



## Safety Data Sheet

Copyright, 2023, 3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

<b>Document Group:</b>	10-3789-4	<b>Version Number:</b>	9.00
<b>Issue Date:</b>	16/01/2025	<b>Supersedes Date:</b>	17/06/2021

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

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Fluorinert™ FC-72 Electronic Liquid

##### Product Identification Numbers

70-2134-0505-6	80-0014-2692-5	98-0211-0216-9	98-0211-0267-2	98-0212-4842-6
HB-0045-6054-4	ZF-0002-0305-7	ZF-0002-0321-4	ZF-0002-0354-5	ZF-0002-0802-3
ZF-0002-1162-1	ZF-0002-1872-5			

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

##### Recommended use

For Industrial Use Only, as Testing Fluid or Heat Transfer Fluid for Electronics. Not Intended for Use as a Medical Device or Drug.

##### Restrictions on use

Fluorinert™ Electronic Liquids 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 Fluorinert 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.

#### 1.3. Supplier's details

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

#### 1.4. Emergency telephone number

+60 03-7884 2888

## **SECTION 2: Hazard identification**

### **2.1. Classification of the substance or mixture**

Not classified as hazardous according to Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

### **2.2. Label elements**

#### **Signal word**

Not applicable

#### **Symbols**

Not applicable

#### **Pictograms**

Not applicable

### **2.3. Other hazards**

None known

## **SECTION 3: Composition/information on ingredients**

This material is a mixture.

<b>Ingredient</b>	<b>C.A.S. No.</b>	<b>% by Wt</b>
PERFLUORO COMPOUNDS, C5-18	86508-42-1	100

## **SECTION 4: First aid measures**

### **4.1. Description of first aid measures**

#### **Inhalation:**

No need for first aid is anticipated. If symptoms develop, remove the affected person to fresh air. Get medical attention.

#### **Skin Contact:**

If exposed, wash with soap and water. If signs/symptoms develop, get medical attention.

#### **Eye Contact:**

If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

#### **If Swallowed:**

Do not induce vomiting. Rinse mouth. If you feel unwell, get medical attention.

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

No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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

Not applicable

## **SECTION 5: Fire-fighting measures**

### **5.1. Suitable extinguishing media**

Use a fire fighting agent suitable for the surrounding fire.

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

None inherent in this product.

**Hazardous Decomposition or By-Products****Substance**

Carbon monoxide

Carbon dioxide

**Condition**

During Combustion

During Combustion

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

No special protective actions for fire-fighters are anticipated.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate the area with fresh air. Observe precautions from other sections.

**6.2. Environmental precautions**

Avoid release to the environment.

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

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. 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**

For industrial/occupational use only. Not for consumer sale or use. Store work clothes separately from other clothing, food and tobacco products. Avoid release to the environment. 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.

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

Store away from heat.

**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 SDS.

**8.2. Exposure controls****8.2.1. Engineering controls**

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

**8.2.2. Personal protective equipment (PPE)****Eye/face protection**

None required.

**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**

None required.

**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>	Odorless
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point/Freezing point</b>	<i>Not Applicable</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	50 - 60 °C
<b>Flash Point</b>	No flash point
<b>Evaporation rate</b>	> 1 Units not avail. or not appl. [Ref Std:BUOAC=1]
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Flammable Limits(LEL)</b>	None detected
<b>Flammable Limits(UEL)</b>	None detected
<b>Vapor Pressure</b>	29,557.5 Pa [ @ 25 °C ]
<b>Vapor Density and/or Relative Vapor Density</b>	Approximately 11.7 Units not avail. or not appl. [ @ 20 °C ] [Ref Std: AIR=1]
<b>Density</b>	1.68 g/ml
<b>Relative Density</b>	1.68 [Ref Std: WATER=1]
<b>Water solubility</b>	Nil
<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>	<i>No Data Available</i>
<b>Decomposition temperature</b>	<i>Not Applicable</i>
<b>Viscosity/Kinematic Viscosity</b>	0.4 mm <sup>2</sup> /sec [ @ 20 °C ]
<b>Volatile Organic Compounds</b>	<i>No Data Available</i>
<b>Percent volatile</b>	100 %
<b>VOC Less H<sub>2</sub>O &amp; Exempt Solvents</b>	<i>No Data Available</i>
<b>Molecular weight</b>	<i>No Data Available</i>

**SECTION 10: Stability and reactivity****10.1. Reactivity**

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

**10.2. Chemical stability**

Stable.

