

Printing date 23.03.2023

Version number 1

Revision: 23.03.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** FLUOROALCOHOL N2**EC number:**

206-593-4

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: 355-80-6 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol

100.0%

Identification number(s)**EC number:** 206-593-4**SECTION 4: First aid measures****4.1 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:** If symptoms persist consult a doctor.**Information for doctor:**

Vapors and fumes liberated during hot processing with this material may cause flu-like symptoms (chills, fever and, sometimes, cough) that may not occur until several hours after exposure and typically pass within about 36 to 48 hours.

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:** Water spray

Printing date 23.03.2023

Version number 1

Revision: 23.03.2023

Trade name: **FLUOROALCOHOL N2****5.2 Special hazards arising from the substance or mixture:***Formation of toxic gases is possible during heating or in case of fire.***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.***6.2 Environmental precautions:** *Do not allow to enter sewers/surface or ground water.***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.***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:** *Use only in well ventilated areas.***7.2 Conditions for safe storage, including any incompatibilities:****Storage***Information about storage in one common storage facility: No further information available.***Further information about storage conditions:***Protect from heat and direct sunlight.**Store in cool, dry conditions in well sealed receptacle.**Store locked up.***7.3 Specific end use(s):** *No further relevant information available.***SECTION 8: Exposure controls/personal protection****8.1 Control parameters****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.**Keep away from tobacco products.**Do not eat or drink while working.***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.***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.*

Printing date 23.03.2023

Version number 1

Revision: 23.03.2023

Trade name: *FLUOROALCOHOL N2*

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	<i>Fluid</i>
Colour:	<i>Colourless</i>
Odour:	<i>Aromatic</i>
Melting point/freezing point:	<i>Undetermined.</i>
Boiling point or initial boiling point and boiling range	<i>140-141 °C (0.1MPa)</i>
Flammability	<i>Product is not flammable.</i>
Lower and upper explosion limit	<i>Not applicable.</i>
Lower explosive limit:	<i>No further information available.</i>
Upper explosive limit:	<i>Not determined.</i>
Flash point:	<i>Not applicable.</i>
Decomposition temperature:	<i>No further information available.</i>
pH	<i>Not applicable.</i>
Viscosity:	
Kinematic viscosity	<i>No further information available.</i>
Solubility	
water:	<i>Not miscible or difficult to mix.</i>
Partition coefficient n-octanol/water (log value)	<i>Not determined.</i>
Vapour pressure:	<i>No further information available.</i>
Density and/or relative density	
Density:	<i>Not determined.</i>
Vapour density	<i>No further information available.</i>
Particle characteristics	<i>No further information available.</i>

9.2 Other information:

Form:	<i>Liquid</i>
Auto-ignition temperature:	<i>Product is not self-igniting.</i>

Information with regard to physical hazard classes

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

Printing date 23.03.2023

Version number 1

Revision: 23.03.2023

Trade name: FLUOROALCOHOL N2

SECTION 10: Stability and reactivity**10.1 Reactivity** No further relevant information available.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.**10.3 Possibility of hazardous reactions:**

Reacts with amines.

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:****CAS: 355-80-6 2,2,3,3,4,4,5,5-Octafluoro-1-pentanol****Inhalative LCLo 2500 ppm (Rat) (4H)**

Journal of Occupational Medicine. Vol. 4, Pg. 262, 1962.

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.**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:** Based on available data, the classification criteria are not met.**STOT-repeated exposure:** Based on available data, the classification criteria are not met.**Aspiration hazard:** Based on available data, the classification criteria are not met.**11.2 Information on other hazards:****Endocrine disrupting properties:**

Substance is not listed.

*** SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:** No further relevant information available.**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 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**Additional ecological information:****General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Recommendation:**

Landfill disposal is recommended.

In case of incineration, the temperature must be higher than 800 °C.

Treat exhaust gas such as HF in a suitable way.

Printing date 23.03.2023

Version number 1

Revision: 23.03.2023

Trade name: FLUOROALCOHOL N2

Disposal must be made according to official regulations.
Wear appropriate protective devices.

Uncleaned packaging**Recommendation:**

Disposal must be made according to official regulations.
Empty contaminated packagings thoroughly.

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.

Transport/Additional information:

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

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 Not applicable

Hazard pictograms Not applicable

Signal word Not applicable

Hazard statements Not applicable

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/>

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)

ICAO: International Civil Aviation Organisation

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

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