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*** SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name:** DAISAVE SS-54**Article number:** DAISAVE SS54 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:

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**

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:**

CAS: 382-34-3 1,1,2,3,3,3-Hexafluoropropyl methyl ether

100.0%

*** 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:** Use fire extinguishing methods suitable for surrounding conditions.**5.2 Special hazards arising from the substance or mixture:**

Formation of toxic gases is possible during heating or in case of fire.

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Trade name: DAISAVE SS-54**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:***Wear protective clothing.**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:***Do not allow to enter sewers/surface water or groundwater.**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:***Open drum carefully as content may be under pressure.**Use only in well ventilated areas.**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.**Prevent any seepage into the ground.**Keep containers tightly sealed.***Information about storage in one common storage facility:***No further information available.**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.**Store containers in a well ventilated area.***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: 382-34-3 1,1,2,3,3,3-Hexafluoropropyl methyl ether***Japan Society for Occupational Health(2021) :Unspecified (Recommendations on permissible concentrations)**DAIKIN INDUSTRIES, LTD. :TWA 500ppm*

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

8.2 Exposure controls

Appropriate engineering controls No further data; see section 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

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/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:

Colourless

Odour:

Characteristic

Odour threshold:

Not determined.

Melting point/freezing point:

-92 °C

Boiling point or initial boiling point and boiling range

54 °C

Flammability

Not applicable.

Lower and upper explosion limit

Not applicable.

Lower explosive limit:

4.25 Vol %

Upper explosive limit:

19.75 Vol %

Flash point:

Not applicable.

Auto-ignition temperature:

396 °C

Decomposition temperature:

No further information available.

pH

6.3 (1% (w/v) aqueous solution)

Viscosity:

Kinematic viscosity

0.40

Dynamic:

Not determined.

Solubility

water at 20 °C:

228 ppm

Partition coefficient n-octanol/water (log value) at 25 °C

2.0 log POW

Vapour pressure at 25 °C:

34 kPa

Density and/or relative density

Relative density at 25 °C

1.39

Vapour density

6.3 g/cm³

Particle characteristics

No further information available.

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9.2 Other information:

Form:	Liquid
Ignition temperature:	Not determined.
Explosive properties:	Product does not present an explosion hazard.
Evaporation rate	Not determined.

Information with regard to physical hazard classes

Explosives	Not applicable
Flammable gases	Not applicable
Oxidising gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
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:**

Vapours may form explosive mixtures with air.

Reacts with amines.

No dangerous reactions known under normal conditions of use.

Reacts with sodium metal.

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:** 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** Based on available data, the classification criteria are not met.**LD/LC50 values relevant for classification:**

Oral LD50 > 2000 mg/kg (Rat) (OECD 423)

Dermal LD50 > 2000 mg/kg (Rat) (OECD 402)

Inhalative LC50 > 20000 ppm (Rat)

Primary irritant effect**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.**after inhalation:** No further information available.**Respiratory or skin sensitisation:** No sensitizing effect.**Germ cell mutagenicity:**

Ames Assay - Negative

Chromosomal Aberration Study in vitro - Negative

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

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Reproductive toxicity:*Based on available data, the classification criteria are not met.*Oral NOAEL 200 mg/kg bw/d (Rat)
28d**STOT-single exposure:** *Based on available data, the classification criteria are not met.***STOT-repeated exposure:**Inhalative NOAEL 20000 ppm (Rat)
28d**Aspiration hazard:** *Based on available data, the classification criteria are not met.***Subacute to chronic toxicity:** *No further information available.***11.2 Information on other hazards:**

Parental NOAEL: > 1,000 mg/kg bw/day

Reproduction NOAEL: > 1,000 mg/kg bw/day

Developmental NOAEL: > 1,000 mg/kg bw/day
(rat Oral OECD 421)*** SECTION 12: Ecological information****12.1 Toxicity***Aquatic toxicity: LC50 = 57.4 mg/L(Fish)(OECD203)***12.2 Persistence and degradability:** *BOD:10.8% (28-day)(OECD301F)***12.3 Bioaccumulative potential:** *No further relevant information available.***12.4 Mobility in soil:** *log Koc : 1.93(OECD121)***12.5 Results of PBT and vPvB assessment****PBT:** *No further relevant information available.***vPvB:** *No further information available.***12.7 Other adverse effects:***Ecotoxicological effects: no data**** SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation:***Wear appropriate protective devices.**Disposal must be made according to official regulations.***Uncleaned packaging****Recommendation:***Empty contaminated packaging thoroughly.**Disposal must be made according to official regulations.***SECTION 14: Transport information****14.1 UN number or ID 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 Maritime transport in bulk according to IMO instruments***Not applicable.*

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