

## HFMOP

## SAFETY DATA SHEET

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH) &amp; 1272/2008 (CLP)

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Chemical Name	1,1,1,3,3,3-Hexafluoro-2-methoxypropane
Trade name	HFMOP; HFE-356mmz1
CAS No.	13171-18-1
EC INDEX No.	603-501-8
REACH Registration No.	01-2120820309-58-0000

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified use(s)	Solvent in vapour degreasing / vapour cleaning
Uses advised against	None assigned.

**1.3 Details of the supplier of the safety data sheet**

Company Identification	Halocarbon Life Sciences, LLC 6525 The Corners Parkway; Suite 200 Peachtree Corners, GA 20092
Telephone	+1 470-419-6363
E-Mail (competent person)	<a href="mailto:sds@halocarbon.com">sds@halocarbon.com</a>
Distributor	DKSH France SA 1475, quai du Rhône - BP266 F-01702 Miribel Cedex, France
Telephone	+33 4 7855 7875

**1.4 Emergency telephone number**

Emergency Phone No.	CHEMTREC 24 hr. +1 (703) 527-3887
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**SECTION 2: HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

Regulation (EC) No. 1272/2008 (CLP)	Not classified as dangerous for supply/use.
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**2.2 Label elements**

Hazard Symbol	None
Signal word(s)	None
Hazard statement(s)	None
Precautionary statement(s)	None

**2.3 Other hazards**

Asphyxiant. May displace oxygen and cause rapid suffocation. Not classified as PBT or vPvB.

**2.4 Additional Information**

None

## HFMOP

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Regulation (EC) No. 1272/2008 (CLP)

Hazardous ingredient(s)	%W/W	EC No. and CAS#	REACH Registration No.	According to Regulation (EC) No. 1272/2008 (CLP)
1,1,1,3,3,3-Hexafluoro-2-methoxypropane	> 99.9	603-501-8 13171-18-1	01-2120820309-58-0000	Not classified as dangerous for supply/use.

#### 3.2 Mixtures

Not applicable.

**3.3 Additional Information**– Substances in the product which may present a health or environmental hazard, or which have been assigned occupational exposure limits, are detailed below.: **None**

For full text of H/P phrases see section 16.

### SECTION 4: FIRST AID MEASURES



#### 4.1 Description of first aid measures

Inhalation	Move person to fresh air. If breathing is laboured, administer oxygen. If symptoms develop, obtain medical attention.
Skin Contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. If irritation (redness, rash, blistering) develops, get medical attention. Wash contaminated clothing before reuse
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.
Ingestion	Rinse mouth. Get medical attention.

**4.2 Most important symptoms and effects, both acute and delayed** None anticipated

**4.3 Indication of the immediate medical attention and special treatment needed** Treat symptomatically

### SECTION 5: FIRE-FIGHTING MEASURES

<b>5.1 Extinguishing media</b>	
-Suitable Extinguishing Media	Non-flammable / Non-combustible. As appropriate for surrounding fire.
-Unsuitable Extinguishing Media	None known.
<b>5.2 Special hazards arising from the substance or mixture</b>	None known.
<b>5.3 Advice for fire-fighters</b>	A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.



## HFMOP

### 8.2.2 Personal protection equipment

Eye/face protection



Wear protective eyewear (goggles, face shield, or safety glasses).

Skin protection (Hand protection/ Other)



Wear protective gloves. (Neoprene)

Respiratory protection



Normally no personal respiratory protection is necessary. In poorly ventilated areas or confined spaces, use an airline respirator or self-contained breathing apparatus.

Thermal hazards

Not normally required. Use gloves with insulation for thermal protection, when needed.

### 8.2.3 Environmental Exposure Controls

Avoid release to the environment. Keep containers properly sealed when not in use. Avoid run off to waterways and sewers.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Clear Colourless
Odour	Not available
Odour Threshold (ppm)	Not available
pH (Value)	Not available
Melting Point (°C) / Freezing Point (°C)	Not available
Boiling point/boiling range (°C):	50
Flash Point (°C)	> 93
Evaporation rate	Not available
Flammability (solid, gas)	Not applicable
Explosive limit ranges	Not applicable
Vapour Pressure (Pascal)	36,100 @ 25 °C
Vapour Density (Air=1)	Not applicable
Density (g/ml)	1.38
Solubility (Water)	0.0014 g/ml
Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available
Auto Ignition Temperature (°C)	Not available
Decomposition Temperature (°C)	Not available
Kinematic Viscosity (cSt) @ 40°C	0.36 @ 23 °C
Explosive properties	Not explosive.
Oxidising properties	Not oxidizing.

