



## Safety Data Sheet

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<b>Document group:</b>	35-8075-0	<b>Version number:</b>	1.01
<b>Issue Date:</b>	17/11/2023	<b>Supersedes date:</b>	17/10/2016

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™ Novec™ 73DE Engineered Fluid

#### Product Identification Numbers

98-0212-4901-0      98-0212-4902-8      98-0212-4903-6      98-0212-4909-3

#### 1.2. Recommended use and restrictions on use

##### Recommended use

For Industrial Use Only. See Limitations on Use for supplemental information on intended applications including Medical Device applications.

##### Restrictions on use

Novec™ Engineered Fluids are used in a wide variety of applications including but not limited to precision cleaning of medical devices and as lubricant deposition solvents for medical devices. When the product is used for applications where the finished device is implanted into the human body, no residual Novec™ solvent may remain on the parts. It is highly recommended that the supporting test results and protocol be cited during FDA registration. 3M Electronics Materials Solutions Division (EMSD) will not knowingly sample, support, or sell its products for incorporation in medical and pharmaceutical products and applications in which the 3M product will be temporarily or permanently implanted into humans or animals. The customer is responsible for evaluating and determining that a 3M EMSD product is suitable and appropriate for its particular use and intended application. The conditions of evaluation, selection, and use of a 3M product can vary widely and affect the use and intended application of a 3M product. Because many of these conditions are uniquely within the user's knowledge and control, it is essential that the user evaluate and determine whether the 3M product is suitable and appropriate for a particular use and intended application, and complies with all local applicable laws, regulations, standards, and guidance. Novec™ Engineered Fluids are used in a wide variety of applications including but not limited to precision cleaning of medical devices and as lubricant deposition solvents for medical devices. When the product is used for applications where the finished device is implanted into the human body, no residual Novec™ solvent may remain on the parts. It is highly recommended that the supporting test results and protocol be cited during FDA registration.

#### 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 2B.

Specific Target Organ Toxicity (single exposure): Category 3.

Acute Aquatic Toxicity: Category 3.

Chronic Aquatic Toxicity: Category 3.

### 2.2. Label elements

#### Signal Word

Warning

#### Symbols

Exclamation mark |

#### Pictograms



#### HAZARD STATEMENTS:

H320

Causes eye irritation.

H336

May cause drowsiness or dizziness.

H412

Harmful to aquatic life with long lasting effects.

#### PRECAUTIONARY STATEMENTS

#### Prevention:

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

### 2.3. Other hazards

In use, may form flammable/explosive vapour-air mixture.

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
1,2-Trans-Dichloroethylene	156-60-5	60 - 90
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	132182-92-4	10 - 40

## 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**

Wash with soap and water. If you feel unwell, get medical attention.

**Eye contact**

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If swallowed**

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

**4.2. Most important symptoms and effects, both acute and delayed**

Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness).

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

Not applicable

**SECTION 5: Fire-fighting measures**

**5.1. Suitable Extinguishing media**

Use a fire fighting agent suitable for the surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

Exposure to extreme heat can give rise to thermal decomposition. Material displays no closed-cup flash point but may form flammable/explosive vapor air mixture.

**Hazardous Decomposition or By-Products**

**Substance**

Carbon monoxide.

Carbon dioxide.

Hydrogen Chloride

Hydrogen Fluoride

**Condition**

During combustion.

During combustion.

During combustion.

During combustion.

**5.3. Special protective actions for fire-fighters**

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Keep away from sparks, flames, and extreme heat. Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

**6.2. Environmental precautions**

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

**6.3. Methods and material for containment and cleaning up**

Eliminate all potential ignition sources when cleaning up spill. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard.

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. 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

Contents may be under pressure, open carefully. Avoid inhalation of thermal decomposition products. For industrial/occupational use only. Not for consumer sale or use. Store work clothes separately from other clothing, food and tobacco products. Avoid breathing 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. Avoid release to the environment. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) 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. Keep away from sparks, flames, and extreme heat.

### 7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Store at temperatures not exceeding 38C/100F Store away from strong bases. Store away from oxidising agents.

