



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

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

1.1. Product identifier

3M™ Dyneon™ Fluoroelastomer FG 5630Q

Product Identification Numbers

98-0211-7900-1 ZF-0002-0878-3

7100058118 7000117255

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

CLP REGULATION (EC) No 1272/2008

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
Skin Sensitization, Category 1A - Skin Sens. 1A; H317
Reproductive Toxicity, Category 1B - Repr. 1B; H360F
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols

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

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	216-036-7	< 3
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	469-080-6	0.1 - 3

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H360F	May damage fertility.

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.
P333 + P313	If skin irritation or rash occurs: 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

Regulation 1272/2008, 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 the 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]
Vinylidene fluoride-hexafluoropropylene polymer	(CAS-No.) 9011-17-0	95 - 99	Substance not classified as hazardous
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	(CAS-No.) 921213-47-0 (EC-No.) ELINCS 469-080-6 (REACH-No.) 01-0000019686-57	0.1 - 3	Eye Irrit. 2, H319 Skin Sens. 1A, H317 Aquatic Acute 1, H400,M=10 Aquatic Chronic 1, H410,M=10
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	(CAS-No.) 1478-61-1 (EC-No.) 216-036-7	< 3	Eye Dam. 1, H318 Repr. 1B, H360F STOT RE 2, H373 Aquatic Chronic 1, H410,M=1

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 CLP classification include:

Allergic skin reaction (redness, swelling, blistering, and itching). 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. In

case of fire: Use a fire fighting agent suitable for water-reactives such as dry chemical 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. 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**

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	CAS Nbr	Agency	Limit type	Additional comments
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Manufacturer determined	TWA(inhalable fraction)(8 hours):10 mg/m3	Dermal Sensitizer

UK HSC : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures:Information on recommended monitoring procedures can be obtained from UK HSC

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.

Applicable Norms/Standards

Use eye/face 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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	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 - polymer laminate

Respiratory protection

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.

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 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 type P

Thermal hazards

Wear heat insulating gloves 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/cm3

Relative density	1.8 [Ref Std: WATER=1]
Relative Vapour Density	Not applicable.

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	No data available.
Evaporation rate	No data available.
Molecular weight	No data available.
Percent volatile	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

<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 EU 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 internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

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
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	Dermal	Rat	LD50 > 2,000 mg/kg
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	Ingestion	Rat	LD50 > 2,000 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Vinylidene fluoride-hexafluoropropylene polymer	Rabbit	No significant irritation
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	Rabbit	No significant irritation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Vinylidene fluoride-hexafluoropropylene polymer	Rabbit	Mild irritant
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products	Rabbit	Severe irritant

with benzene, chlorine and sulphur chloride (S2Cl2)		
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	Mouse	Sensitising
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Guinea pig	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
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	In Vitro	Some positive data exist, but the data are not sufficient for classification
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	Ingestion	Not classified for reproduction and/or development	Rat	NOAEL 150 mg/kg/day	28 days
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	prematuring into lactation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Toxic to female reproduction	Rat	LOAEL 30 mg/kg/day	prematuring into lactation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	Ingestion	Toxic to male reproduction	Rat	LOAEL 30 mg/kg/day	55 days

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
Vinylidene fluoride-hexafluoropropylene polymer	Ingestion	liver	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 weeks
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	Ingestion	endocrine system liver kidney and/or bladder auditory system heart bone, teeth, nails, and/or hair bone	Not classified	Rat	NOAEL 150 mg/kg/day	28 days

		marrow hematopoietic system immune system nervous system respiratory system vascular system				
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

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 EU 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.

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]diphenol	1478-61-1	Green algae	Experimental	72 hours	ErC50	>0.808 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Water flea	Experimental	48 hours	EC50	2.7 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Green algae	Experimental	72 hours	NOEC	0.0522 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Water flea	Experimental	21 days	NOEC	0.23 mg/l
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Zebra Fish	Experimental	28 days	NOEC	0.05 mg/l

4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Activated sludge	Experimental	3 hours	EC50	126.8
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Green algae	Analogous Compound	96 hours	ErC50	0.18 mg/l
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Water flea	Analogous Compound	48 hours	EC50	0.088 mg/l
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Zebra Fish	Analogous Compound	96 hours	LC50	>1.5 mg/l
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Green algae	Analogous Compound	96 hours	NOEC	0.12 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 or insufficient	N/A	N/A	N/A	N/A
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Experimental Biodegradation	28 days	CO2 evolution	0 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Estimated Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	EC C.7 Hydrolysis at pH
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Analogous Compound Biodegradation	28 days	CO2 evolution	<=14 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	

