# **Chem-Impex International Inc.**

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# SAFETY DATA SHEET

#### SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	26479
NAME:	Lithium perchlorate
SYNONYMS:	
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)** 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 STAT	EMENT(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/
D264	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	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
Data	EASY TO DO. CONTINUE RINSING.
P312	CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL.
P321	SPECIFIC TREATMENT (SEE SUPPLEMENTAL FIRST AID INSTRUCTIONS ON THIS LABEL).
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
1002	REUSE.
P370 + P378	IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR
10,0 10,0	ALCOHOL-RESISTANT FOAM FOR EXTINCTION.
P403 + P233	STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER
1105 1255	TIGHTLY CLOSED.
P405	STORE LOCKED UP.
P501	DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED
1.701	WASTE DISPOSAL PLANT.
	WAD LE DIDI ODAL I LAIVI.
HAZADDO NOT	NONE

HAZARDS NOT NONE OTHERWISE CLASSIFIED (HNOC)

# SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: LiClO<sub>4</sub>

MW: 106.39

CAS-NO. 7791-03-9

PURITY:  $\geq$  99.9% (Assay)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Lithium perchlorate		
	OX. SOL. 2; ACUTE TOX. 4;	<= 100 %
	SKIN IRRIT. 2; EYE IRRIT. 2A;	
	STOT SE 3; H272, H302, H315,	
	H319, H335	

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	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	THE MOST IMPORTANT KNOWN SYMPTOMS AND
SYMPTOMS AND	EFFECTS ARE DESCRIBED IN THE LABELLING (SEE
EFFECTS, BOTH ACUTE	SECTION 2.2) AND/OR IN SECTION 11
AND DELAYED	

NO DATA AVAILABLE

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

#### SECTION 5. FIRE AND EXPLOSION DATA

#### **EXTINGUISHING MEDIA**

USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY SUITABLE **EXTINGUISHING MEDIA** CHEMICAL OR CARBON DIOXIDE. SPECIAL HAZARDS HYDROGEN CHLORIDE GAS, LITHIUM OXIDES **ARISING FROM THE** SUBSTANCE OR MIXTURE **ADVICE FOR** WEAR SELF CONTAINED BREATHING APPARATUS FOR FIRE FIGHTING IF NECESSARY. FIREFIGHTERS FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

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	SWEEP UP AND SHOVEL. CONTAIN SPILLAGE, AND
MATERIALS FOR	THEN COLLECT WITH AN ELECTRICALLY PROTECTED
CONTAINMENT AND	VACUUM CLEANER OR BY WETBRUSHING AND PLACE
CLEANING UP	IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL
	REGULATIONS (SEE SECTION 13). KEEP IN SUITABLE,
	CLOSED CONTAINERS FOR DISPOSAL.

#### SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. 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.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.
	HYGROSCOPIC.
	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	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE
ENGINEERING	AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND
CONTROLS	AT THE END OF WORKDAY.

#### PERSONAL PROTECTIVE EQUIPMENT

EYE/FACESAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TOPROTECTIONEN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND<br/>APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS<br/>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	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</b> <b>PROTECTION</b>	WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULL-FACE 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 ENVIRONMENTAL EXPOSURE	DO NOT LET PRODUCT ENTER DRAINS.

# SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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#### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
РН	6.0 - 9.5 AT 106.4 G/L AT 25 C
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	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	
WATER SOLUBILITY	CA.106.4 G/L AT 20 C
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	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 NO DATA AVAILABLE HAZARDOUS

