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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 31758

NAME: 4-Chlorobenzotrifluoride

SYNONYMS: 1-Chloro-4-(trifluoromethyl)benzene

4-Chloro-α,α,α-trifluorotoluene

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 SENSITISATION (CATEGORY 1), H317 ACUTE AQUATIC TOXICITY (CATEGORY 2), H401 CHRONIC AQUATIC TOXICITY (CATEGORY 2), H411 FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM

<

SIGNAL WORD WARNING

HAZARD STATEMENT(S)

H226 FLAMMABLE LIQUID AND VAPOUR.

H317 MAY CAUSE AN ALLERGIC SKIN REACTION.

H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

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

P261 AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOURS/

SPRAY.

P272 CONTAMINATED WORK CLOTHING SHOULD NOT BE

ALLOWED OUT OF THE WORKPLACE.

P273 AVOID RELEASE TO THE ENVIRONMENT.

P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE

PROTECTION/ FACE PROTECTION.

P303 + P361 + P353 IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL

CONTAMINATED CLOTHING. RINSE SKIN WITH

WATER/SHOWER.

P333 + P313 IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL

ADVICE/ ATTENTION.

P363 WASH CONTAMINATED CLOTHING BEFORE REUSE. P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR

ALCOHOL-RESISTANT FOAM TO EXTINGUISH.

P391 COLLECT SPILLAGE.

P403 + P235 STORE IN A WELL-VENTILATED PLACE. KEEP COOL.
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED

WASTE DISPOSAL PLANT.

HAZARDS NOT NONE

OTHERWISE

CLASSIFIED (HNOC) OR NOT COVERED BY GHS

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: C₇H₄ClF₃

MW: 180.55

CAS-NO. 98-56-6

PURITY: \geq 99%(GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
4-Chlorobenzotrifluoride		•
	FLAM. LIQ. 3; SKIN SENS. 1;	90 - 100 %
	AQUATIC ACUTE 2; AQUATIC CHRONIC 2; H226, H317, H411	

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 BREATHED IN, MOVE PERSON INTO FRESH AIR. IF IF INHALED

NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.

CONSULT A PHYSICIAN.

IN CASE OF SKIN WASH OFF WITH SOAP AND PLENTY OF WATER.

CONTACT CONSULT A PHYSICIAN.

IN CASE OF EYE FLUSH EYES WITH WATER AS A PRECAUTION.

CONTACT

IF SWALLOWED DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING

> BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.

THE MOST IMPORTANT KNOWN SYMPTOMS AND MOST IMPORTANT

SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE

EFFECTS, BOTH ACUTE SECTION 2.2) AND/OR IN SECTION 11 AND DELAYED

INDICATION OF ANY NO DATA AVAILABLE IMMEDIATE MEDICAL ATTENTION AND

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY

NO DATA AVAILABLE

EXTINGUISHING MEDIA CHEMICAL OR CARBON DIOXIDE.

SPECIAL HAZARDS ARISING FROM THE

SUBSTANCE OR MIXTURE

ADVICE FOR WEAR SELF-CONTAINED BREATHING APPARATUS FOR

FIREFIGHTERS FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL USE PERSONAL PROTECTIVE EQUIPMENT. AVOID PRECAUTIONS, BREATHING VAPOURS, MIST OR GAS. ENSURE ADEOUATE VENTILATION. REMOVE ALL SOURCES OF

EQUIPMENT AND IGNITION. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN

PROCEDURES ACCUMULATE IN LOW AREAS.

FOR PERSONAL PROTECTION SEE SECTION 8.

ENVIRONMENTAL PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO

PRECAUTIONSDO SO. DO NOT LET PRODUCT ENTER DRAINS.
DISCHARGE INTO THE ENVIRONMENT MUST BE

AVOIDED.

METHODS ANDCONTAIN SPILLAGE, AND THEN COLLECT WITH ANMATERIALS FORELECTRICALLY PROTECTED VACUUM CLEANER OR BYCONTAINMENT ANDWET-BRUSHING AND PLACE IN CONTAINER FOR

CLEANING UP DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE

SECTION 13).

REFERENCE TO OTHER FO

SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE

HANDLING

AVOID CONTACT WITH SKIN AND EYES. 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.

Store at RT

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 HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND

AT THE END OF WORKDAY.

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 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 WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING **PROTECTION** RESPIRATORS ARE APPROPRIATE USE A FULL-FACE

RESPIRATOR WITH MULTIPURPOSE 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. DISCHARGE INTO THE

ENVIRONMENT MUST BE AVOIDED.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Colorless clear liquid
ODOUR NO DATA AVAILABLE
ODOUR THRESHOLD NO DATA AVAILABLE
PH NO DATA AVAILABLE

MELTING - 36 °C

POINT/FREEZING POINT

INITIAL BOILING POINT 136 - 138 °C

AND BOILING RANGE

FLASH POINT 43 °C

EVAPORATION RATE NO DATA AVAILABLE FLAMMABILITY (SOLID, NO DATA AVAILABLE

GAS)

UPPER/LOWER NO DATA AVAILABLE

FLAMMABILITY OR EXPLOSIVE LIMITS

VAPOUR PRESSURE 0.0002 HPA (0.0002 MMHG) AT 25 C - OECD TEST

GUIDELINE 104

VAPOUR DENSITY NO DATA AVAILABLE

RELATIVE DENSITY 1.35

WATER SOLUBILITY 0.0338 G/L AT 20 C - SLIGHTLY SOLUBLE

PARTITION COEFFICIENT: LOG POW: 3.7 AT 25 C

N- OCTANOL/WATER

AUTO-IGNITION 600 C AT 998 HPA (749 MMHG)

TEMPERATURE

DECOMPOSITION NO DATA AVAILABLE

TEMPERATURE

VISCOSITY 0.76 MM2/S AT 20 C - 0.58 MM2/S AT 40 C

EXPLOSIVE PROPERTIES NOT EXPLOSIVE 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 DATA AVAILABLE

CONDITIONS TO AVOID HEAT, FLAMES AND SPARKS.