## 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
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl)pentane	132182-92-4	Manufacturer determined	TWA(8 hours):100 ppm	
1,2-Trans-Dichloroethylene	156-60-5	ACGIH	TWA:200 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

### 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. Provide ventilation adequate to maintain vapor concentration below lower explosive concentration. EUH018\_SUPP Provide ventilation adequate to maintain vapor concentration below lower explosive concentration.

#### 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.

#### Skin/hand protection

Chemical protective gloves are not required under normal use conditions. However, when the product is subjected to extreme heat, HF may be formed. For those cases, neoprene gloves and apron are recommended.

#### 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

Organic vapor respirators may have short service life.

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Specific Physical Form:</b>	Liquid.
<b>Color</b>	Colorless
<b>Odor</b>	Slight Odor
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Melting point/Freezing point: NA</b>	<i>Not applicable.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	47.6 °C
<b>Flash point</b>	No flash point [ <i>Details: Tested according to ASTM Method D-3278-96 e-1 (additionally, not flammable below 250 C per KS M ISO 2592)</i> ]
<b>Evaporation rate</b>	<i>No data available.</i>
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	7.5 % volume [ <i>Details: Tested according to ASTM Method E681-15 (Per Annex A1, closed vessel test method for difficult-to-ignite materials)</i> ]
<b>Flammable Limits(UEL)</b>	15 % volume [ <i>Details: Tested according to ASTM Method E681-15 (Per Annex A1, closed vessel test method for difficult-to-ignite materials)</i> ]
<b>Vapour pressure</b>	35,063.7 Pa [ <i>@ 20 °C</i> ]
<b>Vapor Density and/or Relative Vapor Density</b>	5.2
<b>Density</b>	1.2808 g/ml
<b>Relative density</b>	1.2808 [ <i>Ref Std: WATER=1</i> ]
<b>Water solubility</b>	< 10 ppm
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	427 °C
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity/Kinematic Viscosity</b>	0.384 mPa-s [ <i>@ 25 °C</i> ]
<b>Volatile organic compounds (VOC)</b>	1,281 g/l [ <i>Details: 40 CFR 51.100(s)</i> ]
<b>Percent volatile</b>	100 %
<b>VOC less H2O &amp; exempt solvents</b>	1,090 g/l [ <i>Details: 40 CFR 51.100(s)</i> ]

Molecular weight

*Not applicable.***SECTION 10: Stability and reactivity****10.1 Reactivity**

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

**10.2 Chemical stability**

Stable.

**10.3 Possibility of hazardous reactions**

Hazardous polymerisation will not occur.

**10.4 Conditions to avoid**

Sparks and/or flames.

**10.5 Incompatible materials**

Strong bases.

Strong oxidising agents.

**10.6 Hazardous decomposition products****Substance****Condition**

Carbon monoxide.

At elevated temperatures. - extreme conditions of heat

Carbon dioxide.

At elevated temperatures. - extreme conditions of heat

Hydrogen Chloride

At elevated temperatures. - extreme conditions of heat

Hydrogen Fluoride

At elevated temperatures. - extreme conditions of heat

Perfluoroisobutylene (PFIB).

At elevated temperatures. - extreme conditions of heat

Toxic vapour, gas, particulate.

At elevated temperatures. - extreme conditions of heat

Refer to section 5.2 for hazardous decomposition products during combustion.

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. May cause additional health effects (see below).

**Skin contact**

Contact with the skin during product use is not expected to result in significant irritation.

