



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M™ Dyneon™ Fluoroelastomer FC 2176Z

Product Identification Numbers

ZF-0002-0910-4 ZF-0002-1196-9

7000117258 7000117268

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Fluoroelastomer

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
 Reproductive Toxicity, Category 1B - Repr. 1B; H360FD
 Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements

The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD

DANGER.

Symbols

GHS07 (Exclamation mark) | GHS08 (Health Hazard) |

Pictograms



Ingredient	CAS Nbr	EC No.	% by Wt
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	216-036-7	< 3

HAZARD STATEMENTS:

H319 Causes serious eye irritation.
 H360FD May damage fertility. May damage the unborn child.

PRECAUTIONARY STATEMENTS

Prevention:

P201 Obtain special instructions before use.
 P280K Wear protective gloves and respiratory protection.

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.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:

Firefighting instructions: Does not burn without external flame. Wear self-contained breathing apparatus and protection from acidic hydrogen fluoride. Vapours liberated during processing may be hazardous if inhaled. Eye, nose, throat and lung irritation can occur from such vapours. Restricted to professional users. Avoid contamination of tobacco with polymer resin. Before using, read the most current Safety Data Sheet.

Notes on labelling

The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain, Annex I, Section 1.3.4: Metals in massive form, alloys, mixtures containing polymers and mixtures containing elastomers do not require a label if they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market, although classified as hazardous in accordance with criteria of Annex I of GB CLP. Based on available data, the environmental classification does not need to be applied to the label.

2.3. Other hazards

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

This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB
Vinylidene Fluoride - Hexafluoropropylene Polymer	(CAS-No.) 9011-17-0	95 - 99	Substance not classified as hazardous
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	(CAS-No.) 1478-61-1 (EC-No.) 216-036-7	< 3	Eye Dam. 1, H318 Repr. 1B, H360FD STOT RE 2, H373 Aquatic Chronic 1, H410,M=1
Bis(4-chlorophenyl) sulphone	(CAS-No.) 80-07-9 (EC-No.) 201-247-9	< 1	Aquatic Chronic 2, H411 Eye Irrit. 2, H319
Benzyltriphenylphosphonium chloride	(CAS-No.) 1100-88-5 (EC-No.) 214-154-3	< 1	Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1 Acute Tox. 3, H301 Eye Dam. 1, H318

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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

The most important symptoms and effects based on the GB CLP classification include:
Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision).

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. 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. Advice 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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, 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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid inhalation of thermal decomposition products. 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.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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.

Biological limit values

No biological 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:

Safety glasses with side shields.

Indirect vented goggles.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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:

Material	Thickness (mm)	Breakthrough Time
Nitrile rubber.	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

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 – 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:

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied-air respirator.

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.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

Thermal hazards

Wear heat insulating gloves, indirect vented goggles, and a full face shield when handling hot material to prevent thermal burns.

Applicable Norms/Standards

Use gloves tested to EN 407

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
Colour	Straw, White
Odor	Odourless
Odour threshold	<i>No data available.</i>
Melting point/freezing point	<i>Not applicable.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Flash point	No flash point
Autoignition temperature	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
pH	<i>substance/mixture is non-soluble (in water)</i>
Kinematic Viscosity	<i>Not applicable.</i>
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Vapour pressure	<i>Not applicable.</i>
Density	1.8 g/cm ³
Relative density	1.8 [Ref Std: WATER=1]
Relative Vapour Density	<i>Not applicable.</i>

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Molecular weight	<i>No data available.</i>

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

<u>Substance</u>	<u>Condition</u>
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 agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1. Information on hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

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.