### 9.2 Other information

Not available

## SECTION 10: STABILITY AND REACTIVITY

<b>10.1 Reactivity</b>	No hazardous reactions known if used for its intended purpose.
<b>10.2 Chemical stability</b>	Considered stable under normal conditions.
<b>10.3 Possibility of hazardous reactions</b>	None known.

## HFMOP

<b>10.4 Conditions to avoid</b>	Incompatible materials
<b>10.5 Incompatible materials</b>	Strong oxidising agents, Alkalis and alkali metals, Aluminum, Zinc, Alkaline earth metals.
<b>10.6 Hazardous Decomposition Product(s)</b>	Thermal decomposition products include: Carbon monoxide, Carbon dioxide, and hydrogen fluorides.

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>11.1 Information on toxicological effects</b>	
<b>11.1.1 Substances:</b>	
Acute toxicity	Oral: LD50 >5000 mg/kg-bw Dermal: LD50 >5000 mg/kg-bw Inhalation: LC50 >24684 ppm (4-hour) (rat)
Skin corrosion/irritation	Slight irritant to rabbit skin.
Serious eye damage/irritation	Slight irritant to rabbit eyes.
Respiratory or skin sensitization	It is not a skin sensitiser in animal tests.
Germ cell mutagenicity	Not to be expected.
Carcinogenicity	No data
Reproductive toxicity	No data
STOT - single exposure	May cause drowsiness or dizziness. (By analogy with similar materials)
STOT - repeated exposure	No data
Aspiration hazard	No data
<b>11.1.2 Mixtures</b>	Not applicable
<b>11.1.3 Substances in preparations / mixtures</b>	Not applicable
<b>11.2 Other information</b>	None known.

### SECTION 12: ECOLOGICAL INFORMATION

<b>12.1 Toxicity</b>	
Short term	EC50 (48 hour) >125.7 mg/L ( <i>Daphnia magna</i> ) EC50 (72 hour) >129.8 mg/L ( <i>Pseudokirchneriella subcapita</i> )
Long Term	Not to be expected.
<b>12.2 Persistence and degradability</b>	Not readily biodegradable. Readily volatilizes from water.
<b>12.3 Bioaccumulative potential</b>	The product has low potential for bioaccumulation.
<b>12.4 Mobility in soil</b>	Not available
<b>12.5 Results of PBT and vPvB assessment</b>	Not classified as PBT or vPvB.
<b>12.6 Other adverse effects</b>	None known.

### SECTION 13: DISPOSAL CONSIDERATIONS

<b>13.1 Waste treatment methods</b>	Disposal should be in accordance with local, state or national legislation. Consult an accredited waste disposal contractor or the local authority for advice.
<b>13.2 Additional Information</b>	None known.

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### SECTION 14: TRANSPORT INFORMATION

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
14.1 UN number			UN 3334
14.2 Proper Shipping Name	Not classified as dangerous for transport.		Aviation regulated liquid, n.o.s. (Sevoflurane Related Compound B)
14.3 Transport hazard class(es)			9
14.4 Packing Group			III
14.5 Environmental hazards			No.
14.6 Special precautions for user			Subject to quantity restrictions/limitations
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable		

### SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:	
15.1.1 EU regulations	Listed
Regulation (EC) 2037/2000 - Dangerous to the ozone layer.	No.
Regulation (EC) 850/2004 - Persistent Organic Pollutants	No.
Regulation (EC) 689/2008 - Export/Import of Dangerous Chemicals	No.
Regulation (EC) 1907/2006 - REACH Authorisations and/or restrictions on use	No.
15.1.2 National regulations	Not established.
15.2 Chemical Safety Assessment	Not required.

### SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1 - 16

**Hazard statement(s) and Precautionary statement(s):**

- None.

**GHS Classification**

- Not classified as dangerous for supply/use.

**Training advice:** None.

**Additional Information:** None.

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