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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name: NEOFLON PFA TC-1509M1****Article number: TC1509M1****1.2 Relevant identified uses of the substance or mixture and uses advised against:***No further relevant information available.***1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:****DAIKIN INDUSTRIES, LTD. CHEMICALS DIVISION:***Umeda Center Bldg., 4-12, Nakazaki-Nishi 2-chome, Kita-Ku, Osaka, JAPAN**Phone: (+81) 6-6373-4345 Fax: (+81) 6-6373-4281***Further information obtainable from:** <http://www.daikin.com/>**1.4 Emergency telephone number:***Japan: +81-6-6349-7521**China: +86-512-5-232-0949, +86-21-34151689**South Korea: +82-2-568-1722**Americas: +1-256-306-5000**Europe: +49-211-179 225-0***SECTION 2: Hazard identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008***Flam. Liq. 2 H225 Highly flammable liquid and vapour.**Repr. 1B H360D May damage the unborn child.**Skin Irrit. 2 H315 Causes skin irritation.**Eye Irrit. 2 H319 Causes serious eye irritation.**STOT SE 3 H335 May cause respiratory irritation.***2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008:***The product is classified and labelled according to the CLP regulation.***Signal word:** Danger**Precautionary statements:***P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**P241 Use explosion-proof electrical/ventilating/lighting equipment.**P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***Additional information:***Restricted to professional users.*

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**Trade name: NEOFLON PFA TC-1509M1****SECTION 3: Composition/information on ingredients****Information on ingredients:**

26655-00-5 Perfluoro(alkoxy alkane)	10-20%
<b>Binder</b>	1-10%
Acute Tox. 4, H302	
1333-86-4 Carbon black	<5%
872-50-4 N-Methyl-2-pyrrolidone	20-30%
T Repr. Cat. 2 R61; Xi R36/37/38	
Repr. 1B, H360D	
Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
127-19-5 N,N-Dimethylacetamide	15-25%
T Repr. Cat. 2 R61; Xn R20/21	
Repr. 1B, H360D	
Acute Tox. 4, H312; Acute Tox. 4, H332	
108-10-1 Methyl isobutyl ketone	15-25%
Xn R20; Xi R36/37; F R11	
R66	
Flam. Liq. 2, H225	
Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	
1330-20-7 Xylene	5-15%
Xn R20/21; Xi R38	
R10	
Flam. Liq. 3, H226	
Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	
Others	<5%

**SVHC:**

872-50-4 N-Methyl-2-pyrrolidone

127-19-5 N,N-Dimethylacetamide

**Additional information:** For the wording of the listed hazard phrases refer to section 16.**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:** Seek immediate medical advice.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Remove contaminated clothes immediately.

**After eye contact:**

Immediately rinse with a lot of water for several minutes. Remove contact lenses if possible. Continue rinsing.

**After swallowing:** Rinse mouth with water. Do not induce vomiting.**4.2 Most important symptoms and effects, both acute and chronic:** No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing agents:**

Water haze

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*Foam*

*CO2*

*Fire-extinguishing powder*

*Dry sand*

*Alcohol resistant foam*

**For safety reasons unsuitable extinguishing agents:** Water with full jet

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

*Formation of toxic gases is possible during heating or in case of fire.*

*Receptacle may explode when heated.*

*Extremely flammable; can ignite easily with heat, sparks, fire.*

**5.3 Advice for firefighters:** Remove receptacles from area of fire if possible.

**Protective equipment:**

*Wear self-contained breathing apparatus and protective suit.*

*Do not inhale explosion gases or combustion gases.*

*Wear fully protective suit.*

## **SECTION 6: Accidental release measures**

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

*Ensure adequate ventilation before entering the area.*

*Stay on the windward side.*

*Keep out unauthorized persons.*

*Wear appropriate protective devices (See Section 8 Exposure Controls/Personal Protection).*

*Avoid contact with eyes and skin.*

*Do not swallow the product.*

**6.2 Environmental precautions:** Prevent seepage into sewage system, workpits and cellars.

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

*Do not flush with water or aqueous cleansing agents*

*For a small amount of leakage: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders) or collect in an empty container that can be sealed tightly.*

*For a small amount of leakage: Use clean anti-static tools when absorbing the product.*

*For a large amount of leakage: Enclose with banks to avoid outflow. Lead the leakage to a safe place and collect.*

*Remove ignition sources immediately.*

*Ground all equipment when the product leaks.*

*There is a danger of explosion. Prepare fire extinguisher in case of emergency.*

