

# *Chem-Impex International Inc.*

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## SAFETY DATA SHEET

### SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 35001

NAME: 2,4-Dimethyl-3-cyclohexene-1-carboxaldehyde (mixture of isomers)

SYNONYMS: Ligustral  
Trivertal

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)

FLAMMABLE LIQUIDS (CATEGORY 4), H227

ACUTE TOXICITY, ORAL (CATEGORY 5), H303

SKIN CORROSION/IRRITATION (CATEGORY 2), H315

SENSITIZATION, SKIN (CATEGORY 1), H317

HAZARDOUS TO THE AQUATIC ENVIRONMENT, ACUTE HAZARD (CATEGORY 2), H401

HAZARDOUS TO THE AQUATIC ENVIRONMENT, LONG-TERM 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

WARNING

**HAZARD STATEMENT(S)**

H227 COMBUSTIBLE LIQUID.  
H303 MAY BE HARMFUL IF SWALLOWED.  
H315 CAUSES SKIN IRRITATION  
H317 MAY CAUSE AN ALLERGIC SKIN REACTION  
H401 TOXIC TO AQUATIC LIFE  
H411 TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

**PRECAUTIONARY STATEMENT(S)**

P210 KEEP AWAY FROM HEAT, HOT SURFACES, SPARKS, OPEN FLAMES AND OTHER IGNITION SOURCES. NO SMOKING.  
P261 AVOID BREATHING MIST OR VAPOR.  
P264 WASH SKIN THOROUGHLY AFTER HANDLING.  
P272 CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE  
P273 AVOID RELEASE TO THE ENVIRONMENT.  
P280 WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.  
  
P302 + P352 IF ON SKIN: WASH WITH PLENTY OF WATER.  
P312 CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL.  
P333 + P313 IF SKIN IRRITATION OR A RASH OCCURS: GET MEDICAL ADVICE/ATTENTION.  
P362 + P364 TAKE OFF CONTAMINATED CLOTHING AND WASH IT BEFORE REUSE  
P370 + P378 IN CASE OF FIRE: USE APPROPRIATE MEDIA TO EXTINGUISH  
P391 COLLECT SPILLAGE  
P403 STORE IN A WELL-VENTILATED PLACE  
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OR NOT COVERED BY GHS**

NONE

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

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MF:  $C_9H_{14}O$

MW: 138.21

CAS-NO. 68039-49-6  
PURITY: 98.5 - 100.0% (Assay, sum of isomers)

#### HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
2,4-Dimethyl-3-cyclohexene-1-carboxaldehyde (mixture of isomers)		
	-	-

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 BREATHING IS DIFFICULT, REMOVE TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. FOR BREATHING DIFFICULTIES, OXYGEN MAY BE NECESSARY. CALL A PHYSICIAN IF SYMPTOMS DEVELOP OR PERSIST.
IN CASE OF SKIN CONTACT	TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS. WASH SKIN THOROUGHLY WITH SOAP AND WATER FOR SEVERAL MINUTES.
IN CASE OF EYE CONTACT	REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS. PROMPTLY WASH EYES WITH PLENTY OF WATER WHILE LIFTING THE EYE LIDS.
IF SWALLOWED	CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. IF SWALLOWED, RINSE MOUTH WITH WATER (ONLY IF THE PERSON IS CONSCIOUS). DO NOT INDUCE VOMITING. IF VOMITING OCCURS, THE HEAD SHOULD BE KEPT LOW SO THAT STOMACH VOMIT DOESN'T ENTER THE LUNGS.
<b>MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED</b>	DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION. SKIN IRRITATION. MAY CAUSE REDNESS AND PAIN. MAY CAUSE AN ALLERGIC SKIN REACTION. DERMATITIS. RASH.
<b>INDICATION OF ANY IMMEDIATE MEDICAL</b>	NO DATA AVAILABLE

**ATTENTION AND SPECIAL  
TREATMENT NEEDED**

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**SECTION 5. FIRE AND EXPLOSION DATA**