INCOMPATIBLE MATERIALS

STRONG BASES, STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES,

HYDROGEN CHLORIDE GAS, HYDROGEN FLUORIDE

OTHER DECOMPOSITION PRODUCTS - NO DATA

AVAILABLE

IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY LD50 ORAL - RAT - 13,000 MG/KG

LD50 ORAL - RAT - 5,546 MG/KG

LC50 INHALATION - RAT - 4 H - > 32.03 MG/L

LD50 DERMAL - RABBIT - > 3,300 MG/KG

NO DATA AVAILABLE

SKIN - RABBIT

CORROSION/IRRITATION RESULT: NO SKIN IRRITATION

SERIOUS EYE EYES - RABBIT

DAMAGE/EYE IRRITATION RESULT: NO EYE IRRITATION

RESPIRATORY OR SKIN

IN VIVO ASSAY - MOUSE **SENSITISATION**

MAY CAUSE SENSITISATION BY SKIN CONTACT.

(OECD TEST GUIDELINE 429)

GERM CELL

AMES TEST

MUTAGENICITY SALMONELLA TYPHIMURIUM

RESULT: NOT MUTAGENIC IN AMES TEST

CHROMOSOME ABERRATION TEST IN VITRO

CHINESE HAMSTER OVARY CELLS

RESULT: NEGATIVE

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.

NO COMPONENT OF THIS PRODUCT PRESENT AT NTP:

> LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED

CARCINOGEN BY NTP.

NO COMPONENT OF THIS PRODUCT PRESENT AT OSHA:

> LEVELS GREATER THAN OR EOUAL 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: XS9145000

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE

NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

TOXICITY TO FISH SEMI-STATIC TEST LC50 - DANIO RERIO (ZEBRA FISH) -

3 MG/L - 96 H

(OECD TEST GUIDELINE 203)

TOXICITY TO DAPHNIA AND

OTHER AQUATIC INVERTEBRATES TOXICITY TO ALGAE EC50 - DAPHNIA MAGNA (WATER FLEA) - 2 MG/L - 48 H

(OECD TEST GUIDELINE 202)

NOEC - PSEUDOKIRCHNERIELLA SUBCAPITATA

(GREEN ALGAE) - 0.41 MG/L - 72 H (OECD TEST GUIDELINE 201)

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY RESULT: - ACCORDING TO THE RESULTS OF TESTS OF

BIODEGRADABILITY THIS PRODUCT IS NOT READILY

BIODEGRADABLE.

(OECD TEST GUIDELINE 301D)

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 AN ENVIRONMENTAL HAZARD CANNOT BE

EXCLUDED IN THE EVENT OF UNPROFESSIONAL

HANDLING OR DISPOSAL.

TOXIC TO AQUATIC LIFE WITH LONG LASTING

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.

CONTAMINATED PACKAGING

DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: (4-Chlorobenzotrifluoride)

UN NUMBER: 2234 CLASS: 3 PACKING GROUP: III

REPORTABLE QUANTITY

(RQ):

POISON INHALATION NO

HAZARD:

IMDG

PROPER SHIPPING NAME: (4-Chlorobenzotrifluoride)

UN NUMBER: 2234
CLASS: 3
PACKING GROUP: III
EMS-NO: F-E, S-D

IATA

PROPER SHIPPING NAME: (4-Chlorobenzotrifluoride)

UN NUMBER: 2234 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.

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

4-Chlorobenzotrifluoride 98-56-6

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO.

REVISION DATE

4-Chlorobenzotrifluoride 98-56-6

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.

AQUATIC ACUTE ACUTE AQUATIC TOXICITY
AQUATIC CHRONIC CHRONIC AQUATIC TOXICITY

FLAM. LIQ. FLAMMABLE LIQUIDS

H226 FLAMMABLE LIQUID AND VAPOUR.

H317 MAY CAUSE AN ALLERGIC SKIN REACTION.

H401 TOXIC TO AQUATIC LIFE.

H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING

EFFECTS.

SKIN SENS. SKIN SENSITISATION

HMIS RATING

HEALTH HAZARD: 2 CHRONIC HEALTH *

HAZARD:

FLAMMABILITY: 2 PHYSICAL HAZARD 0

NFPA RATING

HEALTH HAZARD: 2 FIRE HAZARD: 2 REACTIVITY HAZARD: 0

MSDS LEGEND

MW: MOLECULAR WEIGHT MF: MOLECULAR FORMULA

VOC: VOLATILE ORGANIC COMPOUNDS

ACGIH: AMERICAN CONFERENCE OF GOVERNMENENTAL 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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