

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 26.11.2012

Revision: 26.11.2012

### 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** HFE7100 methoxy-nonafluorobutane
- **Article number:** 50-5200-15
- **CAS Number:** CAS 219484-64-7 as a mixture of 163702-07-6 and 163702-08-7
- **Registration number** Mixture
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation** Laboratory reagent/solvent.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Severn Biotech Ltd.  
Unit 2,  
Park Lane,  
Kidderminster,  
Worcestershire.  
DY11 6TJ  
UK  
Tel: 0044 1562 825286  
Fax: 0044 1562 825284  
email: info@severnbiotech.com
- **Further information obtainable from:** Product safety department.
- **Emergency telephone number:** Tel: 0044 1562 825286 (not 24 hours)

### 2 Hazards identification

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



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Sensitising

R42: May cause sensitisation by inhalation.

- **Information concerning particular hazards for human and environment:**  
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **Classification system:**  
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS08
- **Signal word** Danger

- **Hazard-determining components of labelling:**

Methyl Nonafluoroisobutyl ether

- **Hazard statements**

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Contains Methyl Nonafluoroisobutyl ether. May produce an allergic reaction.

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**· Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.  
 P102 Keep out of reach of children.  
 P103 Read label before use.  
 P285 In case of inadequate ventilation wear respiratory protection.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P260 Do not breathe mist/vapours/spray.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**· Other hazards**
**· Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.



### 3 Composition/information on ingredients

**· Chemical characterization: Substances**
**· CAS No. Description**

CAS 219484-64-7 as a mixture of 163702-07-6 and 163702-08-7

**· Identification number(s)**
**· Chemical characterization: Mixtures**
**· Description:** Mixture of substances listed below with nonhazardous additions.

**· Dangerous components:**

163702-08-7	Methyl Nonafluoroisobutyl ether	 Xn R42	25-80%
		 Resp. Sens. 1, H334	

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

### 4 First aid measures

**· Description of first aid measures**
**· General information:** Immediately remove any clothing soiled by the product.

**· After inhalation:**

DO NOT DELAY!

Supply fresh air; consult doctor in case of complaints.

**· After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**· After eye contact:**

Check for and remove any contact lenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

**· After swallowing:**

Wash mouth out with water

Do not induce vomiting; call for medical help immediately.

**· Information for doctor:** Treat symptomatically and supportively.

**· Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**· Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Hydrogen fluoride (HF)
- **Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.  
Wear self-contained respiratory protective device.  
Wear fully protective suit.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Keep ignition sources away - no smoking.  
Particular danger of slipping on leaked/spilled product.
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Send for recovery or disposal in suitable receptacles.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **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.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Avoid direct contact (skin contact, ingestion and/or inhalation of fume/mist/dust) with the product.  
Welding and other hot work operations in the work area must only be permitted under supervision.  
Safety showers and eye wash facilities should be available at the work area.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
A major hazard associated with this product is the inhalation of decomposition products. Vapour passing over the burning area of tobacco may cause break down to dangerous substances.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**  
Store in a banded area.  
Store in cool, dry conditions in well sealed receptacles.

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- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **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.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**  
Select PPE appropriate for the operations taking place taking into account the product properties.
- **General protective and hygienic measures:**  
Do not eat, drink, smoke or sniff while working.  
A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid close or long term contact with the skin.  
Do not inhale gases / fumes / aerosols.  
Ensure that eyewash stations and safety showers are close to the workstation location.  
Depending on the degree of exposure, periodic medical examination is suggested.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **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.
- **Eye protection:** Goggles recommended during refilling
- **Body protection:** Solvent resistant protective clothing

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Clear
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

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· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	60 °C
· <b>Flash point:</b>	>100 °C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapour pressure:</b>	Not determined.
· <b>Density at 20 °C:</b>	1.5 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**  
Strong acids and oxidising agents  
Strong bases.
- **Hazardous decomposition products:**  
Hydrogen fluoride  
Carbon monoxide and carbon dioxide

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### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:**  
Will defat and dry the skin.  
Frequent or prolonged contact may irritate and cause dermatitis.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through inhalation.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Harmful  
A major hazard associated with this product is the inhalation of thermal decomposition products.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** Product is not expected to bioaccumulate.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Contact waste processors for recycling information.  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.
- **European waste catalogue**  
Waste key numbers in accordance with the European Waste catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.
- **Uncleaned packaging:**
- **Recommendation:**  
Do not mix with other waste streams.

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Containers, even those that are "empty," may contain residues that can develop flammable vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

#### 14 Transport information

· UN-Number	
· ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	
· ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· ADR, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	-

#### 15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

#### 16 Other information

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.

- **Relevant phrases**

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

R42 May cause sensitisation by inhalation.