REACTIONS

**CONDITIONS TO AVOID** AVOID MOISTURE.

INCOMPATIBLE ORGANIC MATERIALS, POWDERED METALS MATERIALS

#### SECTION 11. TOXICOLOGICAL INFORMATION

#### INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	NO DATA AVAILABLE
	INHALATION: IRRITATING TO RESPIRATORY SYSTEM.
	DERMAL: NO DATA AVAILABLE
	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
<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
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
OSHA:	CARCINOGEN BY NTP. 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	MAY CAUSE RESPIRATORY IRRITATION. ACUTE INHALATION TOXICITY - IRRITATION SYMPTOMS IN THE RESPIRATORY TRACT.
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE
ADDITIONAL INFORMATION	RTECS: NOT AVAILABLE
	LARGE DOSES OF LITHIUM ION HAVE CAUSED DIZZINESS AND PROSTRATION, AND CAN CAUSE KIDNEY DAMAGE IF SODIUM INTAKE IS LIMITED. DEHYDRATION, WEIGHT LOSS, DERMATOLOGICAL EFFECTS, AND THYROID DISTURBANCES HAVE BEEN REPORTED. CENTRAL NERVOUS SYSTEM EFFECTS THAT INCLUDE SLURRED SPEECH, BLURRED VISION, SENSORY LOSS, ATAXIA, AND CONVULSIONS MAY OCCUR. DIARRHEA, VOMITING, AND NEUROMUSCULAR EFFECTS SUCH AS TREMOR, CLONUS, AND HYPERACTIVE REFLEXES MAY OCCUR AS A RESULT OF REPEATED EXPOSURE TO LITHIUM ION., TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
	THE FOLLOWING APPLIES TO LITHIUM COMPOUNDS IN GENERAL: WHEN HANDLED OR USED INAPPROPRIATELY, THE ABSORPTION OF LARGE QUANTITIES IS FOLLOWED BY CNS DISORDERS, AGITATION, SPASMS, ATAXIA (IMPAIRED LOCOMOTOR COORDINATION) DUE TO DISTURBED ELECTROLYTE BALANCE. OTHER DANGEROUS PROPERTIES CAN NOT BE EXCLUDED. HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE.

# SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	
TOXICITY TO FISH	LC50 - LEUCISCUS IDUS (GOLDEN ORFE) - 1,850 MG/L
	- 48 H
	REMARKS: (REFERRED TO THE ANION)

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES TOXICITY TO ALGAE	EC50 - DAPHNIA MAGNA (WATER FLEA) - 1,077 MG/L - 24 H REMARKS: (REFERRED TO THE ANION) IC5 - M.AERUGINOSA - 79 MG/L - 8 D REMARKS: (REFERRED TO THE ANION) IC5 - SCENEDESMUS QUADRICAUDA (GREEN ALGAE) - 360 MG/L - 7 D REMARKS: (REFERRED TO THE ANION)
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	FURTHER INFORMATION ON ECOLOGY AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

### 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 DISPOSE OF AS UNUSED PRODUCT. PACKAGING

# SECTION 14. TRANSPORT INFORMATION

PROPER SHIPPING NAME: UN NUMBER: CLASS: PACKING GROUP: POISON INHALATION HAZARD:	PERCHLORATES, INORGANIC, N.O.S. 1481 5.1 II NO
IMDG PROPER SHIPPING NAME: UN NUMBER: CLASS: PACKING GROUP: EMS-NO:	PERCHLORATES, INORGANIC, N.O.S. 1481 5.1 II F-H, S-Q
IATA PROPER SHIPPING NAME: UN NUMBER: CLASS: PACKING GROUP:	PERCHLORATES, INORGANIC, N.O.S. 1481 5.1 II

#### 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.
<b>SARA 311/312 HAZARDS</b> REACTIVITY HAZARD, ACUTE HEALTH HAZARD	
MASSACHUSETTS RIGHT	
NO COMPONENTS ARE SUB	IFCT TO THE MASSACHUSETTS RIGHT TO KNOW ACT

NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

#### PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.	
I ITUII IM DED CUI OD ATE	7701 02 0	

LITHIUM PERCHLORATE 7791-03-9

REVISION DATE

#### NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. LITHIUM PERCHLORATE 7791-03-9 **REVISION DATE** 

#### **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.H272MAY INTENSIFY FIRE; OXIDIZER.H315CAUSES SKIN IRRITATION.

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 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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