Safety Data Sheet

Document group:	39-5140-7	**Version number:**	1.00
Issue Date:	31/01/2020	**Supersedes date:**	Initial issue.

This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier
3M™ Dyneon™ Fluoroelastomer FT 2350

Product Identification Numbers
98-0211-1732-4

1.2. Recommended use and restrictions on use

Recommended use
Fluoroelastomer

1.3. Supplier's details

Address:	3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone:	080-45543000, contact Product EHS team
E Mail:	productehs.in@mmm.com
Website:	http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 2A
Reproductive Toxicity: Category 1B.

2.2. Label elements
Signal Word
DANGER!

Symbols
Exclamation mark | Health Hazard |

Pictograms

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P280E	Wear protective gloves.

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.

2.3. Other hazards

May cause thermal burns. 3M Vapours liberated during processing may be hazardous if inhaled. Eye, nose, throat and lung irritation can occur from such vapours.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
HFP/VDF/TFE Polymer	25190-89-0	90 - 99
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	75768-65-9	0.1 - 2
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	0.01 - 2
Bis(4-chlorophenyl) sulphone	80-07-9	0.1 - 1
Silicon dioxide	7631-86-9	< 1
Tetrahydrothiophene-1,1-dioxide	126-33-0	< 1

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 flush skin with large amounts of cold water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Cover affected area with a clean dressing. Get immediate medical attention.

Eye contact
Immediately flush eyes with large amounts of water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate medical attention.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
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
Exposure to extreme heat can give rise to thermal decomposition.

5.3. Special protective actions for fire-fighters
When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus,tunic and trousers (leggings),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. 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.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. 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
Avoid skin contact with hot material. Store work clothes separately from other clothing, food and tobacco products. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/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. No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of hazardous decomposition products. Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

8.2. Exposure controls

8.2.1. Engineering controls
For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. 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/vapours/spray. If ventilation is not adequate, use respiratory protection equipment. Local exhaust required above 400 C.

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:
Full face shield.
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.

f 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: Neoprene apron.

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:
During heating:

> Use a positive pressure supplied-air respirator if there is a potential for over exposure from an uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Solid block or slab
Color	Straw, White
Odor	Odourless
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point: NA	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	No flash point
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapour density	*Not applicable.*
Density	1.8 g/cm3
Relative density	1.8 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	*Not applicable.*
Molecular weight	*No data available.*
Volatile organic compounds (VOC)	*No data available.*

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 polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
Aluminium or magnesium powder and high/shear temperature conditions.

10.6 Hazardous decomposition products

Substance	Condition
Carbon monoxide.	At elevated temperatures.
Carbon dioxide.	At elevated temperatures.
Hydrogen Fluoride	At elevated temperatures.
Perfluoroisobutylene (PFIB).	At elevated temperatures.

Oxides of sulphur.	At elevated temperatures.
Toxic vapour, gas, particulate.	At elevated temperatures.

If the product is exposed to extreme conditions of heat from misuse or equipment failure, toxic decomposition products that include hydrogen fluoride and perfluoroisobutylene can occur.

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 labelling, 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.
During heating:
Polymer fume fever: Sign/symptoms may include chest pain or tightness, shortness of breath, cough, malaise, muscle aches, increased heart rate, fever, chills, sweats, nausea and headache.
May cause additional health effects (see below).

Skin contact
During heating:
Thermal burns: Signs/symptoms may include intense pain, redness and swelling, and tissue destruction.

Eye contact
During heating:
Thermal burns: Signs/symptoms may include severe pain, redness and swelling, and tissue destruction.
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 diarrhoea.
May cause additional health effects (see below).

Additional Health Effects:

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

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	Ingestion		No data available; calculated ATE >5,000 mg/kg

