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Version number 1

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** NEOFLON FEP ND-4R**Article number:** ND4R**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

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SECTION 2: Hazard identification**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



Eye Irrit. 2 H319 Causes serious eye 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: Warning**Precautionary statements:**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264 Wash thoroughly after handling.

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

P337+P313 If eye irritation persists: Get medical advice/attention.

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

25067-11-2 FEP 40-50%

9002-83-9 Polychlorotrifluoroethylene ≤ 5%

7732-18-5 Water 50-60%

SVHC:

Polyoxyethylene octyl phenyl ether

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

Remove contaminated clothes immediately.

Immediately wash with water and soap and rinse thoroughly.

Safety data sheet

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Revision: 02.03.2015

Trade name: NEOFLON FEP ND-4R*Consult a doctor in case of complaints.***After eye contact:***Immediately rinse with a lot of water for several minutes. Remove contact lenses if possible. Continue rinsing. Consult an ophthalmologist in case of complaints.***After swallowing:***Rinse mouth with water. Do not induce vomiting.**Consult a doctor in case of complaints.***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: Use fire extinguishing methods suitable for surrounding conditions.**For safety reasons unsuitable extinguishing agents: No further information available.***5.2 Special hazards arising from the substance or mixture:***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:** *Prevent seepage into sewage system, workpits and cellars.***6.3 Methods and material for containment and cleaning up:***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 large amount of leakage: Enclose with banks to avoid outflow. Lead the leakage to a safe place and collect.***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.**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.**Provide solvent resistant, sealed floor.**Keep receptacle tightly sealed.***Information about storage in one common storage facility:***See section 10 for information on incompatible materials.***Further information about storage conditions:***Store in cool, dry conditions in well sealed receptacle.**Protect from heat and direct sunlight.*

Safety data sheet

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Trade name: NEOFLON FEP ND-4R*Store receptacle 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** *No further information available.***Ingredients with limit values that require monitoring at the workplace:***The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.***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*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties**General Information****Appearance**

Form:	<i>Liquid</i>
Colour:	<i>Whitish</i>
Odour:	<i>Odourless</i>
Odour threshold:	<i>Not determined.</i>
pH-value at 20 °C:	<i>6</i>
Melting point/Melting range:	<i>No further information available.</i>
Boiling point/Boiling range:	<i>100 °C</i>
	<i>No further information available.</i>
Flash point:	<i>Not applicable.</i>
Flammability (solid, gaseous):	<i>Not applicable.</i>
Ignition temperature:	
Decomposition temperature:	<i>No further information available.</i>

Safety data sheet

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Version number 1

Revision: 02.03.2015

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Self-igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Lower explosive limit:	No further information available.
Upper explosive limit:	No further information available.
Vapour pressure at 20 °C:	23 hPa
Density:	No further information available.
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	No further information available.
Partition coefficient (n-octanol/water): No further information available.	
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
9.2 Other information:	No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

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: No further relevant information available.

10.6 Hazardous decomposition products:

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

Decomposition products differ depending on the temperature and conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

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

Primary irritant effect

on the skin: No further information available.

on the eye:

No further information available.

Irritating effect.

after inhalation: No further information available.

Sensitisation: No sensitising effects known.

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Irritant

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.

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Trade name: NEOFLON FEP ND-4R*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****Germ cell mutagenicity:** No further information available.**Carcinogenicity:** No further information available.**Reproductive toxicity:** No further information available.**Aspiration hazard:** No further information available.**Specific target organ toxicity - single exposure:** No further information available.**Specific target organ toxicity - repeated exposure:** 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.*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:** 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

Class:

Not applicable

14.4 Packing group:

ADR, IMDG, IATA

Not applicable

14.5 Environmental hazards:**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":

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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

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

Hazard pictograms



GHS07

Signal word Warning

Hazard statements

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P264 Wash thoroughly after handling.

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

P337+P313 If eye irritation persists: Get medical advice/attention.

National regulations No further information available.

Other regulations, limitations and prohibitive regulations: No further information available.

Substances of very high concern (SVHC) according to REACH, Article 57:

Polyoxyethylene octyl phenyl ether

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:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1