

Printing date 23.05.2019

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: OCTAFLUORO-1,4-DIODOBUTANE****Article number: DIDN2****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****STOT RE 1 H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Dermal.****Eye Dam. 1 H318 Causes serious eye damage.****Acute Tox. 4 H332 Harmful if inhaled.****Skin Sens. 1 H317 May cause an allergic skin reaction.****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: Danger**Precautionary statements:**

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P362+P364 Take off contaminated clothing and wash it before reuse.

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

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

CAS: 375-50-8 1,1,2,2,3,3,4,4-Octafluoro-1,4-diiodobutane >99.7%
STOT RE 1, H372
Eye Dam. 1, H318
Acute Tox. 4, H332; Skin Sens. 1, H317

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:**

Immediately wash with water and soap and rinse thoroughly.

Remove contaminated clothes immediately.

After eye contact:

Immediately rinse with a lot of water for several minutes. Remove contact lenses if possible. Continue rinsing.

After swallowing: Rinse mouth with water. Do not induce vomiting.**4.2 Most important symptoms and effects, both acute and chronic:** Allergic reactions**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.

5.3 Advice for firefighters:**Protective equipment:**

Wear self-contained breathing apparatus and protective suit.

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

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:**

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 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.

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.

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Store in a cool and dry location.

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****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:****CAS:** 375-50-8 1,1,2,2,3,3,4,4-Octafluoro-1,4-diiodobutane

TLV (DAIKIN accepted) Long-term value: 1 ppm

Additional information: The lists valid during the making were used as basis.**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:** Fluid**Colour:** Pink**Odour:** Characteristic**pH-value:** No further information available.**Melting point/freezing point:** No further information available.**Initial boiling point and boiling range:** 149 °C

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Flash point:	Not applicable.
Explosion limits:	
Lower explosive limit:	No further information available.
Upper explosive limit:	No further information available.
Vapour pressure at 25 °C:	22 hPa
Density at 20 °C:	2.49 g/cm ³
Solubility in / Miscibility with water at 25 °C:	0.0149 g/l
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.**10.2 Chemical stability****Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.**10.3 Possibility of hazardous reactions:**

Iodine may be liberated in the sun.

Photoreactive.

10.4 Conditions to avoid: Keep away from heat, sparks, flame, high temperature.**10.5 Incompatible materials:**

Acids, alkali

Water

10.6 Hazardous decomposition products:

Hydrogen iodide (HI)

Danger of toxic fluorine based pyrolysis products.

*** SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Harmful if inhaled.

LD/LC50 values relevant for classification:**CAS: 375-50-8 1,1,2,2,3,3,4,4-Octafluoro-1,4-diiodobutane**

Oral LD50 >2000 mg/kg (Rat)

Dermal LD50 >2000 mg/kg (Rat)

Inhalative LC50/4h >5 mg/l (Rat)

Primary irritant effect**Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation**

Causes serious eye damage.

after inhalation: No further information available.**Respiratory or skin sensitisation**

May cause an allergic skin reaction.

Other information (about experimental toxicology): Chromosomal Aberration Study in vitro- Negative**CMR effects****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**

Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Dermal.

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

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SECTION 12: Ecological information**12.1 Toxicity***Aquatic toxicity: No further relevant information available.***12.2 Persistence and degradability:***Not easily biodegradable***CAS: 375-50-8 1,1,2,2,3,3,4,4-Octafluoro-1,4-diiodobutane***Biodegradation 0 % (Microorganisms) (BOD)***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.**Not applicable.***vPvB:***No further relevant information available.**Not applicable.***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, 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 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.***UN "Model Regulation":***Not applicable**** SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No 1272/2008***The substance is classified and labelled according to the CLP regulation.*

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Hazard pictograms

GHS05 GHS07 GHS08

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

1,1,2,2,3,3,4,4-Octafluoro-1,4-diiodobutane

Hazard statements

H332 Harmful if inhaled.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H372 Causes damage to the thyroid through prolonged or repeated exposure. Route of exposure: Dermal.

Precautionary statements

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P362+P364 Take off contaminated clothing and wash it before reuse.

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

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 DepartmentContact: <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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

Acute Tox. 4: Acute toxicity – Category 4

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

* Data compared to the previous version altered.