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**EXTINGUISHING MEDIA**

SUITABLE EXTINGUISHING MEDIA	SUITABLE EXTINGUISHING MEDIA WATER SPRAY, FOG, CO <sub>2</sub> , DRY CHEMICAL, OR ALCOHOL RESISTANT FOAM.
	UNSUITABLE EXTINGUISHING MEDIA DO NOT USE A SOLID WATER STREAM AS IT MAY SCATTER AND SPREAD FIRE.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	FIRE MAY PRODUCE IRRITATING, CORROSIVE AND/OR TOXIC GASES.
ADVICE FOR FIREFIGHTERS	WEAR SELF-CONTAINED BREATHING APPARATUS FOR FIREFIGHTING IF NECESSARY. MOVE CONTAINERS FROM FIRE AREA IF YOU CAN DO SO WITHOUT RISK. WATER RUNOFF CAN CAUSE ENVIRONMENTAL DAMAGE. VENTILATE CLOSED SPACES BEFORE ENTERING THEM. KEEP RUN-OFF WATER OUT OF SEWERS AND WATER SOURCES. DIKE FOR WATER CONTROL.
FURTHER INFORMATION	USE WATER SPRAY TO COOL UNOPENED CONTAINERS. STATIC CHARGES GENERATED BY EMPTYING PACKAGE IN OR NEAR FLAMMABLE VAPOR MAY CAUSE FLASH FIRE.

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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 BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. BEWARE OF VAPOURS ACCUMULATING TO FORM EXPLOSIVE CONCENTRATIONS. VAPOURS CAN ACCUMULATE IN LOW AREAS.  FOR PERSONAL PROTECTION SEE SECTION 8.
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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 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).
REFERENCE TO OTHER SECTIONS	FOR DISPOSAL SEE SECTION 13.

## **SECTION 7. HANDLING AND STORAGE**

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN AND EYES. AVOID INHALATION OF VAPOUR 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 CLOSED. HANDLE CONTAINERS WITH CARE. OPEN SLOWLY IN ORDER TO CONTROL POSSIBLE PRESSURE RELEASE. STORE IN A COOL, WELL-VENTILATED AREA.  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**

<b>CONTROL PARAMETERS</b> COMPONENTS WITH WORKPLACE CONTROL PARAMETERS	CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.
<b>EXPOSURE CONTROLS</b>	

DNEL (DERIVED NO-EFFECT LEVEL): WORKERS - LONG-TERM EXPOSURE  
SYSTEMIC EFFECTS - INHALATION: 0.44 MG/M  
SYSTEMIC EFFECTS - DERMAL: 0.125 MG/KG PC/J  
DNEL (DERIVED NO-EFFECT LEVEL): GENERAL POPULATION - LONG-TERM EXPOSURE  
SYSTEMIC EFFECTS - INHALATION: 0.108 MG/M  
SYSTEMIC EFFECTS - DERMAL: 0.062 MG/KG BW/J  
SYSTEMIC EFFECTS - ORAL: 0.062 MG/KG BW/J  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) AQUA (FRESHWATER): 7.5 MG/L  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) AQUA (MARINE WATER): 0.75 MG/L  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) SEWAGE TREATMENT PLANT: 10 MG/L  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) SEDIMENT (FRESHWATER): 0.226  
MG/KG SEDIMENT DW  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) SEDIMENT (MARINE WATER): 0.0226  
MG/KG SEDIMENT DW  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) SOIL: 0.0408 MG/KG SOIL DW  
PNEC (PREDICTED NO-EFFECT CONCENTRATION) AQUA (INTERMITTENT RELEASES): 75  
MG/L

APPROPRIATE ENGINEERING CONTROLS                      HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL  
HYGIENE AND SAFETY PRACTICE. WASH HANDS 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 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.

BODY PROTECTION                                      COMPLETE 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.

RESPIRATORY PROTECTION                                      WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING  
RESPIRATORS ARE APPROPRIATE USE A FULL-FACE  
RESPIRATOR WITH MULTIPURPOSE 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.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colorless to slightly yellow liquid
ODOUR	CHARACTERISTIC
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
BOILING POINT	
FLASH POINT	65 °C
EVAPOURATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	0.58 MM HG AT 25 °C
VAPOUR DENSITY	4.8
RELATIVE DENSITY	0.934 - 0.939 at 20 °C
WATER SOLUBILITY	INSOLUBLE
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	NOT EXPLOSIVE
OXIDIZING PROPERTIES	NOT OXIDIZING

### OTHER SAFETY INFORMATION

SPECIFIC GRAVITY	0.93 AT 25 °C
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## SECTION 10. STABILITY AND REACTIVITY

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REACTIVITY	THE PRODUCT IS STABLE AND NON-REACTIVE UNDER NORMAL CONDITIONS OF USE, STORAGE AND TRANSPORT
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

