Chem-Impex International Inc.

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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	37431
NAME:	(±)-Limonene, mixture of various terpenes
SYNONYMS:	p-Mentha-1,8-diene Dipentene
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 3), H226 SKIN IRRITATION (CATEGORY 2), H315

SKIN SENSITISATION (CATEGORY 1), H317 SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 1), H400 LONG-TERM (CHRONIC) AQUATIC HAZARD (CATEGORY 1), H410

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

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM



SIGNAL WORD

HAZARD STATEMENT(S)

H226	FLAMMABLE LIQUID AND VAPOR.
H315	CAUSES SKIN IRRITATION.
H317	MAY CAUSE AN ALLERGIC SKIN REACTION.
H410	VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING
	EFFECTS.

PRECAUTIONARY STATEMENT(S)

INECAUTIONANI	
P210	KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT
	SURFACES NO SMOKING.
P233	KEEP CONTAINER TIGHTLY CLOSED.
P240	GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.
P241	USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/
	LIGHTING/ EQUIPMENT.
P242	USE ONLY NON-SPARKING TOOLS.
P243	TAKE PRECAUTIONARY MEASURES AGAINST STATIC
	DISCHARGE.
P261	AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPORS/
	SPRAY.
P264	WASH SKIN THOROUGHLY AFTER HANDLING.
P272	CONTAMINATED WORK CLOTHING MUST NOT BE
	ALLOWED OUT OF THE WORKPLACE.
P273	AVOID RELEASE TO THE ENVIRONMENT.
P280	WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE
	PROTECTION.
P303 + P361 + P353	IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL
	CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/
	SHOWER.
P333 + P313	IF SKIN IRRITATION OR RASH OCCURS: 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 TO EXTINGUISH.
P391	COLLECT SPILLAGE.
P403 + P235	STORE IN A WELL-VENTILATED PLACE. KEEP COOL.
P501	DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED
	WASTE DISPOSAL PLANT.
HAZARDS NOT	NONE
OTHERWISE	

OTHERWISE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF:	$C_{10}H_{16}$
MW:	136.23
CAS-NO.	138-86-3
PURITY:	\geq 95% (GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
(±)-Limonene, mixture of	of various terpenes	
	FLAM. LIQ. 3; SKIN IRRIT. 2;	<= 100%
	SKIN SENS. 1; AQUATIC	
	ACUTE 1; AQUATIC CHRONIC	
	1; H226, H315, H317, H400, H410	
	M-FACTOR - AQUATIC ACUTE:	
	10	

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	FLUSH EYES WITH WATER AS A PRECAUTION.
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.

NO DATA AVAILABLE

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	SUITABLE EXTINGUISHING MEDIA DRY POWDER DRY SAND	
	UNSUITABLE EXTINGUISHING MEDIA DO NOT USE WATER JET.	
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES	
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING 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. 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. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

METHODS ANDCONTAIN SPILLAGE, AND THEN COLLECT WITH NON-
COMBUSTIBLE ABSORBENT MATERIAL, (E.G. SAND,
EARTH, DIATOMACEOUS EARTH, VERMICULITE) AND
PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO
LOCAL / NATIONAL REGULATIONS (SEE SECTION 13).

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

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. 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.
SPECIFIC END USE(S)	Store at RT 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
CONTROLS	BEFORE BREAKS AND AT THE END OF WORKDAY.

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 PROTECTIONHANDLE 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: 0.4 MM BREAK THROUGH TIME: 480 MIN MATERIAL TESTED:CAMATRIL (KCL 730, SIZE M)

SPLASH CONTACT MATERIAL: NITRILE RUBBER MINIMUM LAYER THICKNESS: 0.11 MM BREAK THROUGH TIME: 30 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 EC 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 PROTECTIONCOMPLETE SUIT PROTECTING AGAINST CHEMICALS,
FLAME RETARDANT ANTISTATIC PROTECTIVE
CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT
MUST BE SELECTED ACCORDING TO THE
CONCENTRATION AND AMOUNT OF THE DANGEROUS
SUBSTANCE AT THE SPECIFIC WORKPLACE.

