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S A F E T Y D A T A S H E E T

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	40849
NAME:	Gallium(III) chloride anhydrous
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)

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)

H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

PRECAUTIONARY STATEMENT(S)

P260 DO NOT BREATHE DUST OR MIST.
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 + P310 IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. IMMEDIATELY CALL A POISON CENTER/ DOCTOR.
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/DOCTOR.
P363 WASH CONTAMINATED CLOTHING BEFORE REUSE.
P405 STORE LOCKED UP.
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

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

NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: GaCl₃
MW: 176.07
CAS-NO. 13450-90-3*
PURITY: ≥ 98%

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	TRADE SECRET
GALLIUM(III) CHLORIDE ANHYDROUS		
	≥ 90 - ≤ 100	-

* INDICATES THAT THE IDENTIFIER IS A CAS NO.
ACTUAL CONCENTRATION IS WITHHELD AS A TRADE SECRET

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	FIRST AIDERS NEED TO PROTECT THEMSELVES. SHOW THIS MATERIAL SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.
IF INHALED	AFTER INHALATION: FRESH AIR. CALL IN PHYSICIAN.
IN CASE OF SKIN CONTACT	IN CASE OF SKIN CONTACT: TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/ SHOWER. CALL A PHYSICIAN IMMEDIATELY.
IN CASE OF EYE CONTACT	AFTER EYE CONTACT: RINSE OUT WITH PLENTY OF WATER. IMMEDIATELY CALL IN OPHTHALMOLOGIST. REMOVE CONTACT LENSES.
IF SWALLOWED	AFTER SWALLOWING: MAKE VICTIM DRINK WATER (TWO GLASSES AT MOST), AVOID VOMITING (RISK OF PERFORATION). CALL A PHYSICIAN IMMEDIATELY. DO NOT ATTEMPT TO NEUTRALISE.
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	SUITABLE EXTINGUISHING MEDIA USE EXTINGUISHING MEASURES THAT ARE APPROPRIATE TO LOCAL CIRCUMSTANCES AND THE SURROUNDING ENVIRONMENT.
	UNSUITABLE EXTINGUISHING MEDIA WATER FOAM
SPECIAL HAZARDS	HYDROGEN CHLORIDE GAS

ARISING FROM THE SUBSTANCE OR MIXTURE	GALLIUM OXIDES NOT COMBUSTIBLE. MAY NOT GET IN TOUCH WITH: WATER AMBIENT FIRE MAY LIBERATE HAZARDOUS VAPOURS.
ADVICE FOR FIREFIGHTERS	STAY IN DANGER AREA ONLY WITH SELF-CONTAINED BREATHING APPARATUS. PREVENT SKIN CONTACT BY KEEPING A SAFE DISTANCE OR BY WEARING SUITABLE PROTECTIVE CLOTHING.
FURTHER INFORMATION	SUPPRESS (KNOCK DOWN) GASES/VAPORS/MISTS WITH A WATER SPRAY JET. PREVENT FIRE EXTINGUISHING WATER FROM CONTAMINATING SURFACE WATER OR THE GROUND WATER SYSTEM.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	ADVICE FOR NON-EMERGENCY PERSONNEL: AVOID INHALATION OF DUSTS. AVOID SUBSTANCE CONTACT. ENSURE ADEQUATE VENTILATION. EVACUATE THE DANGER AREA, OBSERVE EMERGENCY PROCEDURES, CONSULT AN EXPERT. FOR PERSONAL PROTECTION SEE SECTION 8.
ENVIRONMENTAL PRECAUTIONS	DO NOT LET PRODUCT ENTER DRAINS.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	COVER DRAINS. COLLECT, BIND, AND PUMP OFF SPILLS. OBSERVE POSSIBLE MATERIAL RESTRICTIONS (SEE SECTIONS 7 AND 10). TAKE UP DRY. DISPOSE OF PROPERLY. CLEAN UP AFFECTED AREA. AVOID GENERATION OF DUSTS.
REFERENCE TO OTHER SECTIONS	FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	KEEP WORKPLACE DRY. DO NOT ALLOW PRODUCT TO COME INTO CONTACT WITH WATER. NEVER ALLOW PRODUCT TO GET IN CONTACT WITH WATER DURING STORAGE. FOR PRECAUTIONS SEE SECTION 2.2.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	TIGHTLY CLOSED. DRY. HANDLE AND STORE UNDER INERT GAS. AIR SENSITIVE. STORAGE CLASS: 8B, NON-COMBUSTIBLE, CORROSIVE

HAZARDOUS MATERIALS

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** IMMEDIATELY CHANGE CONTAMINATED CLOTHING.
APPLY PREVENTIVE SKIN PROTECTION. WASH HANDS AND
FACE AFTER WORKING WITH SUBSTANCE.