POSSIBILITY OF HAZARDOUS REACTIONS	NO DANGEROUS REACTION KNOWN UNDER CONDITIONS OF NORMAL USE.
CONDITIONS TO AVOID	AVOID HEAT, SPARKS, OPEN FLAMES AND OTHER IGNITION SOURCES. AVOID TEMPERATURES EXCEEDING THE FLASH POINT. CONTACT WITH INCOMPATIBLE MATERIALS.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	NO HAZARDOUS DECOMPOSITION PRODUCTS IF STORED AND HANDLED AS INDICATED.  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>	LD50 ORAL - RAT - 3900 MG/KG  INHALATION: NO DATA AVAILABLE  DERMAL: NO DATA AVAILABLE  NO DATA AVAILABLE
<b>SKIN CORROSION/IRRITATION</b>	CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. THE SUBSTANCE IS CLASSIFIED AS A SKIN IRRITANT (CATEGORY 2) BY IFRA IRRITATING EFFECTS WERE OBSERVED IN DIFFERENT STUDIES (DERMAL IRRITATION IN RABBIT ACCORDING TO THE OECD 404 GUIDELINE, SKIN SENSITISATION IN GUINEA PIG ACCORDING TO THE OECD 406 GUIDELINE AND DERMAL ACUTE TOXICITY IN RABBIT). BASED ON THESE RESULTS, THE SUBSTANCE IS CLASSIFIED AS SKIN IRRITANT CATEGORY 2 UNDER CLP.
<b>SERIOUS EYE DAMAGE/EYE IRRITATION</b>	DIRECT CONTACT WITH EYES MAY CAUSE TEMPORARY IRRITATION. THE SUBSTANCE IS CLASSIFIED AS AN EYE IRRITANT (CATEGORY 2A) BY IFRA IRRITATING EFFECTS WERE OBSERVED IN AN EYE IRRITATION STUDY CONDUCTED IN RABBIT, HOWEVER CLASSIFICATION CRITERIA WERE NOT MET.



<b>RESPIRATORY OR SKIN SENSITISATION</b>	MAY CAUSE AN ALLERGIC SKIN REACTION. THE SUBSTANCE IS CLASSIFIED AS A SKIN SENSITIZER (CATEGORY 1B) BY IFRA. SKIN SENSITISATION EFFECTS WERE OBSERVED IN A GUINEA PIG MAXIMISATION TEST (GPMT) CONDUCTED ACCORDING TO THE OECD 406 GUIDELINE.
<b>GERM CELL MUTAGENICITY</b>	THE SUBSTANCE WAS NOT MUTAGENIC IN A AMES TEST (OECD 471). IN A CHROMOSOME ABERRATION TEST IN CHINESE HAMSTER OVARY CELLS (OECD 473), A STRUCTURALLY RELATED SUBSTANCE DID NOT INDUCE NUMERICAL CHROMOSOME ABERRATIONS (WITH AND WITHOUT METABOLIC ACTIVATION) NOR STRUCTURAL ABERRATIONS WITHOUT METABOLIC ACTIVATION; EQUIVOCAL RESULTS WERE OBTAINED REGARDING INDUCTION OF STRUCTURAL ABERRATIONS AFTER METABOLIC ACTIVATION. HOWEVER, THIS STRUCTURALLY RELATED SUBSTANCE WAS NOT MUTAGENIC EITHER IN AN IN VIVO MICRONUCLEUS TEST (OECD 474).
<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 CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL CARCINOGEN BY OSHA.
<b>REPRODUCTIVE TOXICITY</b>	IN A ONE-GENERATION REPRODUCTION TOXICITY STUDY, CONDUCTED ON A STRUCTURALLY RELATED SUBSTANCE ACCORDING TO OECD GUIDELINE NO 415, THE NO OBSERVED ADVERSE EFFECT LEVEL (NOAEL) FOR DEVELOPMENTAL TOXICITY WAS ESTABLISHED AT 25 MG/KG PC/J.
<b>SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE</b>	NO DATA AVAILABLE
<b>SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE</b>	TWO REPEATED DOSE TOXICITY STUDIES (28 AND 90 DAYS) WERE CONDUCTED IN THE RAT WITH TWO STRUCTURALLY RELATED SUBSTANCES. THE 28 DAYS STUDY NOAEL BASED ON DECREASED BODY WEIGHT IN MALES WAS THE LOWEST ; 120 MG/KG PC/J.

**ASPIRATION HAZARD** NO DATA AVAILABLE

**ADDITIONAL INFORMATION** SKIN IRRITATION. MAY CAUSE REDNESS AND PAIN. MAY CAUSE AN ALLERGIC SKIN REACTION. DERMATITIS. RASH. MAY BE HARMFUL IF SWALLOWED.