**Eye contact**

Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy 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:****Single exposure may cause target organ effects:**

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

**Toxicological Data**

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

**Acute Toxicity**

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor (4 hours)	Rat	LC50 > 22.1 mg/l
1,2-Trans-Dichloroethylene	Dermal	Rabbit	LD50 > 5,000 mg/kg
1,2-Trans-Dichloroethylene	Inhalation-Vapor (4 hours)	Rat	LC50 95.6 mg/l
1,2-Trans-Dichloroethylene	Ingestion	Rat	LD50 7,902 mg/kg
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Dermal	Rat	LD50 > 2,000 mg/kg
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Inhalation-Vapor (4 hours)	Rat	LC50 > 430 mg/l
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
1,2-Trans-Dichloroethylene	Rabbit	Minimal irritation
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
1,2-Trans-Dichloroethylene	Rabbit	Moderate irritant
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Rabbit	No significant irritation

**Sensitization:****Skin Sensitisation**

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Name	Species	Value
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Mouse	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
1,2-Trans-Dichloroethylene	In Vitro	Not mutagenic
1,2-Trans-Dichloroethylene	In vivo	Not mutagenic
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	In Vitro	Not mutagenic
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	In vivo	Not mutagenic

**Carcinogenicity**

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

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

Name	Route	Value	Species	Test result	Exposure Duration
1,2-Trans-Dichloroethylene	Inhalation	Not classified for development	Rat	NOAEL 24 mg/l	during organogenesis
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Inhalation	Not classified for female reproduction	Rat	NOAEL 281 mg/l	premating into lactation
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Inhalation	Not classified for male reproduction	Rat	NOAEL 281 mg/l	28 days
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Inhalation	Not classified for development	Rat	NOAEL 281 mg/l	premating into lactation

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1,2-Trans-Dichloroethylene	Inhalation	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
1,2-Trans-Dichloroethylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
1,2-Trans-Dichloroethylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 4,500 mg/kg	not applicable

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1,2-Trans-Dichloroethylene	Inhalation	endocrine system   liver   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 16 mg/l	90 days
1,2-Trans-Dichloroethylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2,000 mg/kg/day	14 weeks
1,2-Trans-Dichloroethylene	Ingestion	blood   liver	Not classified	Rat	NOAEL 125 mg/kg/day	14 weeks
1,2-Trans-Dichloroethylene	Ingestion	heart   immune system   respiratory system	Not classified	Rat	NOAEL 2,000 mg/kg/day	14 weeks
1,1,1,2,2,3,4,5,5,5-	Inhalation	endocrine system	Not classified	Rat	NOAEL 281	28 days



Decafluoro-3-methoxy-4-(trifluoromethyl) pentane		liver   heart   hematopoietic system   immune system   nervous system   kidney and/or bladder			mg/l	
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Inhalation	respiratory system	Not classified	Rat	NOAEL 143 mg/l	5 days
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Ingestion	liver   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	28 days
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	Ingestion	endocrine system   bone, teeth, nails, and/or hair   hematopoietic system   heart   immune system   nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

### 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:

GHS Acute 3: Harmful to aquatic life.

#### Chronic aquatic hazard:

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

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
1,2-Trans-Dichloroethylene	156-60-5	Bluegill	Estimated	96 hours	LC50	135 mg/l
1,2-Trans-Dichloroethylene	156-60-5	Green algae	Experimental	48 hours	EC50	36.36 mg/l
1,2-Trans-Dichloroethylene	156-60-5	Water flea	Experimental	48 hours	LC50	220 mg/l
1,2-Trans-Dichloroethylene	156-60-5	Anaerobic sludge	Experimental	96 hours	IC50	48 mg/l
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl) pentane	132182-92-4	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl)	132182-92-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l

pentane						
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl)pentane	132182-92-4	Medaka	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl)pentane	132182-92-4	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
1,2-Trans-Dichloroethylene	156-60-5	Experimental Biodegradation	28 days	Percent degraded	8 %BOD/ThOD	OECD 301D - Closed bottle test
1,2-Trans-Dichloroethylene	156-60-5	Experimental Photolysis		Photolytic half-life (in air)	13 days (t 1/2)	
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl)pentane	132182-92-4	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301D - Closed bottle test
1,1,1,2,2,3,4,5,5,5-Decafluoro-3-methoxy-4-(trifluoromethyl)pentane	132182-92-4	Experimental Photolysis		Photolytic half-life (in air)	2.63 years (t 1/2)	

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
1,2-Trans-Dichloroethylene	156-60-5	Experimental Bioconcentration		Log Kow	2.06	

**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 halogen acid (HCl/HF/HBr). 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 Class/Division** Not applicable

**Subsidiary Risk** Not applicable

**Packing Group:** Not applicable

#### **Marine Transport (IMDG)**

**UN No** Not applicable

**Proper Shipping Name** Not applicable

**Hazard Class/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 material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. 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**

Not applicable

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:

Product is classified as Non-Hazardous.