**6.4 Reference to other sections:**

*See Section 7 for information on safe handling.*

*See Section 8 for information on personal protection equipment.*

*See Section 13 for disposal information.*

## **SECTION 7: Handling and storage**

**7.1 Precautions for safe handling:**

*Ensure good ventilation/exhaustion at the workplace.*

*Handle with care. Avoid jolting, friction and impact.*

*Do not handle until all safety precautions have been read and understood.*

**Information about fire - and explosion protection:**

*Keep ignition sources away - Do not smoke.*

*Protect against electrostatic charges.*

*Use flame proof electric/lighting devices and ventilation equipment.*

*Ground/bond container and receiving equipment.*

**7.2 Conditions for safe storage, including any incompatibilities:**

**Storage**

**Requirements to be met by storerooms and receptacles:**

*Store in a cool and dry location.*

*Store only in unopened original receptacles.*

*Store material at 5 °C to 25 °C.*

**Information about storage in one common storage facility:**

*See section 10 for information on incompatible materials.*

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**Trade name: NEOFLON PFA TC-1509M1****Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacle.

Protect from heat and direct sunlight.

Store containers in a well ventilated area.

Store locked up.

7.3 Specific end use(s): No further relevant information available.

**SECTION 8: Exposure controls/personal protection**

**Additional information about design of technical facilities:** No further data; see item 7.

**8.1 Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**872-50-4 N-Methyl-2-pyrrolidone**

IOELV (EU) Short-term value: 80 mg/m<sup>3</sup>, 20 ppm

Long-term value: 40 mg/m<sup>3</sup>, 10 ppm

Skin

**127-19-5 N,N-Dimethylacetamide**

IOELV (EU) Short-term value: 72 mg/m<sup>3</sup>, 20 ppm

Long-term value: 36 mg/m<sup>3</sup>, 10 ppm

Skin

**108-10-1 Methyl isobutyl ketone**

IOELV (EU) Short-term value: 208 mg/m<sup>3</sup>, 50 ppm

Long-term value: 83 mg/m<sup>3</sup>, 20 ppm

**1330-20-7 Xylene**

IOELV (EU) Short-term value: 442 mg/m<sup>3</sup>, 100 ppm

Long-term value: 221 mg/m<sup>3</sup>, 50 ppm

Skin

**Additional information:** The lists valid during the making were used as basis.

**8.2 Exposure controls****Personal protective equipment****General protective and hygienic measures:**

Wash hands before breaks and at the end of work.

Do not eat or drink while working.

Keep away from tobacco products.

**Respiratory protection:**

Use respiratory protective device with filters for organic and acid gas (or airline respirators in some cases) if formation of toxic gases is possible while the product is heated.

Use respiratory protective device with organic gas cartridge.

**Protection of hands:**

Protective gloves

**Material of gloves:** Rubber

**Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:**

Safety glasses

**Body protection:** Protective work clothing

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**Trade name: NEOFLON PFA TC-1509M1****SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance**

<b>Form:</b>	Liquid
<b>Colour:</b>	Black
<b>Odour:</b>	Characteristic
<b>pH-value:</b>	No further information available.
<b>Melting point/freezing point:</b>	No further information available.
<b>Initial boiling point and boiling range:</b>	No further information available.
<b>Flash point:</b>	15,6 °C (SCC)
<b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower explosive limit:</b>	1,4 Vol % (Methyl isobutyl ketone)
<b>Upper explosive limit:</b>	11,5 Vol % (N,N-Dimethylacetamide)
<b>Vapour pressure:</b>	No further information available.
<b>Density:</b>	No further information available.
<b>Solubility in / Miscibility with water:</b>	Not determined.
<b>Partition coefficient: n-octanol/water:</b>	No further information available.

**9.2 Other information:** No further relevant information available.**SECTION 10: Stability and reactivity****10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.**10.3 Possibility of hazardous reactions:** No dangerous reactions known under normal conditions of use.**10.4 Conditions to avoid:** Keep away from heat, sparks, flame, high temperature.**10.5 Incompatible materials:** Oxidizing agents**10.6 Hazardous decomposition products:**

As for decomposition products, particulate matters and extremely toxic/corrosive fumes may be generated (HF, carbonyl fluoride, monomers, perfluoroisobutylene).

Decomposition products differ depending on the temperature and conditions.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values relevant for classification:****872-50-4 N-Methyl-2-pyrrolidone**

Oral LD50 3914 mg/kg (Rat)

Dermal LD50 8000 mg/kg (Rabbit)

**127-19-5 N,N-Dimethylacetamide**

Oral LD50 4930 mg/kg (Rat)

Dermal LD50 2240 mg/kg (Rabbit)

**108-10-1 Methyl isobutyl ketone**

Oral LD50 2080 mg/kg (Rat)

Dermal LD50 16000 mg/kg (rab)

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**Trade name: NEOFLON PFA TC-1509M1****Inhalative LC50/4 h 8,3-16,6 ppm (Rat)****1330-20-7 Xylene**

Oral LD50 4300 mg/kg (Rat)

Dermal LD50 2000 mg/kg (Rabbit)

**Primary irritant effect****Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation**

Causes serious eye irritation.

