# Chem-Impex International Inc.

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# SAFETY DATA SHEET

#### SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 35911

NAME: Thallium(I) chloride

SYNONYMS: Thallous chloride

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)

ACUTE TOXICITY, ORAL (CATEGORY 2), H300 ACUTE TOXICITY, INHALATION (CATEGORY 2), H330 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (CATEGORY 2), H373 SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 2), H401 LONG-TERM (CHRONIC) AQUATIC HAZARD (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 DANGER

**HAZARD STATEMENT(S)** 

H300 + H330 FATAL IF SWALLOWED OR IF INHALED.

H373 MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED

OR REPEATED EXPOSURE.

H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRECAUTIONARY STATEMENT(S)

P260 DO NOT BREATHE DUST/ FUME/ GAS/ MIST/ VAPOURS/

SPRAY.

P264 WASH SKIN THOROUGHLY AFTER HANDLING. P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS

PRODUCT.

P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.

P273 AVOID RELEASE TO THE ENVIRONMENT.

P284 WEAR RESPIRATORY PROTECTION.

P301 + P310 + P330 IF SWALLOWED: IMMEDIATELY CALL A POISON

CENTER/DOCTOR. RINSE MOUTH.

P304 + P340 + P310 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT

REST IN A POSITION COMFORTABLE FOR BREATHING. IMMEDIATELY CALL A POISON CENTER OR DOCTOR/

PHYSICIAN.

P314 GET MEDICAL ADVICE/ ATTENTION IF YOU FEEL UNWELL.

P391 COLLECT SPILLAGE.

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 NONE

OTHERWISE

CLASSIFIED (HNOC) OR NOT COVERED

BY GHS

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: TIC1

MW: 239.84

CAS-NO. 7791-12-0

PURITY:  $\geq 99\%$  (Metals basis)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Thallium(I) chloride		
	ACUTE TOX. 2; STOT RE 2;	<= 100%
	AQUATIC ACUTE 2; AQUATIC	
	CHRONIC 2; H300, H330, H373,	
	H401, H411	

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

#### **SECTION 4. FIRST-AID MEASURES**

DESCRIP	TION	OF FIRST	AII) ME	LASHRES

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. TAKE

VICTIM IMMEDIATELY TO HOSPITAL. CONSULT A

PHYSICIAN.

IN CASE OF EYE

**CONTACT** 

FLUSH EYES WITH WATER AS A PRECAUTION.

**IF SWALLOWED** 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 USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY

**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 NO DATA AVAILABLE

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL WEAR RESPIRATORY PROTECTION. AVOID DUST PRECAUTIONS, FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST. EMERGENCY

**PROCEDURES** FOR PERSONAL PROTECTION SEE SECTION 8.

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

DISCHARGE INTO THE ENVIRONMENT MUST BE

HYDROGEN CHLORIDE GAS, THALLIUM OXIDES

AVOIDED.

METHODS ANDPICK UP AND ARRANGE DISPOSAL WITHOUTMATERIALS FORCREATING DUST. SWEEP UP AND SHOVEL. KEEP INCONTAINMENT ANDSUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

**REFERENCE TO OTHER** FOR DISPOSAL SEE SECTION 13.

#### SECTION 7. HANDLING AND STORAGE

**CLEANING UP** 

**SECTIONS** 

**PRECAUTIONS FOR SAFE** AVOID CONTACT WITH SKIN AND EYES. AVOID **HANDLING** 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. FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND

WELL-VENTILATED PLACE.

KEEP IN A DRY PLACE.

