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**1 Identification of the substance/mixture and of the company/undertaking**

- **Product identifier**
- **Trade name:** DAIFREE GA-7500
- **Article number:** GFA7500
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Release agent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
DAIKIN INDUSTRIES, LTD. CHEMICALS DIVISION:  
Umeda Center Bldg., 4-12, Nakazaki-Nishi2-chome, Kita-Ku, Osaka, JAPAN  
Phone: (+81) 6-6373-4345 Fax: (+81) 6-6373-4281
- **Further information obtainable from:** <http://www.daikin.com/>
- **Emergency telephone number:**  
+81-6-6349-7521, +1-256-306-5000, +86-512-5-232-0949, +82-2-568-1722, +49-211-179 225-0

**2 Hazard identification**

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



flame

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



Skin Irrit. 2 H315 Causes skin irritation.

- **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.  
P251 Do not pierce or burn, even after use.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P405 Store locked up.  
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.  
31,8 % by mass of the contents are flammable

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### 3 Composition/information on ingredients

· **Chemical characterization: Substances**

406-58-6 1,1,1,3,3-pentafluorobutane F R11 Flam. Liq. 1, H224	10-20%
107-83-5 2-methylpentane Xn R65; Xi R38; F R11; N R51/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	10-20%
96-14-0 3-methylpentane Xn R65; Xi R38; F R11; N R51/53 R67 Flam. Liq. 2, H225; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	10-20%
67-63-0 propan-2-ol Xi R36; F R11 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	<5%
110-54-3 n-hexane Xn R48/20-62-65; Xi R38; F R11; N R51/53 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361f; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; STOT SE 3, H336	<5%
Silicon	<5%
Fluorocompound	<5%
LPG F+ R12 Flam. Gas 1, H220; Press. Gas, H280	45-55%
108-88-3 toluene Xn R48/20-63-65; Xi R38; F R11 R67 Repr. Cat. 3 Flam. Liq. 2, H225; Repr. 2, H361d; STOT RE 2, H373; Asp. Tox. 1, H304; Skin Irrit. 2, H315; STOT SE 3, H336	<1%

· **Chemical characterization: Mixtures**

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

· **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:** Rinse opened eye for several minutes under running water.

· **After swallowing:** Do not induce vomiting; call for medical help immediately.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Extinguishing powder. Do not use water.  
Foam  
CO2
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
Wear fully protective suit.  
Wear self-contained respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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, sawdust) or collect in an empty container that can be sealed tightly.  
In case of spill a small amount of product, and recovering what was wiped off, use an antistatic tool.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections** See Section 8 for information on personal protection equipment.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights.  
Do not pierce or burn, even after use.  
Do not spray onto a naked flame or any incandescent material.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool and dry location.  
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**  
Keep at 0-35 °C, there is a risk to be polymerized.  
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.  
Keep container tightly sealed.  
Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

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

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- **Control parameters**

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

**96-14-0 3-methylpentane**

REL (USA) Short-term value: C 1800\* mg/m<sup>3</sup>, C 510\* ppm  
 Long-term value: 350 mg/m<sup>3</sup>, 100 ppm  
 \*15-min

TLV (USA) Short-term value: 3500 mg/m<sup>3</sup>, 1000 ppm  
 Long-term value: 1760 mg/m<sup>3</sup>, 500 ppm

**67-63-0 propan-2-ol**

OEL (Japan) 980\* mg/m<sup>3</sup>, 400\* ppm  
 \*exposure conc. must be kept below this level

PEL (USA) 980 mg/m<sup>3</sup>, 400 ppm

REL (USA) Short-term value: 1225 mg/m<sup>3</sup>, 500 ppm  
 Long-term value: 980 mg/m<sup>3</sup>, 400 ppm

TLV (USA) Short-term value: 984 mg/m<sup>3</sup>, 400 ppm  
 Long-term value: 492 mg/m<sup>3</sup>, 200 ppm  
 BEI

**110-54-3 n-hexane**

OEL (Japan) 140 mg/m<sup>3</sup>, 40 ppm

PEL (USA) 1800 mg/m<sup>3</sup>, 500 ppm

REL (USA) 180 mg/m<sup>3</sup>, 50 ppm

TLV (USA) 176 mg/m<sup>3</sup>, 50 ppm  
 Skin; BEI

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid close or long term contact with the skin.

Keep away from tobacco products.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Protective gloves

- **Material of gloves** Synthetic rubber gloves

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

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## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - Form: Liquid
  - Colour: Clear
- **Odour:** Characteristic
- **Change in condition**
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: Not applicable, as aerosol.
- **Flash point:** -20 °C (TCC)
- **Self-igniting:** Product is not selfigniting.
- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
- **Density:** Not determined.
- **Solubility in / Miscibility with water:** Not miscible or difficult to mix.
- **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known under normal conditions of use.
- **Conditions to avoid** Keep away from heat, sparks, flame, high temperature.
- **Incompatible materials:**
  - oxygen
  - Strong acids, strong alkali, amines and alkali metal.
- **Hazardous decomposition products:** Danger of toxic fluorine based pyrolysis products.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** no data
- **Primary irritant effect:**
  - on the skin: Irritant to skin and mucous membranes.
- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
  - Bioaccumulative potential No further relevant information available.
  - Mobility in soil No further relevant information available.
- **Ecotoxicological effects:** no data
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
  - Do not allow product to reach ground water, water course or sewage system, even in small quantities.
  - Danger to drinking water if even extremely small quantities leak into the ground.
  - Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1950
- **UN proper shipping name**
- **ADR** 1950 AEROSOLS
- **IMDG** AEROSOLS, MARINE POLLUTANT
- **IATA** AEROSOLS, flammable
- **Transport hazard class(es)**

- **ADR**



- **Class** 2 5F Gases.
- **Label** 2.1
- **IMDG, IATA**



- **Class** 2.1
- **Label** 2.1
- **Packing group**
- **ADR, IMDG, IATA** Not applicable
- **Environmental hazards:**
- **Marine pollutant:** Yes (P)
- **Special precautions for user** Warning: Gases.
- **Danger code (Kemler):** -
- **EMS Number:** F-D,S-U
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **Transport/Additional information:**

- 
- **ADR**
  - **Limited quantities (LQ)** 1L
  - **Transport category** 2
  - **Tunnel restriction code** D
  - **UN "Model Regulation":** UN1950, AEROSOLS, 2.1

### 15 Regulatory information

### 16 Other information

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)

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*ICAO: International Civil Aviation Organization*

*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*

*P: Marine Pollutant*

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