HFP/VDF/TFE Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
HFP/VDF/TFE Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Dermal	Rat	LD50 > 2,000 mg/kg
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Rat	LD50 > 2,000 mg/kg
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Rat	LD50 > 2,000 mg/kg
Bis(4-chlorophenyl) sulphone	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Bis(4-chlorophenyl) sulphone	Ingestion	Rat	LD50 4,810 mg/kg
Tetrahydrothiophene-1,1-dioxide	Dermal	Rabbit	LD50 4,897 mg/kg
Tetrahydrothiophene-1,1-dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 12 mg/l
Tetrahydrothiophene-1,1-dioxide	Ingestion	Rat	LD50 1,846 mg/kg
Silicon dioxide	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silicon dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silicon dioxide	Ingestion	Rat	LD50 > 5,110 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
HFP/VDF/TFE Polymer	Rabbit	No significant irritation
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Rabbit	No significant irritation
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Rabbit	No significant irritation
Bis(4-chlorophenyl) sulphone	Rabbit	Minimal irritation
Tetrahydrothiophene-1,1-dioxide	Rabbit	Minimal irritation
Silicon dioxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
HFP/VDF/TFE Polymer	Professional judgement	No significant irritation
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Rabbit	Corrosive
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Rabbit	Mild irritant
Bis(4-chlorophenyl) sulphone	Rabbit	Severe irritant
Tetrahydrothiophene-1,1-dioxide	Rabbit	Moderate irritant
Silicon dioxide	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
HFP/VDF/TFE Polymer	Guinea pig	Not classified
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Guinea pig	Not classified
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Guinea pig	Not classified
Tetrahydrothiophene-1,1-dioxide	Guinea pig	Not classified
Silicon dioxide	Human and animal	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	In Vitro	Not mutagenic
Bis(4-chlorophenyl) sulphone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Tetrahydrothiophene-1,1-dioxide	In Vitro	Not mutagenic
Silicon dioxide	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Bis(4-chlorophenyl) sulphone	Ingestion	Multiple animal species	Not carcinogenic
Silicon dioxide	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
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	premating into lactation
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Toxic to female reproduction	Rat	NOAEL 30 mg/kg/day	premating into lactation
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Toxic to male reproduction	Rat	NOAEL 30 mg/kg/day	55 days
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	premating into lactation
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Toxic to female reproduction	Rat	LOAEL 30 mg/kg/day	premating into lactation
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Toxic to male reproduction	Rat	LOAEL 30 mg/kg/day	55 days
Tetrahydrothiophene-1,1-dioxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 700 mg/kg/day	14 days
Tetrahydrothiophene-1,1-dioxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 200 mg/kg/day	premating & during gestation
Tetrahydrothiophene-1,1-dioxide	Ingestion	Toxic to development	Rat	NOAEL 60 mg/kg/day	premating & during gestation
Silicon dioxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silicon dioxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silicon dioxide	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	heart | endocrine system | gastrointestinal tract | hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	28 days
Bis(4-chlorophenyl) sulphone	Ingestion	hematopoietic system | liver	Not classified	Rat	NOAEL 200 mg/kg/day	14 weeks
Bis(4-chlorophenyl) sulphone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 19 mg/kg/day	14 weeks
Bis(4-chlorophenyl) sulphone	Ingestion	nervous system	Not classified	Rat	NOAEL 200 mg/kg/day	14 weeks
Tetrahydrothiophene-1,1-dioxide	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	LOAEL 0.5 mg/l	27 days
Tetrahydrothiophene-1,1-dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 0.02 mg/l	90 days
Tetrahydrothiophene-1,1-dioxide	Inhalation	liver	Not classified	Monkey	LOAEL 0.5 mg/l	27 days
Tetrahydrothiophene-1,1-dioxide	Inhalation	blood	Not classified	Guinea pig	NOAEL 0.16 mg/l	90 days
Tetrahydrothiophene-1,1-dioxide	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 700 mg/kg/day	28 days
Tetrahydrothiophene-1,1-dioxide	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 60 mg/kg/day	28 days
Silicon dioxide	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure