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

COMPONENT	CAS-NO.	VALUE	CONTROL	BASIS
			<b>PARAMETERS</b>	
Thallium(I) chloride	7791-12-0	TWA	0.1 MG/M3	USA. OCCUPATIONAL
				EXPOSURE LIMITS (OSHA) -
				TABLE Z-1 LIMITS FOR AIR
				CONTAMINANTS
	REMARKS	SKIN DESIGNATION		
		TWA	0.02 MG/M3	USA. ACGIH THRESHOLD
				LIMIT VALUES (TLV)
		PERIPHERAL NEUROPATHY		
		GASTROINTESTINAL DAMAGE		
		DANGER OF CUTANEOUS ABSORPTION		
		VARIES		
		TWA	0.1 MG/M3	USA. NIOSH
				RECOMMENDED
				EXPOSURE LIMITS
		POTENTIAL FOR DERMAL ABSORPTION		
		PEL	0.1 MG/M3	CALIFORNIA PERMISSIBLE
				EXPOSURE LIMITS FOR
				CHEMICAL
				CONTAMINANTS
		SKIN		

#### **EXPOSURE CONTROLS**

APPROPRIATE ENGINEERING CONTROLS AVOID CONTACT WITH SKIN, EYES AND CLOTHING. WASH HANDS BEFORE BREAKS AND IMMEDIATELY

AFTER HANDLING THE PRODUCT.

#### 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.

**FULL CONTACT** 

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.11 MM

**BREAK THROUGH TIME: 480 MIN** 

MATERIAL TESTED: DERMATRIL (KCL 740, SIZE M)

SPLASH CONTACT

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.11 MM

**BREAK THROUGH TIME: 480 MIN** 

MATERIAL TESTED: DERMATRIL (KCL 740, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO

#### **BODY PROTECTION**

COMPLETE SUIT PROTECTING AGAINST CHEMICALS, 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 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).

**CONTROL OF** PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO

DO SO. DO NOT LET PRODUCT ENTER DRAINS. **ENVIRONMENTAL** DISCHARGE INTO THE ENVIRONMENT MUST BE **EXPOSURE** 

AVOIDED.

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE White to off-white crystalline powder

NO DATA AVAILABLE **ODOUR** 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, NO DATA AVAILABLE

GAS)

UPPER/LOWER NO DATA AVAILABLE

FLAMMABILITY OR EXPLOSIVE LIMITS

VAPOUR PRESSURE 13 HPA AT 517 C VAPOUR DENSITY NO DATA AVAILABLE

RELATIVE DENSITY 7 (lit.)

WATER SOLUBILITY NO DATA AVAILABLE PARTITION COEFFICIENT: NO DATA AVAILABLE

N- OCTANOL/WATER

**AUTO-IGNITION** NO DATA AVAILABLE

TEMPERATURE

DECOMPOSITION NO DATA AVAILABLE

TEMPERATURE

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 DATA AVAILABLE

**CONDITIONS TO AVOID** AVOID MOISTURE.

INCOMPATIBLE MATERIALS

STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - HYDROGEN CHLORIDE

GAS, THALLIUM OXIDES

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 - MOUSE - 24 MG/KG

INHALATION: NO DATA AVAILABLE

DERMAL: NO DATA AVAILABLE

NO DATA AVAILABLE

**SKIN** NO DATA AVAILABLE

**CORROSION/IRRITATION** 

**SERIOUS EYE** NO DATA AVAILABLE

**DAMAGE/EYE IRRITATION** 

RESPIRATORY OR SKIN SENSITISATION NO DATA AVAILABLE

**GERM CELL** HAMSTER **MUTAGENICITY** EMBRYO

MORPHOLOGICAL TRANSFORMATION.

**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** 

MAY CAUSE DAMAGE TO ORGANS THROUGH

PROLONGED OR REPEATED EXPOSURE.

