# **Chem-Impex International Inc.**

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# SAFETY DATA SHEET

## SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	34462
NAME:	Isovaleric acid
SYNONYMS:	3-Methylbutanoic acid Isopentanoic acid
24 HOUR EMERGENCY	(800) 535-5053(USA)
TELEPHONE:	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 4), H227

## 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	5)	
H227	COMBUSTIBLE LIQUID.	
H314	CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.	
H318	CAUSES SERIOUS EYE DAMAGE.	
PRECAUTIONARY STATEMENT(S)		
P210	KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT	
	SURFACES. NO SMOKING.	
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	
P310	MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND	
	EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A	
	POISON CENTER/DOCTOR.	
P363	WASH CONTAMINATED CLOTHING BEFORE REUSE.	
P370 + P378	IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR	
	ALCOHOL-RESISTANT FOAM TO EXTINGUISH.	
P403 + P235	STORE IN A WELL-VENTILATED PLACE. KEEP COOL.	
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:	$\mathrm{C_5H_{10}O_2}$
MW:	102.13
CAS-NO.	503-74-2
PURITY:	99 - 100% (GC)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Isovaleric acid		
	FLAM. LIQ. 4; SKIN CORR. 1B;	<= 100 %
	EYE DAM. 1; AQUATIC ACUTE	
	3; H227, H314, H318, H402	

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	TAKE OFF CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. 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. CONTINUE RINSING EYES DURING TRANSPORT TO HOSPITAL.
IF SWALLOWED	DO NOT INDUCE VOMITING. 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	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	CARBON OXIDES
ADVICE FOR	WEAR SELF CONTAINED BREATHING APPARATUS FOR
FIREFIGHTERS	FIRE FIGHTING IF NECESSARY.
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 BREATHING VAPORS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPORS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPORS CAN ACCUMULATE IN LOW AREAS. FOR PERSONAL PROTECTION SEE SECTION 8
ENVIRONMENTAL PRECAUTIONS	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	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.

## SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID INHALATION OF VAPOR 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	HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL
ENGINEERING	HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE
CONTROLS	BREAKS AND AT THE END OF WORKDAY.

## PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE	TIGHTLY FITTING SAFETY GOGGLES. FACESHIELD (8-
PROTECTION	INCH MINIMUM). USE EQUIPMENT FOR EYE PROTECTION
	TESTED AND APPROVED UNDER APPROPRIATE
	GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN
	166(EU).

SKIN PROTECTIONHANDLE WITH GLOVES. GLOVES MUST BE INSPECTED<br/>PRIOR TO USE. USE PROPER GLOVE REMOVAL<br/>TECHNIQUE (WITHOUT TOUCHING GLOVE"S OUTER<br/>SURFACE) TO AVOID SKIN CONTACT WITH THIS<br/>PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER<br/>USE IN ACCORDANCE WITH APPLICABLE LAWS AND<br/>GOOD LABORATORY PRACTICES. WASH AND DRY<br/>HANDS.

- **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<br/>PROTECTIONWHERE RISK ASSESSMENT SHOWS AIR-PURIFYING<br/>RESPIRATORS ARE APPROPRIATE USE A FULL FACE<br/>RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US)<br/>OR TYPE ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A<br/>BACKUP TO ENGINEERING CONTROLS. IF THE<br/>RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A<br/>FULL-FACE SUPPLIED AIR RESPIRATOR. USE<br/>RESPIRATORS AND COMPONENTS TESTED AND<br/>APPROVED UNDER APPROPRIATE GOVERNMENT<br/>STANDARDS SUCH AS NIOSH (US) OR CEN (EU).CONTROL OFPREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO
- CONTROL OFPREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TOENVIRONMENTALDO SO. DO NOT LET PRODUCT ENTER DRAINS.EXPOSUREContent of the second se

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

introntont on briste	
APPEARANCE	Colorless to pale yellow liquid
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	
POINT/FREEZING POINT	
INITIAL BOILING POINT	175 - 177 °C
AND BOILING RANGE	
FLASH POINT	70 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID,	NO DATA AVAILABLE
GAS)	
UPPER/LOWER	NO DATA AVAILABLE
FLAMMABILITY OR	
EXPLOSIVE LIMITS	
VAPOUR PRESSURE	0.507 HPA AT 20 C
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	0.93
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 NO DATA AVAILABLE INFORMATION

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	BASES, OXIDIZING AGENTS, REDUCING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS CARBON 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 - RAT - MALE AND FEMALE - 2,500 MG/KG LD50 ORAL - RAT - > 2,000 MG/KG

> LC0 INHALATION - RAT - 4 H - 2.48 MG/L INHALATION : MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT. CORROSIVE TO RESPIRATORY SYSTEM.