**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**Additional toxicological information:****General effects:**

Fumes generated during burning may cause "polymer fume fever" (flu-like symptoms such as fever, chill, cough).

This may last for a whole day and night.

Fumes are not absorbed in skin. No sensitizing effect known.

**Effects of hydrogen fluoride:**

Low concentration of hydrogen fluoride may cause feeling of dyspnea, cough, irritation in eyes, nose, throat, fever, chill for 1-2 days.

After that, dyspnea, cyanosis and pulmonary edema may be seen.

High concentration of hydrogen fluoride damages liver and kidney.

**Effects of carbonyl fluoride:****Skin: Irritation or eruption****Eye: Ulcer in cornea, conjunctiva****Respiratory system : Irritation****Lung: Temporary symptoms such as cough, pain, dyspnea**

Persons who have experienced lung diseases are vulnerable to toxicity caused by excessive exposure to pyrolysis products

**CMR effects****Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity**

May damage the unborn child.

**STOT-single exposure**

May cause respiratory irritation.

**STOT-repeated exposure** Based on available data, the classification criteria are not met.**Aspiration hazard** Based on available data, the classification criteria are not met.**Chronic study** No further information available.**SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:** No further relevant information available.**12.2 Persistence and degradability:** No further relevant information available.**12.3 Bioaccumulative potential:** No further relevant information available.**12.4 Mobility in soil:** No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** No further relevant information available.**vPvB:** No further relevant information available.**12.6 Other adverse effects:** No further relevant information available.**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation:** Disposal must be made according to official regulations.

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**Trade name: NEOFLON PFA TC-1509M1****Uncleaned packaging****Recommendation:** Disposal must be made according to official regulations.**SECTION 14: Transport information****14.1 UN-Number:****ADR, IMDG, IATA** UN1263**14.2 UN proper shipping name:****ADR:** 1263 PAINT  
**IMDG, IATA** PAINT**14.3 Transport hazard class(es):****ADR, IMDG, IATA****Class:**

3 Flammable liquids.

**Label:**

3

**14.4 Packing group:****ADR, IMDG, IATA** II**14.5 Environmental hazards:****Marine pollutant:** No**14.6 Special precautions for user:** Warning: Flammable liquids.**Danger code (Kemler):**

33

**EMS Number:** F-E,S-E**14.7 Transport in bulk according to Annex II of****MARPOL73/78 and the IBC Code:** Not applicable.**Transport/Additional information:** Avoid direct sunlight. Make sure of no damage, corrosion, leaks on the receptacles.

Take necessary measures for preventing cargo shift.

**ADR****Limited quantities (LQ):** 5L**Transport category:** 2**Tunnel restriction code:** D/E**UN "Model Regulation":** UN1263, PAINT**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

**Hazard pictograms**

GHS02



GHS07



GHS08

**Signal word Danger****Hazard-determining components of labelling:***N*-Methyl-2-pyrrolidone*N,N*-Dimethylacetamide**Hazard statements**

H225 Highly flammable liquid and vapour.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H360D May damage the unborn child.

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**Trade name: NEOFLON PFA TC-1509M1**

**H335** May cause respiratory irritation.

**Precautionary statements**

**P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**P241** Use explosion-proof electrical/ventilating/lighting equipment.

**P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**P405** Store locked up.

**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

**SECTION 16: Other information**

The product is for the industrial use only. We do not guarantee the safety in case the product is used for the other purposes. When using the product for health-care application or food/feed application, consult us in advance.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS: EHS Department**

**Contact:** <http://www.daikin.com/>

**Abbreviations and acronyms:**

**ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

**IMDG:** International Maritime Code for Dangerous Goods

**IATA:** International Air Transport Association

**GHS:** Globally Harmonised System of Classification and Labelling of Chemicals

**LC50:** Lethal concentration, 50 percent

**LD50:** Lethal dose, 50 percent

**PBT:** Persistent, Bioaccumulative and Toxic

**SVHC:** Substances of Very High Concern

**vPvB:** very Persistent and very Bioaccumulative

**Flam. Liq. 2:** Flammable liquids – Category 2

**Skin Irrit. 2:** Skin corrosion/irritation – Category 2

**Eye Irrit. 2:** Serious eye damage/eye irritation – Category 2

**Repr. 1B:** Reproductive toxicity – Category 1B

**STOT SE 3:** Specific target organ toxicity (single exposure) – Category 3