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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name: DAIFREE MS-175****Article number: MS175****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:

OSAKA UMEDA TWIN TOWERS SOUTH, 1-13-1 Umeda, Kita-ku, Osaka-shi, Osaka, 530-0001, Japan

Phone: +81-6-6147-9702 Fax: +81-6-6147-9807

Further information obtainable from: <http://www.daikin.com/>**1.4 Emergency telephone number:**

Japan: +81-6-6349-7521

China: +86-532-8388-9090, +86-21-34151689

South Korea: +82-2-568-1722

Americas: CHEMTREC +1-800-424-9300 (Outside US/Canada: +1-703-527-3887)

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.



STOT SE 2 H371 May cause damage to organs.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



Aquatic Acute 1 H400 Very toxic to aquatic life.



Acute Tox. 4 H332 Harmful if inhaled.

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**Hazard-determining components of labelling:**

Isononane

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 [or shower].

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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P405 Store locked up.

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

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

Fluoropolymer	<5%
CAS: 68551-15-5 Isononane	≥90%
Flam. Liq. 2, H225	
STOT SE 2, H371; STOT RE 2, H373	
Aquatic Acute 1, H400	
Acute Tox. 4, H332	
CAS: 123-86-4 n-Butyl acetate	<5%
Flam. Liq. 3, H226	
STOT SE 3, H336	
EUH066	

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 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.

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:**

Fire-extinguishing powder

CO₂

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.

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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 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling:**

Open and handle receptacle with care.

Prevent formation of aerosols.

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.

Keep containers tightly sealed.

Information about storage in one common storage facility:

Store away from oxidising agents.

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.

Store locked up.

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters No further information available.

Ingredients with limit values that require monitoring at the workplace:

CAS: 123-86-4 n-Butyl acetate

OEL (Japan) Long-term value: 475 mg/m³, 100 ppm

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PEL (USA) Long-term value: 710 mg/m³, 150 ppm

REL (USA) Short-term value: 950 mg/m³, 200 ppm

Long-term value: 710 mg/m³, 150 ppm

TLV (USA) Short-term value: 950 mg/m³, 200 ppm

Long-term value: 713 mg/m³, 150 ppm

8.2 Exposure controls

Appropriate engineering controls No further data; see item 7.

Individual protection measures, such as 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.

Hand protection



Protective gloves

Material of gloves: Rubber

Eye/face 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

Physical state

Fluid

Colour:

Transparent

Odour:

Aromatic

Melting point/freezing point:

Undetermined.

Boiling point or initial boiling point and boiling range

Undetermined.

Flammability

Flammable

Lower and upper explosion limit

Lower explosive limit:

No further information available.

Upper explosive limit:

Not determined.

Flash point:

21.7 °C (TCC)

Decomposition temperature:

No further information available.

pH

Not determined.

Viscosity:

Kinematic viscosity

No further information available.

Solubility

water:

No further information available.

Partition coefficient n-octanol/water (log value)

No further information available.

Vapour pressure:

No further information available.

Density and/or relative density

Density at 25 °C:

0.72-0.75 g/cm³

Relative density at 25 °C

0.73

Vapour density

No further information available.

Particle characteristics

Not applicable.

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9.2 Other information:

Form: Liquid
Auto-ignition temperature: Product is not self-igniting.

Information with regard to physical hazard classes

Explosives	Not applicable
Flammable gases	Not applicable
Aerosols	Not applicable
Oxidising gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	
Highly flammable liquid and vapour.	
Flammable solids	Not applicable
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	Not applicable
Pyrophoric solids	Not applicable
Self-heating substances and mixtures	Not applicable
Substances and mixtures, which emit flammable gases in contact with water	Not applicable
Oxidising liquids	Not applicable
Oxidising solids	Not applicable
Organic peroxides	Not applicable
Corrosive to metals	Not applicable
Desensitised explosives	Not applicable

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: Danger of toxic fluorine based pyrolysis products.

*** SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

Acute toxicity no data

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

Skin corrosion/irritation: No further information available.

Serious eye damage/irritation: No further information available.

after inhalation: No further information available.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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:

May cause damage to organs.

STOT-repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Based on available data, the classification criteria are not met.

Other information (about experimental toxicology): No further information available.

Subacute to chronic toxicity: No further information available.

11.2 Information on other hazards:**Endocrine disrupting properties:**

None of the ingredients is listed.

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*** 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 information available.***12.6 Endocrine disrupting properties** *For information on endocrine disrupting properties see section 11.***12.7 Other adverse effects:****Ecotoxicological effects:** *no data***Remark:** *Very toxic for fish***Additional ecological information:****General notes:** *Very toxic for aquatic organisms***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 or ID number****ADR, IMDG, IATA**

UNI866

14.2 UN proper shipping name:**ADR:**

1866 RESIN SOLUTION

IMDG, IATA

RESIN SOLUTION

14.3 Transport hazard class(es):**ADR, IMDG****Class:**

3 Flammable liquids.

Label:

3

IATA**Class:**

3 Flammable liquids.

Label:

3

14.4 Packing group:**ADR, IMDG, IATA**

II

14.5 Environmental hazards:*Product contains environmentally hazardous substances:**Isononane***Marine pollutant:***Yes**Symbol (fish and tree)**Symbol (fish and tree)***Special marking (ADR):***Warning: Flammable liquids.***14.6 Special precautions for user:****Hazard identification number (Kemler code):**

33

EMS Number:F-E,S-E

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14.7 Maritime transport in bulk according to IMO instruments**Transport/Additional information:**

Not applicable.

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

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

Transport category:

2

Tunnel restriction code:

D/E

IMDG**Limited quantities (LQ)**

5L

Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":

UN1866, RESIN SOLUTION, 3, II

*** 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

GHS02

GHS07

GHS08

GHS09

Signal word Danger**Hazard-determining components of labelling:**

Isononane

Hazard statements

H225 Highly flammable liquid and vapour.

H332 Harmful if inhaled.

H371 May cause damage to organs.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

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 [or shower].

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P405 Store locked up.

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

National regulations No further information available.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**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.

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Department issuing SDS: EHS Department

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

Abbreviations and acronyms:

ADR: Accord relatif au transport international 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

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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