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
P,P'-Methylenebis(phenyl isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Polymethylene Polyphenylene Isocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,1'-Methylenebis(Isocyanatobenzene)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dimethyl Siloxane, Reaction Product With Silica	In Vitro	Not mutagenic
OCTAMETHYLCYCLOTETRASILOXANE	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Polymethylene Polyphenylene Isocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
1,1'-Methylenebis(Isocyanatobenzene)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Dimethyl Siloxane, Reaction Product With Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Polymethylene Polyphenylene Isocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
1,1'-Methylenebis(Isocyanatobenzene)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Dimethyl Siloxane, Reaction Product With Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Dimethyl Siloxane, Reaction Product With Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Dimethyl Siloxane, Reaction Product With Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	Not classified for male reproduction	Rat	NOAEL 8.5 mg/l	2 generation
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	Toxic to female reproduction	Rabbit	NOAEL 50 mg/kg/day	during organogenesis
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	Toxic to female reproduction	Rat	NOAEL 3.6 mg/l	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Polymethylene Polyphenylene Isocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
1,1'-Methylenebis(Isocyanatobenzene)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Polymethylene Polyphenylene Isocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
1,1'-Methylenebis(Isocyanatobenzene)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Dimethyl Siloxane, Reaction Product With Silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
OCTAMETHYLCYCLOT	Dermal	hematopoietic	Not classified	Rabbit	NOAEL 960	3 weeks

ETRASILOXANE		system			mg/kg/day	
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	liver	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	endocrine system | immune system | kidney and/or bladder	Not classified	Rat	NOAEL 8.5 mg/l	2 generation
OCTAMETHYLCYCLOTETRASILOXANE	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 8.5 mg/l	13 weeks
OCTAMETHYLCYCLOTETRASILOXANE	Ingestion	liver	Not classified	Rat	NOAEL 1,600 mg/kg/day	2 weeks

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
Urethane Prepolymer NJTSRN 04499600-6306	Trade Secret		Data not available or insufficient for classification			N/A
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
P,P'-Methylenebis(phenyl	101-68-8	Water flea	Estimated	21 days	NOEC	>=10 mg/l

isocyanate)						
Polymethylene Polyphenylene Isocyanate	9016-87-9	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Polymethylene Polyphenylene Isocyanate	9016-87-9	Water flea	Analogous Compound	24 hours	No tox obs at lmt of water sol	>100 mg/l
Polymethylene Polyphenylene Isocyanate	9016-87-9	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Polymethylene Polyphenylene Isocyanate	9016-87-9	Activated sludge	Analogous Compound	3 hours	EC50	>100 mg/l
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Green algae	Estimated	72 hours	NOEL	1,640 mg/l
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Water flea	Estimated	21 days	NOEC	>=10 mg/l
Dimethyl Siloxane, Reaction Product With Silica	67762-90-7		Data not available or insufficient for classification			N/A
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Rainbow Trout	Experimental	93 days	NOEC	0.0044 mg/l
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Water flea	Experimental	21 days	NOEC	0.0079 mg/l
Phenyl Isocyanate	Trade Secret	Activated sludge	Estimated	2 hours	EC50	7 mg/l
Phenyl Isocyanate	Trade Secret	Bacteria	Estimated	2 hours	IC50	<1 mg/l
Phenyl Isocyanate	Trade Secret	Goldfish	Estimated	96 hours	LC50	7.6 mg/l
Phenyl Isocyanate	Trade Secret	Green Algae	Estimated	72 hours	EC50	9.7 mg/l
Phenyl	Trade Secret	Water flea	Estimated	48 hours	LC50	0.044 mg/l

Isocyanate						
Phenyl Isocyanate	Trade Secret	Green Algae	Estimated	72 hours	EC10	0.02 mg/l
Phenyl Isocyanate	Trade Secret	Medaka	Estimated	28 days	NOEC	4.61 mg/l
Phenyl Isocyanate	Trade Secret	Water flea	Estimated	21 days	NOEC	0.004 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Urethane Prepolymer NJTSRN 04499600-6306	Trade Secret	Data not availbl-insufficient			N/A	
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	<2 hours (t 1/2)	Non-standard method
Polymethylene Polyphenylene Isocyanate	9016-87-9	Analogous Compound Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
Polymethylene Polyphenylene Isocyanate	9016-87-9	Analogous Compound Aquatic Inherent Biodegrad.	28 days	Biological Oxygen Demand	0 % BOD/ThBOD	OECD 302C - Modified MITI (II)
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Data not availbl-insufficient			N/A	
Dimethyl Siloxane, Reaction Product With Silica	67762-90-7	Data not availbl-insufficient			N/A	
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental Photolysis		Photolytic half-life (in air)	31 days (t 1/2)	Non-standard method
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental Hydrolysis		Hydrolytic half-life	69.3-144 hours (t 1/2)	Non-standard method
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental Biodegradation	28 days	Carbon dioxide evolution	3.7 % weight	OECD 310 CO2 Headspace
Phenyl Isocyanate	Trade Secret	Experimental Hydrolysis		Hydrolytic half-life	21 seconds (t 1/2)	Non-standard method
Phenyl Isocyanate	Trade Secret	Estimated Biodegradation	26 days	Carbon dioxide evolution	90 % weight	OECD 301B - Mod. Sturm or CO2

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Urethane Prepolymer NJTSRN 04499600-6306	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polymethylene Polyphenylene Isocyanate	9016-87-9	Analogous Compound BCF-Carp	28 days	Bioaccumulation Factor	200	OECD305-Bioconcentration
Polymethylene Polyphenylene Isocyanate	9016-87-9	Analogous Compound Bioconcentration		Log of Octanol/H2O part. coeff	4.51	
1,1'-Methylenebis(Isocyanatobenzene)	26447-40-5	Estimated BCF-Carp	28 days	Bioaccumulation Factor	200	Non-standard method
Dimethyl Siloxane, Reaction Product With Silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
OCTAMETHYLCYCLOTETRASILOXANE	556-67-2	Experimental BCF - Fathead Minnow	28 days	Bioaccumulation Factor	12400	Non-standard method
Phenyl Isocyanate	Trade Secret	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	0.9	Non-standard method

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Not hazardous for transportation.

Marine Transport (IMDG)

UN Number: None assigned.

Proper Shipping Name: None assigned.
Technical Name: None assigned.
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: None assigned.
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
None assigned.

Air Transport (IATA)

UN Number: None assigned.
Proper Shipping Name: None assigned.
Technical Name: None assigned.
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: None assigned.
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
None assigned.

Transportation classifications are provided as a customer service. As for shipping, 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 above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the chemical notification requirements of TSCA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

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