**ASPIRATION HAZARD** NO DATA AVAILABLE

ADDITIONAL INFORMATION

RTECS: XG4200000

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. THE MOST CHARACTERISTIC SYMPTOM OF THALLIUM EXPOSURE IS ALOPECIA (LOSS OF HAIR). CUTANEOUS EFFECTS MAY INCLUDE DRY, SCALY SKIN AND IMPAIRMENT OF NAIL GROWTH OFTEN RESULTING IN THE APPEARANCE OF CRESCENT-SHAPED STRIPS ACROSS FINGERNAILS AND TOENAILS (MEES" LINE). OTHER SYMPTOMS IN ACUTE POISONING RELATE CHIEFLY TO THE GASTROINTESTINAL TRACT, NERVOUS SYSTEM, SKIN, EYES, AND CARDIOVASCULAR SYSTEM. ACUTE POISONING RESULTS IN SWELLING OF THE FEET AND LEGS, ARTHRALGIA, VOMITING, INSOMNIA, HYPERESTHESIA AND PARESTHESIA OF THE HANDS AND FEET, MENTAL CONFUSION, POLYNEURITIS WITH SEVERE PAIN IN THE LEGS AND LOINS, PARTIAL PARALYSIS OF THE LEGS, ANGINA-LIKE PAINS, NEPHRITIS, WASTING AND WEAKNESS, AND LYMPHOCYTOSIS AND EOSINOPHILIA. IN CHRONIC POISONING, CENTRAL AND PERIPHERAL NERVOUS SYSTEM ABNORMALITIES MAY PERSIST INCLUDING ATAXIA, TREMOR, INCOORDINATION, PARALYSIS OF EXTREMITIES, ENDOCRINE DISORDERS, MEMORY LOSS, AND PSYCHOSES MAY DEVELOP.

STOMACH - IRREGULARITIES - BASED ON HUMAN EVIDENCE

# SECTION 12. ECOLOGICAL INFORMATION

**TOXICITY** 

TOXICITY TO ALGAE GROWTH INHIBITION EC50 - DITYLUM

BRIGHTWELLII - 0.33 MG/L - 5 D

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY RESULT: - NOT READILY BIODEGRADABLE.

BIOACCUMULATIVE

**POTENTIAL** 

NO DATA AVAILABLE

MOBILITY IN SOIL NO DATA AVAILABLE

**RESULTS OF PBT AND** PBT/VPVB ASSESSMENT NOT AVAILABLE AS

**VPVB ASSESSMENT** 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.

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

#### WASTE TREATMENT METHODS

**PRODUCT** OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS

> TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN

AFTERBURNER AND SCRUBBER.

**CONTAMINATED PACKAGING** 

DISPOSE OF AS UNUSED PRODUCT.

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

DOT (US)

PROPER SHIPPING NAME: THALLIUM COMPOUNDS, N.O.S. (Thallium(I) chloride)

UN NUMBER: 1707 CLASS: 6.1 PACKING GROUP: II 100 LBS

REPORTABLE QUANTITY

(RQ):

YES MARINE POLLUTANT: POISON INHALATION NO

HAZARD:

**IMDG** 

PROPER SHIPPING NAME: THALLIUM COMPOUNDS, N.O.S. (Thallium(I) chloride)

UN NUMBER: 1707 CLASS: 6.1 PACKING GROUP: II F-A, S-A EMS-NO: MARINE POLLUTANT: YES

**IATA** 

PROPER SHIPPING NAME: THALLIUM COMPOUNDS, N.O.S. (Thallium(I) chloride)

UN NUMBER: 1707 CLASS: 6.1 PACKING GROUP: II

#### SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS THE FOLLOWING COMPONENTS ARE SUBJECT TO

REPORTING LEVELS ESTABLISHED BY SARA TITLE III,

SECTION 302:

CAS-NO. REVISION DATE

Thallium(I) chloride 7791-12-0 03-01-2007

SARA 313 COMPONENTS THE FOLLOWING COMPONENTS ARE SUBJECT TO

REPORTING LEVELS ESTABLISHED BY SARA TITLE III,

SECTION 313:

CAS-NO. REVISION DATE

Thallium(I) chloride 7791-12-0 03-01-2007

SARA 311/312 HAZARDS ACUTE HEALTH HAZARD, CHRONIC 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

Thallium(I) chloride 7791-12-0 03-01-2007

# **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.

H300 + H330 FATAL IF SWALLOWED OR IF INHALED.

H373 MAY CAUSE DAMAGE TO ORGANS THROUGH

PROLONGED OR REPEATED EXPOSURE.

H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

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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