

**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:

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.



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**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.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P405 Store locked up.

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

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

Fluorocompound	<5%
68551-15-5 Isononane	≥90%
Xn R20-48/20/21/22-68/20/21/22; N R50	
R10	
Flam. Liq. 3, H226	
STOT SE 2, H371; STOT RE 2, H373	
Aquatic Acute 1, H400	
Acute Tox. 4, H332	
123-86-4 n-Butyl acetate	<5%
R10-66-67	
Flam. Liq. 3, H226	
STOT SE 3, H336	

**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.

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

CO<sub>2</sub>

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**

**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:****123-86-4 n-Butyl acetate**

OEL (Japan) Long-term value: 475 mg/m<sup>3</sup>, 100 ppm

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PEL (USA) Long-term value: 710 mg/m<sup>3</sup>, 150 ppm

REL (USA) Short-term value: 950 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 710 mg/m<sup>3</sup>, 150 ppm

TLV (USA) Short-term value: 950 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 713 mg/m<sup>3</sup>, 150 ppm

## 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

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:	Liquid
Colour:	Colourless
Odour:	Aromatic

pH-value: No further information available.

Melting point/Melting range: No further information available.

Boiling point/Boiling range: No further information available.

Flash point: 21,7 °C (TCC)

#### Explosion limits:

Lower explosive limit:	No further information available.
Upper explosive limit:	No further information available.

Vapour pressure: No further information available.

Density: No further information available.

Relative density at 25 °C: 0,73

Solubility in / Miscibility with water:

No further information available.

Partition coefficient (n-octanol/water): 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.

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**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 toxicological effects****Acute toxicity**

no data

Harmful if inhaled.

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

No sensitising effects known.

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

**CMR effects****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.**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.**Ecotoxicological effects:** no data**Remark:** Very toxic for fish**Additional ecological information:****General notes:** Very toxic for aquatic organisms**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, IMDG, IATA

UN1866

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**14.2 UN proper shipping name:**

**ADR:**

**IMDG, IATA**

1866 RESIN SOLUTION

RESIN SOLUTION

**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:**

Yes

**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

**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.

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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.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P405 Store locked up.

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

**National regulations** No further information available.

**Other regulations, limitations and prohibitive regulations: 1**

**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

Flam. Liq. 2: Flammable liquids, Hazard Category 2

Acute Tox. 4: Acute toxicity, Hazard Category 4

STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2

STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

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