

Samuel Banner & Co. Ltd.



SAFETY DATA SHEET

HFE-7100

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

PRODUCT NAME: HFE-7100
PART No.: 1170
APPLICATIONS: Solvent
SUPPLIER: SAMUEL BANNER & Co Ltd.,
 HAMPTON COURT
 TUDOR ROAD, MANOR PARK
 RUNCORN. WA7 1TU
TEL: 01928-597000
FAX: 01928-597001
EMERGENCY TELEPHONE(S): 0207 405 5375 (24 HOUR)

2 COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	EINECS No.	CAS No.	CONTENTS	SYMBOL	RISK (R No.)
METHYL NONAFLUOROBUTYL ETHER		163702-07-6	30-50 %	-	53
METHYL NONAFLUOROISOBUTYL ETHER		163702-08-7	50-70 %		53

The full text for all R-phrases are shown in section 16.

FORMULA: C4F9OCH3

3 HAZARDS IDENTIFICATION

May cause long-term adverse effects in the aquatic environment.

4 FIRST AID MEASURES

GENERAL: This product is not expected to be irritating to the eyes, skin or respiratory system at room temperature conditions. This assessment does not account for contaminants from product use.
INHALATION: Provide rest, warmth and fresh air. If respiratory problems, artificial respiration/oxygen. Get medical help.
INGESTION: No recommendation given. Treat symptomatically.
SKIN: Remove affected person from source of contamination. Wash the skin immediately with soap and water.
EYES: Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: This material is not flammable. Use extinguishing media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES:

Use supplied air respirator if substance is involved in a fire. Use water to keep fire exposed containers cool and disperse vapours. Keep run-off water out of sewers and water sources. Dike for water control.

UNUSUAL FIRE & EXPLOSION HAZARDS:

This product may give rise to hazardous fumes in a fire. Fire or high temperatures may cause decomposition.

HAZARDOUS DECOMPOSITION PRODUCTS:

Hydrogen fluoride (HF). Fluorides. perfluorinated acid;

PROTECTIVE MEASURES IN FIRE:

Wear suitable respiratory protection when dealing with a fire. Wear suitable protective clothing.

6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS DURING SPILL:

Ensure good ventilation. Avoid breathing vapour. Wear suitable protective clothing.

PRECAUTIONS TO PROTECT ENVIRONMENT:

Do not let the product or washing down water enter natural water courses or the sewers.

SPILL CLEANUP METHODS:

Provide ventilation and confine spill. Do not allow runoff to sewer. Clean-up personnel should use respiratory and/or liquid contact protection. Wash thoroughly after dealing with a spillage. Absorb in vermiculite, dry sand or earth and place into containers. Do not contaminate water sources or sewer. If it has entered drains, inform authorities (Fire Service). Exposure to excessive vapour concentrations in confined spaces may cause significant injury.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS:

No specific usage precautions noted. Do not use in confined spaces without adequate ventilation and/or respirator. Container must be kept tightly closed. Where prolonged or repeated exposure is likely PROTECTIVE CLOTHING should be worn including IMPERVIOUS GLOVES and EYE PROTECTION. Ensure good ventilation. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. Keep in tightly closed, clearly labelled containers. Do not expose the material to high temperatures(150C+), avoid welding and open flames nearby. Avoid equipment with a heating area of 50+ watts per square inch which can lead to product decomposition. Applications exceeding the above parameters should be reviewed with the appropriate persons with technical expertise.

USAGE DESCRIPTION:

No smoking whilst using this product as it can result in contamination of the tobacco and/or smoke and lead to the formation of the hazardous decomposition products mentioned in Section 5 & 10 of this HSDS.

STORAGE PRECAUTIONS:

No special storage precautions noted.

STORAGE CRITERIA:

Unspecified storage.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME	CAS No	STD	LT EXP (8 hrs)	ST EXP (15 min)
METHYL NONAFLUOROBUTYL ETHER	163702-07-6	PEL	700 ppm	
METHYL NONAFLUOROISOBUTYL ETHER	163702-08-7	PEL	700 ppm	

PROTECTIVE EQUIPMENT:



PROCESS CONTROL MEASURES:

Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station. Wash all splashes from the skin immediately.

VENTILATION:

Provide adequate general and local exhaust ventilation. All handling to take place in well ventilated area.

RESPIRATORS:

No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists. Seek advice from supervision on the company respiratory protection standard.

PROTECTIVE GLOVES:

Protective gloves should be used if there is a risk of direct contact or splash. Neoprene. Nitrile. Ensure gloves are manufactured/tested in accordance with BS EN 374. Determined penetration times carried out in accordance with EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time corresponding to 50% of the penetration time is recommended.

HFE-7100

EYE PROTECTION: Wear splash-proof eye goggles to prevent any possibility of eye contact. Ensure safety spectacles are manufactured/tested in accordance with EN 166.

OTHER PROTECTION: Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station. When using, do not eat, drink or smoke. Use local exhaust ventilation, or other engineering control to maintain airborne levels below recommended exposure limits.

