Safety data sheet

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

1.1 Product identifier

Trade name: OPTODYNE UV-3100
Article number: UV3100 STD
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
1.4 Emergency telephone number: Japan: +81-6-6349-7521

* SECTION 2: Hazard identification

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

GHS06

Acute Tox. 3 H331 Toxic if inhaled.

GHS08

Muta. 2 H341 Suspected of causing genetic defects.
Carc. 1B H350 May cause cancer.
Repr. 1B H360F May damage fertility.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008:
The product is classified and labelled according to the CLP regulation.
Signal word: Danger

Hazard-determining components of labelling:
Vinylcyclohexane diepoxide
Precautionary statements:
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Additional information:
Restricted to professional users.

* SECTION 3: Composition/information on ingredients

Information on ingredients:

CAS: 106-87-6 Vinylcyclohexane diepoxide 10 – 20%

Acute Tox. 3, H331

Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F

Acute Tox. 4, H302
ATE: LD50 oral: 847 mg/kg
LC50/4h inhalative: 0.5 ppm

Blended fluoroepoxy monomers 65 – 75%

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4,4'-bis[di(β-Hydroxyethoxy)phenylsulfonio]phenylsulfidebis-hexafluoroantimonate	*0.95%*
Hexanediol diglycidyl ether	*5 – 15%*
Non-fluoro epoxy monomer	*< 5%*
Others	*< 5%*

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

*
SECTION 4: First aid measures

4.1 Description of first aid measures
General information: *Do not expose to sunlight or other strong light.*
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.
Immediately remove any clothing soiled by the product and store in a dark container or wrapping.
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.
Rinse opened eye for 15 minutes under running water, periodically lifting upper and lower eyelids. Then consult a doctor.
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.
5.3 Advice for firefighters:
Protective equipment:
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:
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.

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Trade name: OPTODYNE UV-3100

* 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.
Never allow exposure to sunlight or strong light until after curing.
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:
Store away from oxidising agents.
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:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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.
Never allow exposure to sunlight or other stront light until after curing.
Immediately remove all soiled and contaminated clothing and store in a dark container or dark wrapping until disposal to hazardous waste.
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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Eye/face protection

Safety glasses

Splash-proof goggles

Body protection:
Protective work clothing
Impervious protective work clothing, face protection, and gloves

*
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information	
Physical state	Liquid
Colour:	Light yellow
Odour:	Characteristic
Odour threshold:	Not determined
Melting point/freezing point:	Undetermined
Boiling point or initial boiling point and boiling range	Undetermined
Flammability	Not applicable
Lower and upper explosion limit	
Lower explosive limit:	No further information available.
Upper explosive limit:	Not determined
Flash point:	127 °C (COC)
	Not applicable
Auto-ignition temperature:	No further information available.
Decomposition temperature:	No further information available.
pH	Not determined
Viscosity:	
Kinematic viscosity	No further information available.
Dynamic:	Not determined
Solubility	
water:	No further information available.
Partition coefficient n-octanol/water (log value)	No further information available.
Vapour pressure:	No further information available.
Vapour pressure:	No further information available.
Density and/or relative density	
Density at 20 °C:	1.33 g/cm³
Relative density	Not determined
Vapour density	No further information available.
Particle characteristics	No further information available.

9.2 Other information:

Form:	Liquid
Ignition temperature:	No further information available.
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

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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:
May react drastically when exposed to acids, alkali, heat, light.
No dangerous reactions known under normal conditions of use.
10.4 Conditions to avoid:
Keep away from heat, sparks, flame, high temperature.
Do not allow exposure to sunlight or strong light before curing.
10.5 Incompatible materials: *Acids, alkali*
10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide
Danger of toxic fluorine based pyrolysis products.
Danger of release of SbF6 before curing.

*
SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity *Toxic if inhaled.*
LD/LC50 values relevant for classification:

CAS: 106-87-6 Vinylcyclohexane diepoxide
Oral LD50 847 mg/kg (ATE)
Inhalative LC50/4h 0.5 ppm (ATE)
Primary irritant effect
Skin corrosion/irritation: *No further information available.*
Serious eye damage/irritation: *No further information available.*
after inhalation: *No further information available.*
Respiratory or skin sensitisation: *No further information available.*
Germ cell mutagenicity: *Suspected of causing genetic defects.*
Carcinogenicity: *May cause cancer.*
Reproductive toxicity: *May damage fertility.*
STOT-repeated exposure: *No further information available.*
Chronic study *No further information available.*
Other information (about experimental toxicology): *No further information available.*
Subacute to chronic toxicity: *No further information available.*

*
SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity: *No further relevant information available.*
12.2 Persistence and degradability: *No further relevant information available.*
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.*
12.7 Other adverse effects:
Ecotoxical effects: *no data*

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation:
Dispose of used containers (tubes) and any uncured or un-neutralized contamination to permitted hazardous waste.
Disposal must be made according to official regulations.

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Uncleaned packaging
Recommendation: *Disposal must be made according to official regulations.*

*
SECTION 14: Transport information

14.1 UN number or ID number
ADR, IMDG, IATA *UN2810*
14.2 UN proper shipping name:
ADR, IMDG, IATA *TOXIC LIQUID, ORGANIC, N.O.S. (Vinylcyclohexane diepoxide)*
14.3 Transport hazard class(es):

ADR

Class: *6.1 (T1) Toxic substances.*
Label: *6.1*
IMDG, IATA

Class: *6.1 Toxic substances.*
Label: *6.1*
14.4 Packing group:
ADR, IMDG, IATA *III*
14.5 Environmental hazards:
Marine pollutant: *No*
14.6 Special precautions for user: *Warning: Toxic substances.*
Hazard identification number (Kemler code): *60*
EMS Number: *F-A,S-A*
Stowage Category *A*
Stowage Code *SW2 Clear of living quarters.*
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.

ADR
Limited quantities (LQ): *5L*
Excepted quantities (EQ) *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
Transport category: *2*
Tunnel restriction code: *E*
IMDG
Limited quantities (LQ) *5L*
Excepted quantities (EQ) *Code: E1*
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
UN "Model Regulation": *UN 2810 TOXIC LIQUID, ORGANIC, N.O.S. (VINYLCYCLOHEXANE DIEPOXIDE), 6.1, III*

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* 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)

None of the ingredients is listed.
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.
Hazard pictograms

GHS06 GHS08

Signal word Danger

Hazard-determining components of labelling:
Vinylcyclohexane diepoxide
Hazard statements
H331 Toxic if inhaled.
H341 Suspected of causing genetic defects.
H350 May cause cancer.
H360F May damage fertility.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Seveso category H2 ACUTE TOXIC
DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.
Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.
Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.
Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.
Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations No further information available.

Information about limitation of use:
Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.
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.

Safety data sheet

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: *https://www.daikin.com/*
Abbreviations and acronyms:
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
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
ATE: Acute toxicity estimate values
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
**** Data compared to the previous version altered.***