Skin contact

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

Eye contact

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
Vinylidene Fluoride - Hexafluoropropylene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Vinylidene Fluoride - Hexafluoropropylene Polymer	Ingestion	Rat	LD50 6,000 mg/kg
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Dermal	Rat	LD50 > 2,000 mg/kg
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Rat	LD50 > 2,000 mg/kg
Bis(4-chlorophenyl) sulphone	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Bis(4-chlorophenyl) sulphone	Ingestion	Rat	LD50 4,810 mg/kg
Benzyltriphenylphosphonium chloride	Ingestion	Rat	LD50 >100, <300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Vinylidene Fluoride - Hexafluoropropylene Polymer	Rabbit	No significant irritation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Rabbit	No significant irritation
Bis(4-chlorophenyl) sulphone	Rabbit	Minimal irritation
Benzyltriphenylphosphonium chloride	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Vinylidene Fluoride - Hexafluoropropylene Polymer	Rabbit	Mild irritant
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Rabbit	Corrosive
Bis(4-chlorophenyl) sulphone	Rabbit	Severe irritant
Benzyltriphenylphosphonium chloride	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Guinea pig	Not classified
Bis(4-chlorophenyl) sulphone	Mouse	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	In vivo	Not mutagenic
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	In Vitro	Some positive data exist, but the data are not sufficient for classification
Bis(4-chlorophenyl) sulphone	In Vitro	Not mutagenic
Bis(4-chlorophenyl) sulphone	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Bis(4-chlorophenyl) sulphone	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Toxic to female reproduction	Rat	LOAEL 338 ppm in the diet	2 generation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Toxic to male reproduction	Rat	LOAEL 338 ppm in the diet	2 generation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Toxic to development	Rat	LOAEL 338 ppm in the diet	2 generation
Bis(4-chlorophenyl) sulphone	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	42 days
Bis(4-chlorophenyl) sulphone	Ingestion	Not classified for male reproduction	Rat	NOAEL 50 mg/kg/day	premating into lactation
Bis(4-chlorophenyl) sulphone	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	premating into lactation

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]bis[phenol]	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Bis(4-chlorophenyl) sulphone	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
Vinylidene Fluoride - Hexafluoropropylene Polymer	Ingestion	liver	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 weeks
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	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 immune system	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	heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair muscles nervous system respiratory	Not classified	Rat	NOAEL 200 mg/kg/day	14 weeks

		system vascular system				
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Aspiration Hazard

For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

CLP Acute 1 & Chronic 1 or 2 : Toxic to aquatic life with long lasting effects. Aquatic testing on the mixture was conducted with the following results: Actual loading for 48h-EC50 *Daphnia magna* and 72h-EC50 for *Pseudokirchneriella subcapitata* between 1000 & 6000 mg/l. Conditions of exposure of the test medium to the elastomer formulation were considered worst case because: (1) Extractable solids were present in the fluoroelastomer formulation at the highest possible concentrations, (2) Only a small fraction of the extractable solids (< 1%) leached out of the elastomer, and (3) Effects were induced on these freshwater species only when the loading tested exceeded the regulatory value of 100 mg/l.

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Vinylidene Fluoride - Hexafluoropropylene Polymer	9011-17-0	N/A	Data not available or insufficient for classification	N/A	N/A	n/a
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Green algae	Experimental	72 hours	ErC50	>0.808 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Water flea	Experimental	48 hours	EC50	2.7 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Green algae	Experimental	72 hours	NOEC	0.0522 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Water flea	Experimental	21 days	NOEC	0.23 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Zebra Fish	Experimental	28 days	NOEC	0.05 mg/l

4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Activated sludge	Experimental	3 hours	EC50	126.8
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	Activated sludge	Experimental	3 hours	EC10	>1,000 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
Benzyltriphenylphosphonium chloride	1100-88-5	Green algae	Experimental	72 hours	EC50	0.59 mg/l
Benzyltriphenylphosphonium chloride	1100-88-5	Water flea	Experimental	48 hours	EC50	1 mg/l
Benzyltriphenylphosphonium chloride	1100-88-5	Green algae	Experimental	72 hours	EC10	0.25 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Vinylidene Fluoride - Hexafluoropropylene Polymer	9011-17-0	Data not available - insufficient	N/A	N/A	N/A	N/A
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THCO2 evolution	OECD 301B - Modified Sturm or CO2
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Estimated Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	EC C.7 Hydrolysis at pH
Bis(4-chlorophenyl) sulphone	80-07-9	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Benzyltriphenylphosphonium chloride	1100-88-5	Experimental Biodegradation	28 days	BOD	0-1 %BOD/ThOD	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Vinylidene Fluoride - Hexafluoropropylene Polymer	9011-17-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Experimental BCF - Other	168 hours	Bioaccumulation factor	9.0	OECD305-Bioconcentration

4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Experimental Bioconcentration		Log Kow	2.79	EC A.8 Partition Coefficient
Bis(4-chlorophenyl) sulphone	80-07-9	Experimental BCF - Fish	35 days	Bioaccumulation factor	82	OECD305-Bioconcentration
Benzyltriphenylphosphonium chloride	1100-88-5	Experimental Bioconcentration		Log Kow	-0.7	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	Experimental Mobility in Soil	Koc	2,290 l/kg	EC C.19 Estim. of Koc by HPLC
Bis(4-chlorophenyl) sulphone	80-07-9	Estimated Mobility in Soil	Koc	2,900 l/kg	Episuite™

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product 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. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

070214* Wastes from additives containing dangerous substances

SECTION 14: Transportation information

Not hazardous for transportation.