HYGIENIC WORK ROUTINES: Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. **DO NOT SMOKE IN WORK AREA!**

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Liquid.	COLOUR:	Colourless.
ODOUR/TASTE:	Ether.		
SOLUBILITY DESCRIPTION:	Insoluble in water.		
SOLUBILITY VALUE (g/100g H₂O/20°C):	<12ppm	BOILING POINT (°C):	60
MELTING POINT (°C):	-135	SPECIFIC GRAVITY (Water=1):	1.5 @ 25 °C
VAPOUR DENSITY (air=1):	8.6	EVAPORATION RATE:	N/D
VAPOUR PRESSURE:	202mmHg @ 20 °C	VISCOSITY:	0.6 cps @ 23 °C
pH-VALUE, CONC:	N/A	FLAMMABILITY LIMIT (lower %):	N/A
FLASH POINT (°C):	N/A		
AUTO IGNITION TEMPERATURE (°C):	405		

10 STABILITY AND REACTIVITY

STABILITY: Avoid: Contact with acids. oxidisers. bases. Decomposes on heating.

CONDITIONS TO AVOID: Avoid contact with strong oxidisers. Avoid excessive heat for prolonged periods of time. Avoid contact with acids. Strong bases.

MATERIALS TO AVOID: Strong oxidizing agents. Strong acids. acids and bases.

HAZARDOUS DECOMPOSITION PRODUCTS: If the product is exposed to extreme conditions of heat from misuse or equipment failure, toxic decomposition products that include hydrogen fluoride and perfluoroisobutylene can occur. Hydrogen fluoride has an ACGIH TLV of 3ppm in air of fluoride as a ceiling limit; an OSHA PEL of 3ppm of fluoride as an 8hr TWA and 6ppm of fluoride as a STEL. Perfluoroisobutylene has an ACGIH TLV of 0.01 ppm or 0.082 mg/m³.

11 TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA: >5000

TOXIC DOSE1- LD50: >5000mg/kg (oral rat)

TOXIC CONC.- LC50: >100,000ppm/4h (inh-rat)

TOXICOLOGICAL INFORMATION: No signs of cardiac sensitisation at exposures up to 100,000 ppm.
PRIMARY DERMAL IRRITATION: Minimally Irritating.
PRIMARY OCCULAR IRRITATION: Practically Non-Irritating.
DERMAL SENSITISATION: Non Sensitising.
MUTAGENICITY: Not a mutagen in reverse mutation or chromosomal aberration assays.
DEVELOPMENT TOXICITY: No abnormal effects observed. Practically Non-Toxic.

INHALATION: Abimal studies revealed increased levels of urinary fluoride after repeated exposure.

INGESTION: Ingestion of this product is not a likely event.

SKIN: Liquid may irritate skin.

EYES: Not expected to be irritating.

12 ECOLOGICAL INFORMATION

LC50 96 HRS FISH (mg/Kg): >7.9

EC50 48 HRS DAPHNIA (mg/l): >10

ENVIRONMENTAL HAZARDS: Ozone Depleting Potential = 0

ACUTE FISH TOXICITY: No acute or chronic toxicity to aquatic organisms is expected at the maximum solubility of this product.

13 DISPOSAL CONSIDERATIONS

GENERAL/CLEANING:	Contaminated packages must be completely emptied before sending away for laundering and re-use.
DISPOSAL METHODS:	Recover and reclaim or recycle, if practical. Do not allow runoff to sewer, waterway or ground. Confirm disposal procedures with environmental engineer and local regulations. Dispose of in accordance with Local Authority requirements. EWC Number: Allocation of a waste code number in accordance with the European Waste catalogue, should be carried out in agreement with an EA authorised waste disposal company.

14 TRANSPORT INFORMATION

LABEL FOR CONVEYANCE:	No transport warning sign required.
ROAD:	
UN No:	N/A
HAZARD CLASS (ADR):	Not classified for transportation.
RAIL:	
SEA:	
UN SEA:	N/A
AIR:	
UN AIR:	N/A

15 REGULATORY INFORMATION

RISK PHRASES:	R-53	May cause long-term adverse effects in the aquatic environment.
SAFETY PHRASES:	S-51	Use only in well ventilated areas.
	S-21	When using do not smoke.
	S-57	Use appropriate containment to avoid environmental contamination.

16 OTHER INFORMATION

USER NOTES:	Since emptied containers retain product residue, follow label warnings even after container is emptied. Labels should not be removed from containers until they have been cleaned and no product remains within. For further Health and Safety information contact: Health and Safety Officer.	
REVISION COMMENTS:	All sections. This Health & Safety Data Sheet has been extensively amended. Please check details carefully.	
REVISION DATE:	25/05/01	
REVISION No. /REPLACES SDS ISSUED:	2-04/04/97	
R-PHRASES (Full Text):	R-53	May cause long-term adverse effects in the aquatic environment.
SAFETY DATA SHEET STATUS:	Approved.	
DATE:	25/05/01	
SIGNATURE:	D.Dalton	

DISCLAIMER

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS, TO THE BEST OF THE COMPANY'S KNOWLEDGE AND BELIEF, ACCURATE AND RELIABLE AS OF THE DATE INDICATED. HOWEVER, NO WARRANTY, GUARANTEE OR REPRESENTATION IS MADE AS TO ITS ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABILITY OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.