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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** NEOFLON EFEP RC-4520**Article number:** RC4520 STD**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**

The substance is not classified according to the CLP regulation.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008:** Not applicable**Signal word:** Not applicable**SECTION 3: Composition/information on ingredients****Information on ingredients:**

Fluoropolymer

100%

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:** Seek medical treatment.**After inhalation:** In case of inhaling decomposed gases: supply fresh air and consult a doctor in case of complaints.**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

After contact with the molten product, cool rapidly with cold water.

Do not pull solidified product off the skin.

Consult a doctor in case of complaints.

**After eye contact:**

Rinse opened eye for several minutes under running water.

Consult an ophthalmologist in case of complaints.

**After swallowing:** If symptoms persist consult a doctor.**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:**CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Use fire extinguishing methods suitable for surrounding conditions.

**For safety reasons unsuitable extinguishing agents:** No further information available.

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

During heating or in case of fire poisonous gases may be produced.  
Formation of toxic gases is possible during heating or in case of fire.

**5.3 Advice for firefighters:****Protective equipment:**

Wear fully protective suit.  
Wear self-contained breathing apparatus and protective suit.  
Do not inhale explosion gases or combustion gases.

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

Ensure adequate ventilation before entering the area.  
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:** Do not allow product to reach sewage system or any water course.

**6.3 Methods and material for containment and cleaning up:** Pick up mechanically.

**6.4 Reference to other sections:**

No dangerous substances are released.  
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.  
Extractors are required on all machines used for thermal processing or powder handling processes.  
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.

**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.

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

Not required.  
See section 10 for information on incompatible materials.

**Further information about storage conditions:**

Protect from heat and direct sunlight.  
Store containers in a well ventilated area.

**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** No further information available.

**Ingredients with limit values that require monitoring at the workplace:** Not required.

**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 the product is heated above 150 °C and toxic gas is formed.

Use mask which filters at least 99.95% of airborne particles (below 0.3µm)

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**Trade name: NEOFLON EFEP RC-4520***Dust respirator, simplified dust respirator***Protection of hands:***Protective gloves***Material of gloves:***Synthetic rubber 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 with side shields or goggles**Safety glasses***Body protection:** *Protective work clothing***SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information****Appearance**

<b>Form:</b>	<i>Powder</i>
<b>Colour:</b>	<i>White</i>
<b>Odour:</b>	<i>Odourless</i>
<b>Odour threshold:</b>	<i>Not determined.</i>
<b>pH-value:</b>	<i>No further information available.</i>
<b>Melting point/freezing point:</b>	<i>155-175 °C</i>
<b>Initial boiling point and boiling range:</b>	<i>Not applicable.</i> <i>No further information available.</i>
<b>Flash point:</b>	<i>Not applicable.</i>
<b>Flammability (solid, gas):</b>	<i>Product is not flammable.</i>
<b>Decomposition temperature:</b>	<i>No further information available.</i>
<b>Auto-ignition temperature:</b>	<i>Not determined.</i>
<b>Explosive properties:</b>	<i>Product does not present an explosion hazard.</i>
<b>Explosion limits:</b>	
<b>Lower explosive limit:</b>	<i>No further information available.</i>
<b>Upper explosive limit:</b>	<i>No further information available.</i>
<b>Vapour pressure:</b>	<i>No further information available.</i>
<b>Density:</b>	<i>No further information available.</i>
<b>Relative density at 25 °C</b>	<i>1,7-1,8 g/ml</i>
<b>Vapour density</b>	<i>Not applicable.</i>
<b>Evaporation rate</b>	<i>Not applicable.</i>

**Solubility in / Miscibility with water:***Insoluble.***Partition coefficient: n-octanol/water:** *No further information available.***Viscosity:****Dynamic:** *Not applicable.***Kinematic:** *Not applicable.***9.2 Other information:** *No further relevant information available.*

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**SECTION 10: Stability and reactivity**

**10.1 Reactivity** No further relevant information available.

**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:**

Even at the temperatures reached during the normal hot processing of fluoropolymers, fume that presents a potential health hazard may be generated.

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:**

Metal powder (e.g. Al, Mg) and fluorine oxidizer. There is a danger of chemical reactions that could cause fire or explosion when the product is heated with them.

**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** no data

**LD/LC50 values relevant for classification:** No further information available.

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

No further information available.

No further information available.

**Serious eye damage/irritation**

No further information available.

No further information available.

**after inhalation:** No further information available.

**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** Based on available data, the classification criteria are not met.

**STOT-single exposure** Based on available data, the classification criteria are not met.

**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.

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*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:** *The product is thought to be non-biodegradable.***Other information:** *The product is slightly biodegradable.***12.3 Bioaccumulative potential:** *No further relevant information available.***12.4 Mobility in soil:** *No further relevant information available.***Ecotoxicological effects:** *no data***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:***After prior treatment product has to be landfilled or incinerated adhering to the regulations pertaining to the disposal of especially hazardous waste.**Landfill disposal is recommended.**In case of incineration, the temperature must be higher than 800 °C.**Treat exhaust gas such as HF in a suitable way.**Disposal must be made according to official regulations.***Uncleaned packaging****Recommendation:** *Disposal must be made according to official regulations.***SECTION 14: Transport information****14.1 UN-Number:****ADR, ADN, IMDG, IATA** *Not applicable***14.2 UN proper shipping name:****ADR, ADN, IMDG, IATA** *Not applicable***14.3 Transport hazard class(es):****ADR, ADN, IMDG, IATA** *Not applicable***Class:** *Not applicable***14.4 Packing group:** *Not applicable***ADR, IMDG, IATA** *Not applicable***14.5 Environmental hazards:** *Not applicable***Marine pollutant:** *No***14.6 Special precautions for user:** *Not applicable.***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.***UN "Model Regulation":** *Not applicable***\* SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture***No further relevant information available.***Labelling according to Regulation (EC) No 1272/2008** *Not applicable***Hazard pictograms** *Not applicable***Signal word** *Not applicable***Hazard statements** *Not applicable*

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**Trade name: NEOFLON EFEP RC-4520***National regulations No further information available.***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*

*vPvB: very Persistent and very Bioaccumulative*

**\* Data compared to the previous version altered.**