### **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:**

Section 14: Packing group (IMO) information was added.

Section 01: 1.2 Restrictions on use information was added.

Company Telephone information was modified.  
Section 1: Emergency telephone information was modified.  
Section 1: Product identification numbers information was modified.  
Section 1: Product name information was modified.  
US Section 01 Product Use - Recommended Use information was modified.  
Section 2: Hazard - Other information was modified.  
Label: GHS Classification information was modified.  
Label: GHS Precautionary - Disposal information was deleted.  
Label: GHS Precautionary - Prevention information was modified.  
Label: GHS Precautionary - Response information was deleted.  
Label: Signal Word information was modified.  
Section 04: First Aid - Symptoms and Effects (GHS) information was added.  
Section 04: Information on toxicological effects information was deleted.  
Section 5: Fire - Advice for fire fighters information information was modified.  
Section 5: Fire - Extinguishing media information information was modified.  
Section 5: Fire - Special hazards information information was modified.  
Section 5: Hazardous combustion products table information was added.  
Section 6: Accidental release clean-up information information was modified.  
Section 6: Accidental release personal information information was modified.  
Section 7: Conditions safe storage information was modified.  
Section 7: Precautions safe handling information information was modified.  
Section 8: Appropriate Engineering controls information information was modified.  
Section 8: Eye/face protection information information was modified.  
Section 8: Occupational exposure limit table 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 deleted.  
Section 8: Respiratory protection - recommended respirators information information was modified.  
Section 8: Skin protection - recommended gloves information information was deleted.  
Section 8: Skin protection - recommended gloves text information was deleted.  
Section 09: Color information was added.  
Section 9: Evaporation Rate information information was modified.  
Section 9: Flammable limits (LEL) information information was modified.  
Section 9: Flammable limits (UEL) information information was modified.  
Section 9: Flash point information information was modified.  
Section 09: Odor information was added.  
Sections 3 and 9: Odour, colour, grade information information was deleted.  
Section 09: Percent Volatile information was added.  
Section 9: Property description for optional properties information was added.  
Section 9: Property description for optional properties information was deleted.  
Section 09: Vapor Density Value information was added.  
Section 9: Vapour density value information was deleted.  
Section 9: Viscosity information information was deleted.  
Section 09: Viscosity information was added.  
Section 09: VOC Less H2O & Exempt Solvents information was added.  
Section 09: Volatile Organic Compounds information was added.  
Section 10: Conditions to avoid physical property information was modified.  
Section 10: Hazardous decomposition or by-products table information was modified.  
Section 10: Hazardous decomposition products during combustion text information was added.  
Section 10: Hazardous Decomposition Products information information was modified.  
Section 11: Germ Cell Mutagenicity Table information was modified.  
Section 11: Reproductive Toxicity Table information was modified.  
Section 11: Skin Sensitization Table information was modified.  
Section 11: Target Organs - Repeated Table information was modified.  
Section 12: Component ecotoxicity information information was modified.  
Prints No Data if Adverse effects information is not present information was added.

Section 12: Persistence and Degradability information information was modified.

Section 12: Bioaccumulative potential information information was modified.

Section 13: 13.1. Waste disposal note information was modified.

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

Section 14: Environmental hazards information was added.

Section 14: IMO Subsidiary Risk information was added.

Section 14: IMO transport hazard classes information was added.

Section 14: Proper Shipping Name (IMO) information was added.

Section 14: UN Number (IMO) information was added.

Section 15: MSIHC Part I of Schedule I ingredients information was modified.

Section 15: Regulations - Inventories information was modified.

Section 16: UK disclaimer information was deleted.

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