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
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14.1 UN number	No data available.	No data available.	No data available.
14.2 UN proper shipping name	No data available.	No data available.	No data available.
14.3 Transport hazard class(es)	No data available.	No data available.	No data available.
14.4 Packing group	No data available.	No data available.	No data available.
14.5 Environmental hazards	No data available.	No data available.	No data available.
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	No data available.	No data available.	No data available.
IMDG Segregation Code	No data available.	No data available.	No data available.

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

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.

COMAH Regulation, SI 2015/483

Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012, as amended for GB

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No

1907/2006, as amended for GB.

SECTION 16: Other information

List of relevant H statements

H301	Toxic if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360FD	May damage fertility. May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

GB Section 02: CLP Ingredient table information was added.
 GB Section 02: Other hazards phrase information was added.
 GB Section 04: First Aid - Symptoms and Effects (GB CLP) information was added.
 GB Section 04: Information on toxicological effects information was added.
 GB Section 12: Classification Warning information was added.
 GB Section 15: Chemical Safety Assessment information was added.
 GB Section 15: Label remarks and EU Detergent information was added.
 GBSDS Section 14 Transport in bulk - Main Heading information was added.
 GBSDS Section 14 UN Number information was added.
 CLP: Ingredient table information was deleted.
 CLP Remark(phrase) information was deleted.
 Label: CLP Classification information was modified.
 Label: CLP Precautionary - Prevention information was modified.
 Section 2: Other hazards phrase information was deleted.
 Section 3: Composition/ Information of ingredients table information was added.
 Section 3: Composition/ Information of ingredients table information was deleted.
 Section 04: Information on toxicological effects information was deleted.
 Section 5: Fire - Advice for fire fighters information information was modified.
 Section 8: Eye/face protection information information was modified.
 Section 8: glove data value information was modified.
 Section 8: Personal Protection - Respiratory Information information was modified.
 Section 8: Personal Protection - Skin/hand information information was modified.
 Section 8: Personal Protection - Thermal hazards information information was modified.
 Section 8: Skin protection - protective clothing information information was modified.
 Section 11: Acute Toxicity table information was modified.
 Section 11: Carcinogenicity Table information was added.
 Section 11: Carcinogenicity text information was deleted.
 Section 11: Classification disclaimer information was deleted.
 Section 11: GB Classification disclaimer information was added.
 Section 11: GB No endocrine disruptor information available warning information was added.
 Section 11: Germ Cell Mutagenicity Table information was modified.
 Section 11: No endocrine disruptor information available warning information was deleted.
 Section 11: Reproductive Toxicity Table information was modified.
 Section 11: Serious Eye Damage/Irritation Table information was modified.
 Section 11: Skin Corrosion/Irritation Table information was modified.
 Section 11: Skin Sensitization Table information was modified.
 Section 11: Target Organs - Repeated Table information was modified.
 Section 11: Target Organs - Single Table information was modified.
 Section 12: 12.6. Endocrine Disrupting Properties information was deleted.

Section 12: 12.6. Other adverse effects information was added.

Section 12: 12.7. Other adverse effects information was deleted.

Section 12: Classification Warning information was deleted.

Section 12: Component ecotoxicity information information was modified.

Section 12: Mobility in soil information information was modified.

Prints No Data if Adverse effects information is not present information was deleted.

Prints No Data if Material ecotoxicity information is not present information was added.

Section 12: No endocrine disruptor information available warning information was added.

Section 12: No endocrine disruptor information available warning information was deleted.

Section 12: Persistence and Degradability information information was modified.

Section 12: Biocumulative potential information information was modified.

Section 13: Standard Phrase Category Waste GHS information was modified.

Section 14 Marine transport in bulk according to IMO instruments – Main Heading information was deleted.

Section 14 UN Number information was deleted.

Section 15: Chemical Safety Assessment information was deleted.

Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was added.

Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was deleted.

Section 16: Web address information was added.

Section 16: Web address information was deleted.

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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

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For Northern Ireland documents, please contact your 3M representative to obtain a copy.