PERSONAL PROTECTIVE EQUIPMENT

**EYE/FACE
PROTECTION** USE EQUIPMENT FOR EYE PROTECTION TESTED AND
APPROVED UNDER APPROPRIATE GOVERNMENT
STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
TIGHTLY FITTING SAFETY GOGGLES

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 PROTECTIVE CLOTHING

**RESPIRATORY
PROTECTION** REQUIRED WHEN DUSTS ARE GENERATED.
OUR RECOMMENDATIONS ON FILTERING RESPIRATORY
PROTECTION ARE BASED ON THE FOLLOWING
STANDARDS: DIN EN 143, DIN 14387 AND OTHER
ACCOMPANYING STANDARDS RELATING TO THE USED
RESPIRATORY PROTECTION SYSTEM.
RECOMMENDED FILTER TYPE: : FILTER TYPE P2

**CONTROL OF
ENVIRONMENTAL
EXPOSURE** DO NOT LET PRODUCT ENTER DRAINS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	WHITE TO OFF-WHITE CRYSTAL
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	78 °C (LIT.)
POINT/FREEZING POINT	
INITIAL BOILING POINT	201 °C (LIT.)
AND BOILING RANGE	
FLASH POINT	NO DATA AVAILABLE
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	THE PRODUCT IS NOT FLAMMABLE.
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	1 HPA (48 °C)
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	NO DATA AVAILABLE
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	REACTS VIOLENTLY WITH WATER.
CHEMICAL STABILITY	SENSITIVE TO MOISTURE
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE
CONDITIONS TO AVOID	DO NOT ALLOW WATER TO ENTER CONTAINER BECAUSE OF VIOLENT REACTION. MOISTURE.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS

**HAZARDOUS
DECOMPOSITION
PRODUCTS**

IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY

LD50 ORAL - RAT - 4,700 MG/KG
REMARKS: (ECHA)

INHALATION: NO DATA AVAILABLE

DERMAL: NO DATA AVAILABLE

LD50 INTRAVENOUS - RAT - 47 MG/KG
LD50 SUBCUTANEOUS - RAT - 306 MG/KG

**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: NOT AVAILABLE COUGH, SHORTNESS OF BREATH, HEADACHE, NAUSEA, VOMITING TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

COMPONENTS:

GALLIUM TRICHLORIDE:

TOXICITY TO FISH	LC50 (OREOCHROMIS MOSSAMBICUS): 36 MG/L END POINT: MORTALITY EXPOSURE TIME: 96 H TEST TYPE: STATIC TEST REMARKS: (ECHA)
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	LC50 (AMERICAMYSIS BAHIA (MYSID)): 12.76 MG/L END POINT: MORTALITY EXPOSURE TIME: 96 H TEST TYPE: STATIC TEST REMARKS: (ECHA)
TOXICITY TO ALGAE/AQUATIC PLANTS	ERC50 (ISOCHRYYSIS GALBANA (SALT WATER ALGAE)): > 15.2 MG/L EXPOSURE TIME: 72 H TEST TYPE: STATIC TEST ANALYTICAL MONITORING: YES REMARKS: (ECHA)
TOXICITY TO FISH (CHRONIC TOXICITY)	LC50 (ONCORHYNCHUS MYKISS (RAINBOW TROUT)): 3.51 MG/L EXPOSURE TIME: 28 D

PERSISTENCE AND DEGRADABILITY

COMPONENTS:

GALLIUM TRICHLORIDE:

BIODEGRADABILITY	REMARKS: NOT APPLICABLE FOR INORGANIC SUBSTANCES
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BIOACCUMULATIVE POTENTIAL

COMPONENTS:

GALLIUM TRICHLORIDE:

BIOACCUMULATION	REMARKS: NO DATA AVAILABLE
PARTITION COEFFICIENT: N OCTANOL/WATER	REMARKS: NOT APPLICABLE FOR INORGANIC SUBSTANCES
MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	NO DATA AVAILABLE
OTHER ADVERSE EFFECTS	NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH THE NATIONAL AND LOCAL REGULATIONS. LEAVE CHEMICALS IN ORIGINAL CONTAINERS. NO MIXING WITH OTHER WASTE. HANDLE UNCLEANED CONTAINERS LIKE THE PRODUCT ITSELF.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Gallium(III) chloride anhydrous)
UN NUMBER:	3260
CLASS:	8
PACKING GROUP:	II
LABELS	CLASS 8 - CORROSIVE SUBSTANCES
ERG CODE	154
MARINE POLLUTANT	NO
POISON INHALATION	NO
HAZARD	

IMDG

PROPER SHIPPING NAME:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Gallium(III) chloride anhydrous)
UN NUMBER:	3260
CLASS:	8
PACKING GROUP:	II
LABELS	8
EMS-NO:	F-A, S-B
MARINE POLLUTANT	NO

IATA

PROPER SHIPPING NAME: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(Gallium(III) chloride anhydrous)

UN NUMBER: 3260

CLASS: 8

PACKING GROUP: II

LABELS CLASS 8 - CORROSIVE SUBSTANCES

PACKING INSTRUCTION 863
(CARGO AIRCRAFT)

PACKING INSTRUCTION 859
(PASSENGER AIRCRAFT)

SPECIAL PRECAUTIONS FOR USER

THE TRANSPORT CLASSIFICATION(S) PROVIDED HEREIN ARE FOR INFORMATIONAL PURPOSES ONLY, AND SOLELY BASED UPON THE PROPERTIES OF THE UNPACKAGED MATERIAL AS IT IS DESCRIBED WITHIN THIS SAFETY DATA SHEET. TRANSPORTATION CLASSIFICATIONS MAY VARY BY MODE OF TRANSPORTATION, PACKAGE SIZES, AND VARIATIONS IN REGIONAL OR COUNTRY REGULATIONS.

SECTION 15. REGULATORY INFORMATION

CERCLA REPORTABLE QUANTITY

THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A CERCLA RQ.

SARA 304 EXTREMELY HAZARDOUS SUBSTANCES REPORTABLE QUANTITY

COMPONENTS	CAS-NO.	COMPONENT RQ (LBS)	CALCULATED PRODUCT RQ (LBS)
GALLIUM TRICHLORIDE	13450-90-3	500	500

SARA 302 EXTREMELY HAZARDOUS SUBSTANCES THRESHOLD PLANNING QUANTITY

COMPONENTS	CAS-NO.	COMPONENT TPQ (LBS)
GALLIUM TRICHLORIDE	13450-90-3	10000
GALLIUM TRICHLORIDE	13450-90-3	500*

*: SOLID IN THE MOLTEN OR POWDERED FORM (PARTICLES < 100 MICRONS), IN SOLUTION, OR MEETING THE NFPA REACTIVITY CRITERIA

SARA 311/312 HAZARDS ACUTE HEALTH HAZARD

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.

US STATE REGULATIONS**MASSACHUSETTS RIGHT TO KNOW**

GALLIUM TRICHLORIDE 13450-90-3

PENNSYLVANIA RIGHT TO KNOW

GALLIUM TRICHLORIDE 13450-90-3

MAINE CHEMICALS OF HIGH CONCERN
PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

VERMONT CHEMICALS OF HIGH CONCERN
PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

WASHINGTON CHEMICALS OF HIGH CONCERN
PRODUCT DOES NOT CONTAIN ANY LISTED CHEMICALS

THE INGREDIENTS OF THIS PRODUCT ARE REPORTED IN THE FOLLOWING INVENTORIES:

TSCA ALL SUBSTANCES LISTED AS ACTIVE ON THE TSCA INVENTORY

TSCA LIST

NO SUBSTANCES ARE SUBJECT TO A SIGNIFICANT NEW USE RULE.
NO SUBSTANCES ARE SUBJECT TO TSCA 12(B) EXPORT NOTIFICATION REQUIREMENTS.

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.
H314 CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.

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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VERSION: 3.2.

REVISION DATE: 02/13/2026