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 labelling, 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. Aquatic toxicity classifications based on the results from a leachate study conducted per methodology allowed for in Annex 10 of UN GHS.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria. Aquatic toxicity classifications based on the results from a leachate study conducted per methodology allowed for in Annex 10 of UN GHS.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
HFP/VDF/TFE Polymer	25190-89-0		Laboratory		LC50	>100 mg/l
HFP/VDF/TFE Polymer	25190-89-0		Data not available or insufficient for classification			
HFP/VDF/TFE Polymer	25190-89-0		Laboratory		NOEC	>100 mg/l
Benzyltripheny lphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethy l)ethylidene]bis [phenol] (1:1)	75768-65-9	Rainbow trout	Estimated	96 hours	LC50	<1 mg/l
Benzyltripheny lphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethy l)ethylidene]bis [phenol] (1:1)	75768-65-9	Water flea	Estimated	48 hours	EC50	3.2 mg/l
4,4'-[2,2,2-Trifluoro-1-(trifluoromethy l)ethylidene]di phenol	1478-61-1		Experimental	72 hours	EC50	0.45 mg/l
4,4'-[2,2,2-Trifluoro-1-(trifluoromethy l)ethylidene]di phenol	1478-61-1	Water flea	Experimental	48 hours	EC50	2.7 mg/l
4,4'-[2,2,2-Trifluoro-1-(trifluoromethy l)ethylidene]di phenol	1478-61-1		Experimental	72 hours	NOEC	0.0087 mg/l
4,4'-[2,2,2-Trifluoro-1-(trifluoromethy l)ethylidene]di phenol	1478-61-1	Water flea	Experimental	21 days	NOEC	0.23 mg/l
4,4'-[2,2,2-Trifluoro-1-(trifluoromethy l)ethylidene]di phenol	1478-61-1	Zebra Fish	Experimental	96 hours	NOEC	0.05 mg/l

Bis(4-chlorophenyl) sulphone	80-07-9	Green Algae	Endpoint not reached	72 hours	EC50	>100 mg/l
Bis(4-chlorophenyl) sulphone	80-07-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
Bis(4-chlorophenyl) sulphone	80-07-9	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Bis(4-chlorophenyl) sulphone	80-07-9	Green algae	Experimental	72 hours	NOEC	0.28 mg/l
Bis(4-chlorophenyl) sulphone	80-07-9	Water flea	Experimental	21 days	NOEC	0.32 mg/l
Silicon dioxide	7631-86-9		Data not available or insufficient for classification			
Tetrahydrothiophene-1,1-dioxide	126-33-0	Green Algae	Experimental	72 hours	EC50	>1,000 mg/l
Tetrahydrothiophene-1,1-dioxide	126-33-0	Ricefish	Experimental	96 hours	LC50	>100 mg/l
Tetrahydrothiophene-1,1-dioxide	126-33-0	Water flea	Experimental	48 hours	EC50	40 mg/l
Tetrahydrothiophene-1,1-dioxide	126-33-0	Green Algae	Experimental	72 hours	NOEC	310 mg/l
Tetrahydrothiophene-1,1-dioxide	126-33-0	Water flea	Experimental	21 days	NOEC	25 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
HFP/VDF/TFE Polymer	25190-89-0	Data not available-insufficient			N/A	
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	75768-65-9	Estimated Biodegradation	28 days	BOD	0.67 % BOD/ThBOD	OECD 301C - MITI test (I)
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Estimated Photolysis		Photolytic half-life (in air)	4.8 hours (t 1/2)	Other methods
4,4'-[2,2,2-	1478-61-1	Experimental	28 days	CO2 evolution	0 %CO2	OECD 301B - Modified

Trifluoro-1-(trifluoromethyl)ethylidene]diphenol		Biodegradation			evolution/THCO2 evolution	sturm or CO2
Bis(4-chlorophenyl) sulphone	80-07-9	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)
Silicon dioxide	7631-86-9	Data not available-insufficient			N/A	
Tetrahydrothiophene-1,1-dioxide	126-33-0	Experimental Biodegradation	14 days	BOD	10.1 % BOD/ThBOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
HFP/VDF/TFE Polymer	25190-89-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	75768-65-9	Experimental Bioconcentration		Log Kow	2.6	Other methods
4,4'-[2,2,2-Trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Experimental BCF - Other	168 hours	Bioaccumulation factor	9.8	OECD 305E - Bioaccumulation flow-through fish test
Bis(4-chlorophenyl) sulphone	80-07-9	Experimental BCF-Carp	35 days	Bioaccumulation factor	82	OECD 305E - Bioaccumulation flow-through fish test
Silicon dioxide	7631-86-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Tetrahydrothiophene-1,1-dioxide	126-33-0	Experimental BCF-Carp	42 days	Bioaccumulation factor	<13	Other methods

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

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include HF. Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA)Regulations
UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable

Marine Transport (IMDG)
UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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 product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Applicable Environmental, Health and Safety Regulations
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification
Health: 3 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

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

Revision information:
No revision 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 India SDSs are available at http://solutions.3mindia.co.in