

# *Chem-Impex International Inc.*

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## SAFETY DATA SHEET

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### SECTION 1. CHEMICAL IDENTIFICATION

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CATALOG #:	35908
NAME:	Terbium(III) nitrate pentahydrate
SYNONYMS:	Terbium trinitrate pentahydrate
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

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#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

**GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)**  
OXIDIZING SOLIDS (CATEGORY 2), H272  
SKIN IRRITATION (CATEGORY 2), H315  
EYE IRRITATION (CATEGORY 2A), H319  
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3),  
RESPIRATORY SYSTEM, H335

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)**

H272 MAY INTENSIFY FIRE; OXIDIZER.  
H315 CAUSES SKIN IRRITATION.  
H319 CAUSES SERIOUS EYE IRRITATION.  
H335 MAY CAUSE RESPIRATORY IRRITATION.

**PRECAUTIONARY STATEMENT(S)**

P210 KEEP AWAY FROM HEAT.  
P220 KEEP/STORE AWAY FROM CLOTHING/ COMBUSTIBLE MATERIALS.  
P221 TAKE ANY PRECAUTION TO AVOID MIXING WITH COMBUSTIBLES.  
P261 AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY.  
P264 WASH SKIN THOROUGHLY AFTER HANDLING.  
P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.  
P280 WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE PROTECTION.  
P302 + P352 IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER.  
P304 + P340 + P312 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. CALL A POISON CENTER OR DOCTOR/ PHYSICIAN IF YOU FEEL UNWELL.  
P305 + P351 + P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.  
P332 + P313 IF SKIN IRRITATION OCCURS: GET MEDICAL ADVICE/ ATTENTION.  
P337 + P313 IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ ATTENTION.  
P362 TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.  
P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM FOR EXTINCTION.  
P403 + P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED.  
P405 STORE LOCKED UP.  
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)** NONE

**OR NOT COVERED  
BY GHS**

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

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MF: Tb(NO<sub>3</sub>)<sub>3</sub>·5H<sub>2</sub>O  
MW: 435.02  
CAS-NO. 57584-27-7  
PURITY: ≥99.9% Metals basis (Tb : 35.2 - 37.8%)

COMPONENT	CLASSIFICATION	CONCENTRATION
<b>Terbium(III) nitrate pentahydrate</b>		
	OX. SOL. 2; SKIN IRRIT. 2; EYE IRRIT. 2A; STOT SE 3; H272, H315, H319, H335	<= 100 %

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

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**SECTION 4. FIRST-AID MEASURES**

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**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** 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.

**IF SWALLOWED** NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.

**MOST IMPORTANT SYMPTOMS AND** THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11

**EFFECTS, BOTH ACUTE  
AND DELAYED**

**INDICATION OF ANY  
IMMEDIATE MEDICAL  
ATTENTION AND  
SPECIAL TREATMENT  
NEEDED**

NO DATA AVAILABLE

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**SECTION 5. FIRE AND EXPLOSION DATA**

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**EXTINGUISHING MEDIA**

**SUITABLE  
EXTINGUISHING MEDIA**

DRY POWDER DRY SAND

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

NITROGEN OXIDES (NOX), TERBIUM OXIDES

**ADVICE FOR  
FIREFIGHTERS**

WEAR SELF-CONTAINED BREATHING APPARATUS FOR  
FIREFIGHTING IF NECESSARY.

**FURTHER INFORMATION**

USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

USE PERSONAL PROTECTIVE EQUIPMENT. AVOID  
DUST FORMATION. AVOID BREATHING VAPOURS, MIST  
OR GAS. ENSURE ADEQUATE VENTILATION.  
EVACUATE PERSONNEL TO SAFE AREAS. AVOID  
BREATHING DUST.

FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL  
PRECAUTIONS**

DO NOT LET PRODUCT ENTER DRAINS.

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

SWEEP UP AND SHOVEL. 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). KEEP IN SUITABLE,  
CLOSED CONTAINERS FOR DISPOSAL.

**REFERENCE TO OTHER  
SECTIONS**

FOR DISPOSAL SEE SECTION 13.