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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**TOXICITY** TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRODUCT		SPECIES	TEST RESULTS
TETRAHYDROLINALOOL			
AQUATIC			
ALGAE	EC50	GREEN ALGAE (DESMODESMUS SUBSPICATUS)	31 MG/L, 72 HOURS (BASED ON GROWTH RATE - NOMINAL CONCENTRATION - OECD 201)
CRUSTACEA	EC50	DAPHNIA MAGNA	22.4 MG/L, 48 HOURS (MEASURED CONCENTRATION - SIMILAR TO OECD 202)
FISH	LC50	ONCORHYNCHUS MYKISS (REPORTED AS SALMO GAIRDNERI)	7.5 MG/L, 96 HOURS (MEASURED CONCENTRATION - OECD 203)

**PERSISTENCE AND DEGRADABILITY** THE SUBSTANCE IS NOT READILY BIODEGRADABLE. BIODEGRADATION ACHIEVED IN 28 DAYS: 3% (OXYGEN CONSUMPTION - ASSAY CONDUCTED ACCORDING TO OECD 301F GUIDELINE - ACTIVATED SLUDGE, DOMESTIC WASTEWATER TREATMENT PLANT). THE SUBSTANCE IS NOT CONSIDERED TO BE VERY PERSISTENT AND VERY BIOACCUMULATING (VPVB).

**BIOACCUMULATIVE POTENTIAL** NO DATA AVAILABLE

**MOBILITY IN SOIL**

THE ADSORPTION COEFFICIENT OF THE SUBSTANCE WAS DETERMINED IN A STUDY CONDUCTED FOLLOWING THE OECD 121 GUIDELINE:LOG KOC: 2.2  
TAKEN WITH THE HIGH WATER SOLUBILITY, THIS VALUE IS LOW ENOUGH TO SUGGEST THAT THE SUBSTANCE WILL SHOW LIMITED ADSORPTION TO SOIL OR SEDIMENT PARTICULATES, AND WILL PARTITION MAINLY TO WATER (IN THE SURFACE OR GROUND WATER COMPARTMENTS).

**RESULTS OF PBT AND VPVB ASSESSMENT**

PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED

**OTHER ADVERSE EFFECTS**

NO DATA AVAILABLE

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**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.

**CONTAMINATED PACKAGING**

DISPOSE OF AS UNUSED PRODUCT.

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**SECTION 14. TRANSPORT INFORMATION**

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**DOT (US)**

PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S. (2,4-DIMETHYLCYCLOHEX-3-ENE-1-CARBALDEHYDE)  
NA-NUMBER: 1993  
CLASS: NONE  
PACKING GROUP: III  
REPORTABLE QUANTITY (RQ): 150  
MARINE POLLUTANT YES

**IMDG**

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2,4-DIMETHYLCYCLOHEX-3-ENE-1-CARBALDEHYDE)  
UN NUMBER: 3082  
CLASS: 9  
PACKING GROUP: III

MARINE POLLUTANT	YES
IATA	NOT DANGEROUS GOODS

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**SECTION 15. REGULATORY INFORMATION**

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**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** YES

**MASSACHUSETTS RIGHT TO KNOW COMPONENTS**

	CAS #	REVISION DATE
2,4-Dimethyl-3-cyclohexene-1-carboxaldehyde (mixture of isomers)	68039-49-6	

**PENNSYLVANIA RIGHT TO KNOW COMPONENTS**

	CAS #	REVISION DATE
2,4-Dimethyl-3-cyclohexene-1-carboxaldehyde (mixture of isomers)	68039-49-6	

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

	CAS #	REVISION DATE
2,4-Dimethyl-3-cyclohexene-1-carboxaldehyde (mixture of isomers)	68039-49-6	

**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.

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**SECTION 16. OTHER INFORMATION**

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

H227	COMBUSTIBLE LIQUID.
H303	MAY BE HARMFUL IF SWALLOWED.
H315	CAUSES SKIN IRRITATION
H317	MAY CAUSE AN ALLERGIC SKIN REACTION
H401	TOXIC TO AQUATIC LIFE

H411

TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

**HMIS RATING**

HEALTH HAZARD: 2  
CHRONIC HEALTH HAZARD:  
FLAMMABILITY: 2  
PHYSICAL HAZARD 0

**NFPA RATING**

HEALTH HAZARD: 2  
FIRE HAZARD: 2  
REACTIVITY HAZARD: 0

**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)

**IMPORTANT:**

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