DERMAL : NO DATA AVAILABLE

#### NO DATA AVAILABLE

SKINSKIN - RABBITCORROSION/IRRITATIONRESULT: CORROSIVE - 3 MIN - 1 H

SERIOUS EYE DAMAGE/EYE IRRITATION	CAUSES SERIOUS EYE DAMAGE. RISK OF BLINDNESS!
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	OECD TEST GUIDELINE 474 MOUSE - MALE AND FEMALE - RED BLOOD CELLS (ERYTHROCYTES) RESULT: NEGATIVE (IN ANALOGY TO SIMILAR PRODUCTS)
CARCINOGENICITY	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED
ACGIH:	HUMAN CARCINOGEN BY IARC. 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	ACUTE ORAL TOXICITY - IF INGESTED, SEVERE BURNS OF THE MOUTH AND THROAT, AS WELL AS A DANGER OF PERFORATION OF THE OESOPHAGUS AND THE STOMACH. ACUTE INHALATION TOXICITY - MUCOSAL IRRITATIONS, COUGH, SHORTNESS OF BREATH, POSSIBLE DAMAGES:, DAMAGE OF RESPIRATORY TRACT.
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE

ADDITIONALREPEATED DOSE TOXICITY - RAT - MALE - ORAL - NOINFORMATIONOBSERVED ADVERSE EFFECT LEVEL - 4,100 MG/KG<br/>(IN ANALOGY TO SIMILAR PRODUCTS)

RTECS: NY1400000

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN. INHALATION MAY PROVOKE THE FOLLOWING SYMPTOMS : SPASM, INFLAMMATION AND EDEMA OF THE BRONCHI, SPASM, INFLAMMATION AND EDEMA OF THE LARYNX, PNEUMONITIS, PULMONARY EDEMA, SYMPTOMS AND SIGNS OF POISONING ARE : BURNING SENSATION, COUGH, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA, VOMITING TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

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	STATIC TEST LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 77 MG/L - 96 H
	REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	STATIC TEST EC50 - DAPHNIA MAGNA (WATER FLEA) - 51.25 MG/L - 48 H
	REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)
TOXICITY TO ALGAE	STATIC TEST ERC50 - PSEUDOKIRCHNERIELLA SUBCAPITATA - 29.3 MG/L - 72 H REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)
	STATIC TEST NOEC - PSEUDOKIRCHNERIELLA SUBCAPITATA - 6.38 MG/L - 72 H REMARKS: (IN ANALOGY TO SIMILAR PRODUCTS)

TOXICITY TO BACTERIA STATIC TEST IC50 - TETRAHYMENA PYRIFORMIS - 224 MG/L - 40 H REMARKS: (ECHA)

> FERMENTATION TUBE TEST EC0 - ACTIVATED SLUDGE - > 1,000 MG/L REMARKS: (EXTERNAL MSDS)

## PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY	AEROBIC - EXPOSURE TIME 10 D RESULT: 58 - 66 % - READILY BIODEGRADABLE.
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	DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

#### SECTION 13. DISPOSAL CONSIDERATIONS

#### WASTE TREATMENT METHODS

**PRODUCT**THIS COMBUSTIBLE MATERIAL MAY BE BURNED IN A<br/>CHEMICAL INCINERATOR EQUIPPED WITH AN<br/>AFTERBURNER AND SCRUBBER. OFFER SURPLUS AND<br/>NON-RECYCLABLE SOLUTIONS TO A LICENSED<br/>DISPOSAL COMPANY. CONTACT A LICENSED<br/>PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE<br/>OF THIS MATERIAL.

CONTAMINATED DISPOSE OF AS UNUSED PRODUCT. PACKAGING

## SECTION 14. TRANSPORT INFORMATION

<b>DOT (US)</b>	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
PROPER SHIPPING NAME:	(Isovaleric acid)
UN NUMBER:	3265
CLASS:	8

PACKING GROUP: REPORTABLE QUANTITY (RQ): POISON INHALATION HAZARD:	II NO
IMDG	
PROPER SHIPPING NAME:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Isovaleric acid)
UN NUMBER:	3265
CLASS:	8
PACKING GROUP:	II
EMS-NO:	F-A, S-B
ІАТА	
PROPER SHIPPING NAME:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Isovaleric acid)
UN NUMBER:	3265
CLASS:	8
PACKING GROUP:	II

# SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS	NO CHEMICALS IN THIS MA THE REPORTING REQUIREN SECTION 302.	
SARA 313 COMPONENTS	THIS MATERIAL DOES NOT COMPONENTS WITH KNOW EXCEED THE THRESHOLD ( LEVELS ESTABLISHED BY S	N CAS NUMBERS THAT
<b>SARA 311/312 HAZARDS</b> FIRE HAZARD, ACUTE HEALTH HAZARD		
MASSACHUSETTS RIGHT TO KNOW COMPONENTS		
Isovaleric acid	CAS-NO. 503-74-2	REVISION DATE
PENNSYLVANIA RIGHT TO KNOW COMPONENTS		
	CAS-NO.	<b>REVISION DATE</b>
Isovaleric acid	503-74-2	
NEW JERSEY RIGHT TO KNOW COMPONENTS		
	CAS-NO.	<b>REVISION DATE</b>
Isovaleric acid	503-74-2	

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.	
H227	COMBUSTIBLE LIQUID.
H314	CAUSES SEVERE SKIN BURNS AND EYE DAMAGE.
H318	CAUSES SERIOUS EYE DAMAGE.
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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