RESPIRATORYWHERE RISK ASSESSMENT SHOWS AIR-PURIFYING
RESPIRATORS ARE APPROPRIATE USE A FULLFACE
RESPIRATOR WITH MULTI-PURPOSE COMBINATION (US)
OR TYPE ABEK (EN 14387) 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 PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES		
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	170 - 180 °C	
AND BOILING RANGE		
FLASH POINT	43 °C	
EVAPORATION RATE	NO DATA AVAILABLE	
FLAMMABILITY (SOLID,	NO DATA AVAILABLE	
GAS)		
UPPER/LOWER	UPPER EXPLOSION LIMIT: 6.1 %(V)	
FLAMMABILITY OR	LOWER EXPLOSION LIMIT: 0.7 %(V)	
EXPLOSIVE LIMITS		
VAPOUR PRESSURE	1 HPA AT 20 C	
VAPOUR DENSITY	4.7 - (AIR = 1.0)	
RELATIVE DENSITY	0.85	
WATER SOLUBILITY	INSOLUBLE	
PARTITION COEFFICIENT:	LOG POW: 4.57	
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	
OTHED SAFETV INFODMA	TION	

OTHER SAFETY INFORMATION

RELATIVE VAPOR	4.7 - (AIR = 1.0)
DENSITY	

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	STRONG OXIDIZING AGENTS ACIDS
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 - 5,300 MG/KG
	INHALATION: NO DATA AVAILABLE
	DERMAL: NO DATA AVAILABLE
	NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	SKIN RABBIT RESULT: SKIN IRRITATION - 24 H
SERIOUS EYE DAMAGE/EYE IRRITATION	NO DATA AVAILABLE
RESPIRATORY OR SKIN SENSITISATION	NO DATA AVAILABLE
GERM CELL MUTAGENICITY	NO DATA AVAILABLE
CARCINOGENICITY	
IARC:	NO INGREDIENT 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 INGREDIENT 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: OS8100000
	TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

TOXICITY TO FISHLC50 - ONCORHYNCHUS MYKISS (RAINBOW TROUT)
- 80 MG/L - 96.0 HTOXICITY TO DAPHNIA ANDEC50 - DAPHNIA MAGNA (WATER FLEA) - 17 MG/L - 48OTHER AQUATICHINVERTEBRATESH

PERSISTENCE AND NO DATA AVAILABLE DEGRADABILITY

BIOACCUMULATIVE NO DATA AVAILABLE **POTENTIAL**

MOBILITY IN SOIL NO DATA AVAILABLE

RESULTS OF PBT ANDPBT/VPVB ASSESSMENT NOT AVAILABLE AS**VPVB ASSESSMENT**CHEMICAL SAFETY ASSESSMENT NOT
REQUIRED/NOT CONDUCTED

OTHER ADVERSE EFFECTSAN ENVIRONMENTAL HAZARD CANNOT BE
EXCLUDED IN THE EVENT OF UNPROFESSIONAL
HANDLING OR DISPOSAL.
VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING
EFFECTS.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCTOFFER 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.

CONTAMINATEDDISPOSE OF AS UNUSED PRODUCT.PACKAGING

SECTION 14. TRANSPORT INFORMATION

DOT (US)	
PROPER SHIPPING NAME:	DIPENTENE
UN NUMBER:	2052
CLASS:	3
PACKING GROUP:	III
REPORTABLE QUANTITY	
(RQ):	
POISON INHALATION	NO
HAZARD:	
IMDG	
PROPER SHIPPING NAME:	DIPENTENE
UN NUMBER:	2052
CLASS:	3
PACKING GROUP:	III
EMS-NO:	F-E, S-E
	,
IATA	
PROPER SHIPPING NAME:	DIPENTENE
UN NUMBER:	2052
CLASS:	3

SECTION 15. REGULATORY INFORMATION

III

PACKING GROUP:

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.

SARA 311/312 HAZARDS FIRE 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
(±)-Limonene, mixture of	138-86-3	03/01/2007
various terpenes		

NEW JERSEY RIGHT TO KNOW COMPONENTS

		-
	CAS-NO.	REVISION DATE
(±)-Limonene, mixture of	138-86-3	03/01/2007
various terpenes		

SECTION 16. OTHER INFORMATION

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

H226	FLAMMABLE LIQUID AND VAPOR.
H315	CAUSES SKIN IRRITATION.
H317	MAY CAUSE AN ALLERGIC SKIN REACTION.
H410	VERY 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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