**10.3. Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**10.4. Conditions to avoid**

Heat

#### 10.5. Incompatible materials

Finely divided active metals  
Alkali and alkaline earth metals

#### 10.6. Hazardous decomposition products

##### Substance

Hydrogen Fluoride  
Perfluoroisobutylene (PFIB)

##### Condition

At Elevated Temperatures - greater than 200 °C  
At Elevated Temperatures - greater than 200 °C

Refer to section 5.2 for hazardous decomposition products during combustion.

If the product is exposed to extreme condition 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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

### 11.1. Information on Toxicological effects

#### Signs and Symptoms of Exposure

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

##### **Inhalation:**

No known health effects.

##### **Skin Contact:**

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

##### **Eye Contact:**

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

##### **Ingestion:**

No known health effects.

#### **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
PERFLUORO COMPOUNDS, C5-18	Dermal	Professional judgment	LD50 estimated to be > 5,000 mg/kg
PERFLUORO COMPOUNDS, C5-18	Inhalation-Vapor (4 hours)	Rat	LC50 > 276 mg/l
PERFLUORO COMPOUNDS, C5-18	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
PERFLUORO COMPOUNDS, C5-18	Rabbit	No significant irritation

#### Serious Eye Damage/Irritation

Name	Species	Value
PERFLUORO COMPOUNDS, C5-18	Rabbit	No significant irritation

#### Sensitization:

##### Skin Sensitization

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

##### Respiratory Sensitization

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

##### Germ Cell Mutagenicity

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

##### 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

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

#### Target Organ(s)

##### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PERFLUORO COMPOUNDS, C5-18	Inhalation	cardiac sensitization	Not classified	Dog	NOAEL 2,350 mg/l	10 minutes

##### Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PERFLUORO COMPOUNDS, C5-18	Inhalation	heart   endocrine system   gastrointestinal tract   bone, teeth, nails, and/or hair   hematopoietic system   liver   immune system   nervous system   eyes   kidney and/or bladder   respiratory system	Not classified	Rat	NOAEL 689 mg/l	13 weeks
PERFLUORO COMPOUNDS, C5-18	Ingestion	heart   endocrine system   hematopoietic system   liver   nervous system   kidney and/or bladder   respiratory	Not classified	Rat	NOAEL 2,000 mg/kg/day	32 days

		system				
--	--	--------	--	--	--	--

**Aspiration Hazard**

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

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

**SECTION 12: Ecological information**

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

**12.1. Toxicity****Acute aquatic hazard:**

Not acutely toxic to aquatic life by GHS criteria.

**Chronic aquatic hazard:**

Not chronically toxic to aquatic life by GHS criteria.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
PERFLUORO COMPOUNDS, C5-18	86508-42-1	Activated sludge	Estimated	3 hours	EC50	>1,000 mg/l
PERFLUORO COMPOUNDS, C5-18	86508-42-1	Fathead Minnow	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
PERFLUORO COMPOUNDS, C5-18	86508-42-1	Water flea	Estimated	21 days	No tox obs at lmt of water sol	>100 mg/l

**12.2. Persistence and degradability**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
PERFLUORO COMPOUNDS, C5-18	86508-42-1	Estimated Biodegradation	28 days	Carbon dioxide evolution	0 %CO2 evolution/THCO2 evolution	OECD 310 CO2 Headpace

**12.3. Bioaccumulative potential**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
PERFLUORO COMPOUNDS, C5-18	86508-42-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5 Other adverse effects**

No information available

## **SECTION 13: Disposal considerations**

### **13.1. Disposal methods**

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

## **SECTION 14: Transport Information**

Not hazardous for transportation.

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

**UN Number:**None assigned.

**Proper Shipping Name:**None assigned.

**Technical Name:**None assigned.

**Hazard Class/Division:**None assigned.

**Subsidiary Risk:**None assigned.

**Packing Group:**None assigned.

**Limited Quantity:**None assigned.

**Marine Pollutant:** None assigned.

**Marine Pollutant Technical Name:** None assigned.

**Other Dangerous Goods Descriptions:**

None assigned.

### **Air Transport (IATA)**

**UN Number:**None assigned.

**Proper Shipping Name:**None assigned.

**Technical Name:**None assigned.

**Hazard Class/Division:**None assigned.

**Subsidiary Risk:**None assigned.

**Packing Group:**None assigned.

**Limited Quantity:**None assigned.

**Marine Pollutant:** None assigned.

**Marine Pollutant Technical Name:** None assigned.

**Other Dangerous Goods Descriptions:**

None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

## **SECTION 15: Regulatory information**

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

#### **Global inventory status**



Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. 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.

## **SECTION 16: Other information**

DISCLAIMER: The information in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation 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 Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

**3M Malaysia SDSs are available at [www.3M.com.my](http://www.3M.com.my)**