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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: C6SFMA MONOMER****Article number: C6SFMA STD****EC number:**

218-407-9

1.2 Relevant identified uses of the substance or mixture and uses advised against:**Sector of Use SU8** Manufacture of bulk, large scale chemicals (including petroleum products)**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**

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

2.2 Label elements**Labelling according to Regulation (EC) No 1272/2008:**

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

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

3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyl methacrylate

Precautionary statements:

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

P314 Get medical advice/attention if you feel unwell.

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

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

CAS: 2144-53-8 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyl methacrylate ≥98%
STOT RE 2, H373
Aquatic Chronic 1, H410

CAS: 123-31-9 1,4-Dihydroxybenzene <1%
Muta. 2, H341; Carc. 2, H351
Eye Dam. 1, H318
Aquatic Acute 1, H400 (M=10)
Acute Tox. 4, H302; Skin Sens. 1, H317

CAS: 150-76-5 4-Methoxyphenol <1%
Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1, H317

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER**Identification number(s)****EC number: 218-407-9****SECTION 4: First aid measures****4.1 Description of first aid measures****General information:** No special measures required.**After inhalation:** Supply fresh air; consult doctor in case of complaints.**After skin contact:**

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:**

Alcohol resistant foam

Fire-extinguishing powder

Dry sand

CO₂**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 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 or ground water.

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 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.

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER

There is a danger of explosion. Prepare fire extinguisher in case of emergency.

6.4 Reference to other sections:

No dangerous substances are released.

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.

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.

Prevent any seepage into the ground.

Keep containers tightly sealed.

Information about storage in one common storage facility:

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: *Not required.*

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

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:

Suitable respiratory protective device recommended.

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

Impervious gloves



Protective gloves

Material of gloves:

Synthetic rubber gloves

Rubber

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER

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



Goggles are recommended during refilling

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:	Aromatic
Odour threshold:	Not determined.
Melting point/freezing point:	Undetermined.
Boiling point or initial boiling point and boiling range	92 °C (8mmHg(1.07kPa))
Flammability	Not applicable.
Lower and upper explosion limit	Not applicable.
Lower explosive limit:	No data
Upper explosive limit:	Product does not present an explosion hazard.
Flash point:	Not applicable.
Decomposition temperature:	No further information available.
	Not determined.
pH	Not applicable.
Viscosity:	
Kinematic viscosity	Not determined.
Dynamic:	Not determined.
Solubility	
water:	No further information available.
	Not determined.
Partition coefficient n-octanol/water (log value)	No further information available.
	Not determined.
Vapour pressure:	No further information available.
Density and/or relative density	
Density at 20 °C:	1.5 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Particle characteristics	No further information available.

9.2 Other information:

Form:	Solubility : >50mass% (Acetone , DMSO, methanol)
Auto-ignition temperature:	Liquid
Explosive properties:	Not determined.
Evaporation rate	Product does not present an explosion hazard.
	Not determined.

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	Not applicable
Flammable solids	Not applicable
Self-reactive substances and mixtures	Not applicable
Pyrophoric liquids	Not applicable

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER

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:

Reacts with peroxides and other radical forming substances.

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:

Fluorophosgene in contact with naked flame or red hot objects.

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:

CAS: 2144-53-8 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyl methacrylate

Oral LD50 > 2000 mg/kg (Rat)

Skin corrosion/irritation:

No irritant effect.

Slightly irritant

No further information available.

Serious eye damage/irritation:

Slightly irritant

No further information available.

after inhalation: No further information available.

Respiratory or skin sensitisation: No sensitizing effect.

Germ cell mutagenicity: Ames Assay - Negative

STOT-repeated exposure:

May cause damage to organs through prolonged or repeated exposure.

CAS: 2144-53-8 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyl methacrylate

Oral NOAEL 5 mg/kg bw/d (Rat)

Other information (about experimental toxicology):

No further information available.

Chromosomal Aberration Study in vitro- Negative

Subacute to chronic toxicity: No further information available.

Additional toxicological information: NOAEL 5mg/kg(28days rat)

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

List II

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER

*** SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:****CAS: 2144-53-8 3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyl methacrylate**

LC50/96h 15 mg/l (Fish)

EC50/48h > 0.0376 mg/l (Daphnia)

(Hazard to the aquatic environment is unclassifiable due to the saturation concentration of 0.0376 mg/L)

EC50/72h > 0.013 mg/l (Daphnia)

12.2 Persistence and degradability:

This product will persist in the environment. Handle with care in case of accidental release or disposal.

Other information: The product is slightly biodegradable.**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 relevant 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**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 packagings thoroughly.

Disposal must be made according to official regulations.

*** SECTION 14: Transport information****14.1 UN number or ID number****ADR, IMDG, IATA**

Not applicable

14.2 UN proper shipping name:**ADR, 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.

Transport/Additional information:

Not dangerous according to the above specifications.

Avoid direct sunlight. Make sure of no damage, corrosion, leaks on the receptacles.

Take necessary measures for preventing cargo shift.

UN "Model Regulation":

Not applicable

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER

*** SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
No further relevant information available.

Dutch List of Substances of Very High Concern (ZZS)

Substance is not listed.

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms



GHS08

Signal word Warning

Hazard-determining components of labelling:

3,3,4,4,5,5,6,6,7,7,8,8,8-Tridecafluorooctyl methacrylate

Hazard statements

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

Precautionary statements

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

P314 Get medical advice/attention if you feel unwell.

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

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

Substance is not listed.

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

Substance is not listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

Substance is not listed.

Regulation (EC) No 273/2004 on drug precursors

Substance is not listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

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.

Department issuing SDS: EHS Department

Contact:

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

sales@daikinchem.de

www.daikinchem.de

Printing date 29.05.2023

Version number 1

Revision: 29.05.2023

Trade name: C6SFMA MONOMER

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)

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

EINECS: European Inventory of Existing Commercial Chemical Substances

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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