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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 45668

NAME: 1-Bromo-5-fluoropentane

SYNONYMS:

24 HOUR EMERGENCY TELEPHONE: (800) 535-5053(USA)
352-323-3500 (INTERNATIONAL)

TO REQUEST AN MSDS: (800) 869-9290

CUSTOMER SERVICE: (630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)
FLAMMABLE LIQUIDS (CATEGORY 3), H226
SKIN CORROSION/IRRITATION (CATEGORY 2), H315
EYE DAMAGE/IRRITATION (CATEGORY 2A), H319

MW: 169.04
CAS-NO. 407-97-6
PURITY: \geq 98% (GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
1-Bromo-5-fluoropentane	-	-

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE. MOVE OUT OF DANGEROUS AREA.

IF INHALED REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL.

IN CASE OF SKIN CONTACT REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. GENTLY WASH WITH PLENTY OF SOAP AND WATER. IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ATTENTION.

IN CASE OF 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.

IF SWALLOWED GET MEDICAL ADVICE/ATTENTION IF YOU FEEL UNWELL. RINSE MOUTH.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND NO DATA AVAILABLE

**SPECIAL TREATMENT
NEEDED**

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

**SUITABLE
EXTINGUISHING MEDIA**

SUITABLE EXTINGUISHING MEDIA:
DRY CHEMICAL, FOAM, WATER SPRAY, CARBON
DIOXIDE.

UNSUITABLE EXTINGUISHING MEDIA:
SOLID STREAMS OF WATER

**SPECIAL HAZARDS
ARISING FROM THE
SUBSTANCE OR MIXTURE**

CARBON OXIDES HALOGENATED COMPOUNDS

**ADVICE FOR
FIREFIGHTERS**

WEAR SELF-CONTAINED BREATHING APPARATUS IF
POSSIBLE.

FURTHER INFORMATION

WARNING: HIGHLY TOXIC HF GAS IS PRODUCED
DURING COMBUSTION.
TAKE CARE AS IT MAY DECOMPOSE UPON
COMBUSTION OR IN HIGH TEMPERATURES TO
GENERATE POISONOUS FUME.

SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL
PRECAUTIONS,
PROTECTIVE
EQUIPMENT AND
EMERGENCY
PROCEDURES**

USE EXTRA PERSONAL PROTECTIVE EQUIPMENT
(SELF-CONTAINED BREATHING APPARATUS). KEEP
PEOPLE AWAY FROM AND UPWIND OF SPILL/LEAK.
ENSURE ADEQUATE VENTILATION. ENTRY TO NON-
INVOLVED PERSONNEL SHOULD BE CONTROLLED
AROUND THE LEAKAGE AREA BY ROPING OFF, ETC.

**ENVIRONMENTAL
PRECAUTIONS**

PREVENT PRODUCT FROM ENTERING DRAINS.

**METHODS AND
MATERIALS FOR
CONTAINMENT AND
CLEANING UP**

ABSORB SPILLED MATERIAL IN DRY SAND OR INERT
ABSORBENT BEFORE RECOVERING IT INTO AN
AIRTIGHT CONTAINER. IN CASE OF LARGE AMOUNT
OF SPILLAGE, CONTAIN A SPILL BY BUNDING.
ADHERED OR COLLECTED MATERIAL SHOULD BE
PROMPTLY DISPOSED OF, IN ACCORDANCE WITH
APPROPRIATE LAWS AND REGULATIONS.

REFERENCE TO OTHER SECTIONS FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING HANDLING IS PERFORMED IN A WELL VENTILATED PLACE. WEAR SUITABLE PROTECTIVE EQUIPMENT. PREVENT GENERATION OF VAPOUR OR MIST. KEEP AWAY FROM HEAT/SPARKS/OPEN FLAME/HOT SURFACES. -NO SMOKING. TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE. USE EXPLOSION-PROOF EQUIPMENT. WASH HANDS AND FACE THOROUGHLY AFTER HANDLING. USE A CLOSED SYSTEM IF POSSIBLE. USE A VENTILATION, LOCAL EXHAUST IF VAPOUR OR AEROSOL WILL BE GENERATED. AVOID CONTACT WITH SKIN, EYES AND CLOTHING.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DARK AND WELL-VENTILATED PLACE. STORE AWAY FROM INCOMPATIBLE MATERIALS SUCH AS OXIDIZING AGENTS.

Store at 2 - 8 °C

SPECIFIC END USE(S) APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS

FOLLOW SAFE INDUSTRIAL ENGINEERING/LABORATORY PRACTICES WHEN HANDLING ANY CHEMICAL. INSTALL A CLOSED SYSTEM OR LOCAL EXHAUST. ALSO INSTALL SAFETY SHOWER AND EYE BATH.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION	FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
SKIN PROTECTION	HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.
BODY PROTECTION	IMPERVIOUS CLOTHING, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
RESPIRATORY PROTECTION	VAPOR RESPIRATOR. FOLLOW LOCAL AND NATIONAL REGULATIONS.
CONTROL OF ENVIRONMENTAL EXPOSURE	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colorless to light yellow clear liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
INITIAL BOILING POINT AND BOILING RANGE	162 °C
FLASH POINT	50 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.37
WATER SOLUBILITY	NO DATA AVAILABLE

PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

OTHER SAFETY INFORMATION

NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO SPECIAL REACTIVITY HAS BEEN REPORTED.
CONDITIONS TO AVOID	SPARK, OPEN FLAME, STATIC DISCHARGE
INCOMPATIBLE MATERIALS	OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN FLUORIDE, HYDROGEN BROMIDE

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	NO DATA AVAILABLE
	IPR-MUS LD50:10480 UG/KG
	DERMAL: NO DATA AVAILABLE
	NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	NO DATA AVAILABLE

SERIOUS EYE DAMAGE/EYE IRRITATION	NO DATA AVAILABLE
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	NO DATA AVAILABLE
CARCINOGENICITY	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA S LIST OF REGULATED CARCINOGENS.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE
ADDITIONAL INFORMATION	RTECS: RZ9810000 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	NO DATA AVAILABLE
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE

BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL LOG POW:	2.19
RESULTS OF PBT AND VPVB ASSESSMENT	NO DATA AVAILABLE
OTHER ADVERSE EFFECTS	NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, N.O.S (1-Bromo-5-fluoropentane)
UN NUMBER:	1993
CLASS:	3
PACKING GROUP:	III

IMDG

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, N.O.S (1-Bromo-5-fluoropentane)
UN NUMBER:	1993
CLASS:	3
PACKING GROUP:	III
EMS NUMBER:	F-E, S-E

IATA

PROPER SHIPPING NAME:	FLAMMABLE LIQUID, N.O.S (1-Bromo-5-fluoropentane)
UN NUMBER:	1993
CLASS:	3
PACKING GROUP:	III

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.

SARA 313 COMPONENTS THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
1-Bromo-5-fluoropentane	407-97-6	

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
1-Bromo-5-fluoropentane	407-97-6	

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

H226	FLAMMABLE LIQUID AND VAPOR
H315	CAUSES SKIN IRRITATION.
H319	CAUSES SERIOUS EYE IRRITATION.

MSDS LEGEND

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS
CAS:	CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL:	PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV:	THRESHOLD LIMIT VALUE (ACGIH)

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