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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	24444
NAME:	Trimethylsilyl trifluoromethanesulfonate
SYNONYMS:	Trimethylsilyl triflate
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 (CATEGORY 1B), H314
SERIOUS EYE DAMAGE (CATEGORY 1), H318

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

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD DANGER

HAZARD STATEMENT(S)

H226 FLAMMABLE LIQUID AND VAPOUR.

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

PRECAUTIONARY STATEMENT(S)

P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING.

P233 KEEP CONTAINER TIGHTLY CLOSED.

P240 GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.

P241 USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING/ EQUIPMENT.

P242 USE ONLY NON-SPARKING TOOLS.

P243 TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE.

P264 WASH SKIN THOROUGHLY AFTER HANDLING.

P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.

P301 + P330 + P331 IF SWALLOWED: RINSE MOUTH. DO NOT INDUCE VOMITING.

P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER.

P304 + P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING.

P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.

P310 IMMEDIATELY CALL A POISON CENTER OR DOCTOR/ PHYSICIAN.

P321 SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID INSTRUCTIONS ON THIS LABEL).

P363 WASH CONTAMINATED CLOTHING BEFORE REUSE.

P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM FOR EXTINCTION.

P403 + P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL.

P405 STORE LOCKED UP.

P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT
OTHERWISE
CLASSIFIED (HNO)
OR NOT COVERED
BY GHS**

REACTS VIOLENTLY WITH WATER. REACTS VIOLENTLY WITH WATER.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: C₄H₉F₃O₃SSi

MW: 222.26

CAS-NO. 27607-77-8

PURITY: ≥ 98% (Assay by titration)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
TRIMETHYLSILYL TRIFLUOROMETHANESULPHONATE		
	FLAM. LIQ. 3; SKIN CORR. 1B; EYE DAM. 1; H226, H314	-

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	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
IN CASE OF SKIN CONTACT	TAKE OFF CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
IN CASE OF EYE CONTACT	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.CONTINUE RINSING EYES DURING TRANSPORT TO HOSPITAL.
IF SWALLOWED	DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
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
SPECIAL TREATMENT
NEEDED**

NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

**SUITABLE
EXTINGUISHING MEDIA**

DRY POWDER

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

CARBON OXIDES, SULPHUR OXIDES, HYDROGEN
FLUORIDE, SILICON OXIDES
FLASH BACK POSSIBLE OVER CONSIDERABLE
DISTANCE. CONTAINER EXPLOSION MAY OCCUR
UNDER FIRE CONDITIONS.

**ADVICE FOR
FIREFIGHTERS**

WEAR SELF CONTAINED BREATHING APPARATUS FOR
FIRE FIGHTING IF NECESSARY.

FURTHER INFORMATION

NO DATA AVAILABLE

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

USE PERSONAL PROTECTIVE EQUIPMENT. AVOID
BREATHING VAPOURS, MIST OR GAS. ENSURE
ADEQUATE VENTILATION. REMOVE ALL SOURCES OF
IGNITION. EVACUATE PERSONNEL TO SAFE AREAS.
BEWARE OF VAPOURS ACCUMULATING TO FORM
EXPLOSIVE CONCENTRATIONS. VAPOURS CAN
ACCUMULATE IN LOW AREAS.
FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL
PRECAUTIONS**

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE
TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

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

CONTAIN SPILLAGE, AND THEN COLLECT WITH AN
ELECTRICALLY PROTECTED VACUUM CLEANER OR BY
WET-BRUSHING AND PLACE IN CONTAINER FOR
DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE
SECTION 13). DO NOT FLUSH WITH WATER.

**REFERENCE TO OTHER
SECTIONS**

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID INHALATION OF VAPOUR OR MIST. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.TAKE MEASURES TO PREVENT THE BUILD UP OF ELECTROSTATIC CHARGE. FOR PRECAUTIONS SEE SECTION 2.2.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. CONTAINERS WHICH ARE OPENED MUST BE CAREFULLY RESEALED AND KEPT UPRIGHT TO PREVENT LEAKAGE. KEEP AWAY FROM WATER.NEVER ALLOW PRODUCT TO GET IN CONTACT WITH WATER DURING STORAGE. HANDLE AND STORE UNDER INERT GAS. AIR SENSITIVE.
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.
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EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.
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PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION	TIGHTLY FITTING SAFETY GOGGLES. FACESHIELD (8-INCH MINIMUM). USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
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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	COMPLETE SUIT PROTECTING AGAINST CHEMICALS, 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	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE RESPIRATOR WITH MULTI- PURPOSE COMBINATION (US) OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).
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	Clear, colorless to slight yellow liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	
POINT/FREEZING POINT	
INITIAL BOILING POINT	134 - 144 °C
AND BOILING RANGE	
FLASH POINT	25 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE

VAPOUR PRESSURE	4.7 HPA (3.5 MMHG) AT 20 °C , 15 HPA (11 MMHG) AT 38 °C, 29.1 HPA (21.8 MMHG) AT 50 °C
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.19 - 1.24 g/mL at 25 °C
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	VAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR. REACTS VIOLENTLY WITH WATER.
CONDITIONS TO AVOID	HEAT, FLAMES AND SPARKS. EXPOSURE TO MOISTURE.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS, STRONG BASES
HAZARDOUS DECOMPOSITION PRODUCTS	OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	INHALATION: NO DATA AVAILABLE DERMAL: 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.
ACGIH:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY ACGIH.
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 IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
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: NOT AVAILABLE

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	NO DATA AVAILABLE
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE

BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
OTHER ADVERSE EFFECTS	NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. 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:	CORROSIVE LIQUIDS, FLAMMABLE, N.O.S. (Trimethylsilyl trifluoromethanesulfonate)
UN NUMBER:	2920
CLASS:	8 (3)
PACKING GROUP:	II
MARINE POLLUTANT:	NO
POISON INHALATION HAZARD:	NO

IMDG

PROPER SHIPPING NAME:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.(Trimethylsilyl trifluoromethanesulfonate)
UN NUMBER:	2920
CLASS:	8 (3)
PACKING GROUP:	II
EMS-NO:	F-E, S-C
MARINE POLLUTANT:	NO

IATA

PROPER SHIPPING NAME: CORROSIVE LIQUID, FLAMMABLE, N.O.S.(Trimethylsilyl trifluoromethanesulfonate)

UN NUMBER: 2920

CLASS: 8 (3)

PACKING GROUP: II

SECTION 15. REGULATORY INFORMATION

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

SARA 313 COMPONENTS SARA 313: 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.

SARA 311/312 HAZARDS FIRE HAZARD, ACUTE HEALTH HAZARD

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
Trimethylsilyl trifluoromethanesulfonate	27607-77-8	

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
Trimethylsilyl trifluoromethanesulfonate	27607-77-8	

CALIFORNIA PROP. 65 COMPONENTS THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

SECTION 16. OTHER INFORMATION

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

EYE DAM.	SERIOUS EYE DAMAGE
FLAM. LIQ.	FLAMMABLE LIQUIDS
H226	FLAMMABLE LIQUID AND VAPOUR.
H314	CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
H318	CAUSES SERIOUS EYE DAMAGE.

SKIN CORR. SKIN CORROSION

HMIS RATING

HEALTH HAZARD:	3
CHRONIC HEALTH HAZARD:	
FLAMMABILITY:	3
PHYSICAL HAZARD	3

NFPA RATING

HEALTH HAZARD:	3
FIRE HAZARD:	3
REACTIVITY HAZARD:	0
SPECIAL HAZARD.I:	W

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)

IMPORTANT:

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