



# Material Safety Data Sheet

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## Section 1: Chemical Product / Company Identification

Trade name **OPTOOL DSX**

### Company identification

Manufacturer DAIKIN INDUSTRIES, LTD.CHEMICAL DIVISION:  
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## Section 2: Composition / information on ingredients

Component	mass %	CAS RN	Symbols	R-Phrase
Perfluorinated compounds	20	Trade secret	-	-
Perfluorohexane	80	86508-42-1	-	-

## Section 3: Hazard identification

### EMERGENCY OVERVIEW:

Nonflammable.

The major health hazard associated with this material is the inhalation of thermal decomposition products.

### WARNING:

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.

## Section 4: First aid measures

Inhalation If any solvent vapors are inhaled, or if exposed to fumes from overheating or combustion, remove to fresh air. Keep warm and at rest. If breathing has stopped, give artificial respiration. Call a physician.

Eyes Immediately flush eyes with plenty of water for at least 15 minutes (remove contact lenses if easily possible). Consult an oculist.

Skin Wash thoroughly with soap and water immediately.

Ingestion Wash out mouth with water. Consult a physician.

## OPTOOL DSX

### SECTION 5: Fire-fighting measures

General Information	Non-flammable.
Extinguishing Media	Water Spray, Water Fog, Dry Chemical. Alcohol Foam. Carbon Dioxide.
Fire fighting procedures	Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus (SCBA) and full protective equipment.

#### WARNING:

Hazardous decomposition products including carbon dioxide, carbon monoxide, hydrogen fluoride, toxic gases or particles may be formed during combustion. These products may cause severe eye, nose, throat, and lung irritation or toxic effects.

### SECTION 6: Accidental release measures

General Information	Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks	Do NOT wash away into sewer or waterways. Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to covered steel drums for recovery or disposal.

### SECTION 7: Handling and storage

Handling	Use proper personal protective equipment as indicated in Section 8. Use in well ventilated areas. Avoid contact with eyes and skin and breathing of vapors or mist. Wash hands thoroughly after handling. Wash clothing after use. Do not store or consume food, drink, or tobacco in areas where they may become contaminated with this material. Follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.
Storage	Keep container tightly closed. Keep away from direct heat or sunlight.

### SECTION 8: Exposure controls / personal protection

Engineering Controls	Provide general or local exhaust ventilation systems to prevent the inhalation of solvent vapor.
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#### Personal Protective Equipment:

Clothing	Wear impervious gloves, pants, and jacket.
Eye	Wear safety glasses or coverall chemical splash goggles.
Respirators	Wear NIOSH approved respiratory protection, as appropriate.

### SECTION 9: Physical and chemical properties

Physical State	Colorless liquid
Boiling point	56 C (Estimation)
Relative density	1.7 (Estimation)
Solubility	insoluble in water
Flash Point	none

## OPTOOL DSX

### SECTION 10: Stability and reactivity

Stability	Stable at room temperature in closed containers under normal storage and handling conditions.
Incompatibility	Ignition sources, excess heat.
Decomposition	Carbon monoxide, carbon dioxide, HF, toxic gases or particles may be formed during combustion.
Polymerization	Will not occur.

### SECTION 11: Toxicological information

(Perfluorinated compounds)

Acute toxicity	ori-rat LD50 >2000 mg/kg
Skin irritation	rabbit: non to mildly irritating
Eye irritation	rabbit: minimally irritating
Hypersensitivity	no data
Mutagenicity	Ames Assay: Negative

### SECTION 12: Ecological information

This substance may not degrade significantly in most natural environments.

### SECTION 13: Disposal considerations

Comply with Federal, State and Local regulations concerning health and environment.

This material can be disposed by using landfill or by incineration.

In case of incineration, mix with flammable material and incinerate in an industrial or commercial facility which has the function of standing the acid.

### SECTION 14: Transport information

Not regulated as a hazardous material by DOT, IMO, or IATA.

### SECTION 15: Regulatory information

NFPA RATINGS (SCALE 0-4): HEALTH=3, FIRE=0, REACTIVITY=0

National Fire Protection Association Hazard Codes are designed for use by firefighters, sheriffs, or other emergency response teams who are concerned with the hazards of materials under emergency conditions. These NFPA codes are intended to include the hazards of the products of decomposition or combustion in a fire situation.

HMIS RATINGS (SCALE 0-4): HEALTH=0, FIRE=0, REACTIVITY=0

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

European Labeling in Accordance with EC Directives

Hazard Symbols	-
Risk Phrases	-
Safety Phrases	15: Keep away from heat. 20/21: When using, do not eat, drink or smoke. 3/7: Keep container tightly closed in a cool place.

### SECTION 16: Other information

## OPTOOL DSX

TSCA	listed: LVE (10t/Y)
EU	listed: ELINCS (100kg/Y)
Japan	ENCS: LVE (1000kg/Y)
Korea	no (100kg/Y)
China	Under application supplemented to China Inventory

This product is not designed, manufactured, or intended for medical uses, including implantation to the body or other applications in direct contact with body fluids or tissues.

Do not use for non-industrial applications.

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. The information does not relate to use in combination with any other material or in any process.

DAIKIN INDUSTRIES, LTD.CHEMICAL DIVISION:

homepage: <http://www.daikin.co.jp/chm/>