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## SECTION 7. HANDLING AND STORAGE

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<b>PRECAUTIONS FOR SAFE HANDLING</b>	AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS.FURTHER PROCESSING OF SOLID MATERIALS MAY RESULT IN THE FORMATION OF COMBUSTIBLE DUSTS. THE POTENTIAL FOR COMBUSTIBLE DUST FORMATION SHOULD BE TAKEN INTO CONSIDERATION BEFORE ADDITIONAL PROCESSING OCCURS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED.KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. FOR PRECAUTIONS SEE SECTION 2.2.
<b>CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES</b>	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. HYGROSCOPIC  Store at RT
<b>SPECIFIC END USE(S)</b>	APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED

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## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### CONTROL PARAMETERS

#### COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

### EXPOSURE CONTROLS

<b>APPROPRIATE ENGINEERING CONTROLS</b>	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

<b>EYE/FACE PROTECTION</b>	SAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TO EN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
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<b>SKIN PROTECTION</b>	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.
<b>BODY PROTECTION</b>	IMPERVIOUS CLOTHING, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
<b>RESPIRATORY PROTECTION</b>	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE PARTICLE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) 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).
<b>CONTROL OF ENVIRONMENTAL EXPOSURE</b>	DO NOT LET PRODUCT ENTER DRAINS.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White powder
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
INITIAL BOILING POINT AND BOILING RANGE	
FLASH POINT	
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	
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	THE SUBSTANCE OR MIXTURE IS CLASSIFIED AS OXIDIZING WITH THE CATEGORY 2.

**OTHER SAFETY INFORMATION**

NO DATA AVAILABLE

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**SECTION 10. STABILITY AND REACTIVITY**

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<b>REACTIVITY</b>	NO DATA AVAILABLE
<b>CHEMICAL STABILITY</b>	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
<b>POSSIBILITY OF HAZARDOUS REACTIONS</b>	NO DATA AVAILABLE
<b>CONDITIONS TO AVOID</b>	NO DATA AVAILABLE
<b>INCOMPATIBLE MATERIALS</b>	STRONG REDUCING AGENTS, STRONG ACIDS
<b>HAZARDOUS DECOMPOSITION PRODUCTS</b>	HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - NITROGEN OXIDES (NOX), TERBIUM OXIDES OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

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**SECTION 11. TOXICOLOGICAL INFORMATION**

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**INFORMATION ON TOXICOLOGICAL EFFECTS**

<b>ACUTE TOXICITY</b>	NO DATA AVAILABLE
	INHALATION: NO DATA AVAILABLE
	DERMAL: NO DATA AVAILABLE
	NO DATA AVAILABLE

<b>SKIN CORROSION/IRRITATION</b>	NO DATA AVAILABLE
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	NO DATA AVAILABLE
<b>RESPIRATORY OR SKIN SENSITISATION</b>	NO DATA AVAILABLE
<b>GERM CELL MUTAGENICITY</b>	NO DATA AVAILABLE
<b>CARCINOGENICITY</b>	
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.
<b>REPRODUCTIVE TOXICITY</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	INHALATION - MAY CAUSE RESPIRATORY IRRITATION.
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	NO DATA AVAILABLE
<b>ASPIRATION HAZARD</b>	NO DATA AVAILABLE
<b>ADDITIONAL INFORMATION</b>	RTECS: NOT AVAILABLE  TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

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## **SECTION 12. ECOLOGICAL INFORMATION**

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<b>TOXICITY</b>	NO DATA AVAILABLE
<b>PERSISTENCE AND DEGRADABILITY</b>	NO DATA AVAILABLE



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

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### **SECTION 13. DISPOSAL CONSIDERATIONS**

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#### **WASTE TREATMENT METHODS**

<b>PRODUCT</b>	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.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

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### **SECTION 14. TRANSPORT INFORMATION**

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#### **DOT (US)**

PROPER SHIPPING NAME:	NITRATES, INORGANIC, N.O.S.
UN NUMBER:	1477
CLASS:	5.1
PACKING GROUP:	II
REPORTABLE QUANTITY (RQ):	
POISON INHALATION HAZARD:	NO

#### **IMDG**

PROPER SHIPPING NAME:	NITRATES, INORGANIC, N.O.S.
UN NUMBER:	1477
CLASS:	5.1
PACKING GROUP:	II
EMS-NO:	F-A, S-Q

**IATA**

PROPER SHIPPING NAME: NITRATES, INORGANIC, N.O.S.  
UN NUMBER: 1477  
CLASS: 5.1  
PACKING GROUP: II

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**SECTION 15. REGULATORY INFORMATION**

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**SARA 302 COMPONENTS** THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ

**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** REACTIVITY 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
Terbium(III) nitrate pentahydrate	57584-27-7	03-01-2007

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**SECTION 16. OTHER INFORMATION**

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

H272 MAY INTENSIFY FIRE; OXIDIZER.  
H315 CAUSES SKIN IRRITATION.  
H319 CAUSES SERIOUS EYE IRRITATION.  
H335 MAY CAUSE RESPIRATORY 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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