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]diphenol	1478-61-1	Experimental BCF - Other	168 hours	Bioaccumulation factor	9.0	OECD305-Bioconcentration

4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Experimental Bioconcentration		Log Kow	2.79	EC A.8 Partition Coefficient
Phenol, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis-, reaction products with benzene, chlorine and sulphur chloride (S2Cl2)	921213-47-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	1478-61-1	Experimental Mobility in Soil	Koc	2,290 l/kg	EC C.19 Estim. of Koc by HPLC

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. Endocrine disrupting properties

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

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment 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.

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)

14.1 UN number or ID 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 Marine Transport in bulk according to IMO instruments	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.

DIRECTIVE 2012/18/EU

Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements

E2 Hazardous to the Aquatic environment	200	500
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Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360F	May damage fertility.
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.

Revision information:

EU Section 09: pH information information was added.
Section 1: Product identification numbers information was modified.
Section 01: SAP Material Numbers information was modified.
Label: CLP Classification information was modified.
Label: CLP Precautionary - Response information was modified.
Label: CLP Supplemental Precautionary Statements information was deleted.
Section 02: SDS Elements: CLP Supplemental Precautionary Statements information was added.
Section 03: Composition table % Column heading information was added.
Section 3: Composition/ Information of ingredients table information was modified.
Section 03: Substance not applicable information was added.
Section 04: First Aid - Symptoms and Effects (CLP) information was added.
Section 04: Information on toxicological effects information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was added.
Section 8: Personal Protection - Respiratory Information information was modified.
Section 8: Personal Protection - Thermal hazards information information was modified.
Section 8: STEL key information was added.
Section 8: TWA key information was added.
Section 9: Evaporation Rate information information was deleted.
Section 9: Explosive properties information information was deleted.
Section 09: Kinematic Viscosity information information was added.
Section 9: Melting point information information was modified.
Section 9: Oxidising properties information information was deleted.
Section 9: pH information information was deleted.
Section 9: Property description for optional properties information was modified.

Section 9: Vapour density value information was added.
Section 9: Vapour density value information was deleted.
Section 9: Viscosity information information was deleted.
Section 11: Classification disclaimer information was modified.
Section 11: Health Effects - Eye information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: No endocrine disruptor information available warning information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Target Organs - Repeated Table information was added.
Section 11: Target Organs - Repeated Table information was deleted.
Section 12: 12.6. Endocrine Disrupting Properties information was added.
Section 12: 12.7. Other adverse effects information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Contact manufacturer for more detail. information was deleted.
Section 12: Mobility in soil information information was added.
Section 12: No endocrine disruptor information available warning information was added.
Section 12: Persistence and Degradability information information was modified.
Section 12: Biocumulative potential information information was modified.
Section 14 Classification Code – Main Heading information was added.
Section 14 Classification Code – Regulation Data information was added.
Section 14 Control Temperature – Main Heading information was added.
Section 14 Control Temperature – Regulation Data information was added.
Section 14 Disclaimer Information information was added.
Section 14 Emergency Temperature – Main Heading information was added.
Section 14 Emergency Temperature – Regulation Data information was added.
Section 14 Hazard Class + Sub Risk – Main Heading information was added.
Section 14 Hazard Class + Sub Risk – Regulation Data information was added.
Section 14 Hazardous/Not Hazardous for Transportation information was added.
Section 14 Other Dangerous Goods – Main Heading information was added.
Section 14 Other Dangerous Goods – Regulation Data information was added.
Section 14 Packing Group – Main Heading information was added.
Section 14 Packing Group – Regulation Data information was added.
Section 14 Proper Shipping Name information was added.
Section 14 Regulations – Main Headings information was added.
Section 14 Segregation – Regulation Data information was added.
Section 14 Segregation Code – Main Heading information was added.
Section 14 Special Precautions – Main Heading information was added.
Section 14 Special Precautions – Regulation Data information was added.
Section 14 Transport in bulk – Regulation Data information was added.
Section 14 Marine transport in bulk according to IMO instruments – Main Heading information was added.
Section 14 UN Number Column data information was added.
Section 14 UN Number information was added.
Section 15: Chemical Safety Assessment information was modified.
Section 15: Regulations - Inventories information was added.
Section 15: Seveso Hazard Category Text information was added.
Section 2: No PBT/vPvB information available warning information was added.

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